



Epidemiological Profile of Various Skin Disorders in Tertiary Care Hospital

¹Gurkim Kaur, ²Yashshavani Dass, ³Naina Dogra, ⁴Devraj Dogra, ⁵Abhirut Thakur
MBBS, ^{1,2}MD, Senior Resident, ³MD, Associate Professor, ⁴MD, Professor And Head, ⁵Post Graduate,
Department Of Dermatology, Government Medical College, Jammu

*Corresponding Author:

Gurkim Kaur

MBBS, MD, Senior Resident, Department Of Dermatology, Government Medical College, Jammu

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Abstract

Background: Dermatological diseases form an important group of disorders among hospitals. Skin disorders are determined by various socio economic and geographical factors, leading to significant morbidity. The present study will unveil the various clinical pattern among the population studied which will help in designing proper health care system.

Aims And Objectives: To find out the different patterns of skin diseases among the patients and its possible associations with different demographic factors.

Material And Methods: All the newly diagnosed cases attending the outpatient department of Dermatology and Venerology, Government Medical College during the period of 1 year from Jan 2019 to 2020 were included. Diagnosis was primarily on clinical grounds and laboratory investigations were done wherever required.

Results: Infective skin diseases (44.36%) were more common than non infective (39.3%). Male to female ratio was 1:1. Among infections, Fungal infections (20.2%) and Scabies (16%) were the major ones. Eczemas (16.3%) accounted for the majority of the non infectious disorders. Acne, pigmentary disorders and urticaria as a presenting disease was present in 8.6%, 8.2% and 4.49%. Papulosquamous disorders (3.82%) were the next common group. Sexually transmitted infections (STIs) contributed to 110 (1.1%) cases Hair disorders (276, 2.7%), Photodermatoses (137, 1.37%), Lichenoid dermatoses (121, 1.2%). Cold injuries (99, 0.9) contributed to the rest of cases. Connective tissue disorders and drug reactions were seen in 0.5%. Vesico-bullous diseases were diagnosed in 0.23% only.

Conclusion: To conclude, our study showed the higher prevalence of infective skin diseases. A relatively higher prevalence of fungal infections, scabies and eczemas were observed.

Keywords: Eczema, Infections, Pattern, Skin diseases

Introduction

Dermatological diseases form an important group of disorders affecting all age groups from neonates to elderly. Skin disorders in general are determined by various socio economic and geographical factors. (1). The pattern of skin diseases differs in different countries and in different parts within the same country particularly in India, that experiences a wide variation in its religion, customs, geographical factors, social and hygiene standards. (2,3). Human

skin mirrors the presence of many benign or malignant diseases in different ways. It can lead to significant morbidity due to disfigurement, disability and symptoms such as intractable itch, and although rare, even death from pemphigus, TEN or metastatic skin cancer. (4). Skin diseases have detrimental effect on quality of life in terms of physical, social and psychological burden as majority of the diseases are chronic and requires long term treatment. (5). However, skin diseases have low mortality rates

therefore given less attention than other serious diseases. (6). In developing countries like India in addition to hot and humid climate, overcrowding, low hygiene and close interpersonal contact plays an important etiological role for certain skin diseases. (5). There are still few regional elaborative studies from India depicting the pattern of various skin diseases within the country. Hence, the present study will unveil the clinical pattern of various skin diseases among local inhabitants at our geographical area and the possible associations of different demographic factors with the skin disease.

Aims:

To find out the different patterns of skin diseases among the patient attending the outpatient department of dermatology, which will subsequently serve as reference material for future comparative studies.

Material And Methods:

The present retrospective study was conducted among all the new cases attending at the department of Dermatology, Venerology and leprosy, Government Medical College and Hospital, Jammu for a period of one year (from Jan 2019 to Jan 2020). We recorded 10,000 new cases of both male and female of all the age groups within specified period. The dermatoses were divided into infective and non infective etiology. The diseases were diagnosed mostly on clinical basis of first visit based on detailed history and examination and some difficult cases were diagnosed by some specific laboratory investigations. In this study the demographic characteristics such as age, sex and diagnosis were studied. Commonly used diagnostic tools included were potassium hydroxide mount (KOH), woods lamp, patch test, pus-culture/sensitivity test, Tzanck smear, skin biopsy for histopathology, serology for various STIs and some specific investigations like direct immunofluorescence, immuno histochemistry and anti-nuclear antigen tests were also sent. Clearance from Institutional Ethics Committee was taken before start of the study.

Stastical Analysis:

The data was entered in the SPSS19 program and analysed. Results were tabulated and compared.

Results:

A total of 10,000 patients were included in our study. Their age ranged between 0-90 years with a mean +SD of 27.92+17 years. Out of total 10,000 patients, 4998 (49.9%) were females and 5002 (50%) were males, ratio nearly 1:1. The patients were divided into different age groups; <10, 11-20, 21-30, 31-40, 41-50, 51-60, 61-70, 71-80 and 81 years and above (Figure 1) . A highest proportion of the patients were from 21-30 years of age (26.1%) followed by 11-20 years of age (21.2%).

With respect to gender difference, not much differences were seen among the two except for few dermatoses, for example Pigmentary disorders and acne vulgaris was more common among females than males. Whereas Infections, eczemas and papulo squamous disorders were slightly more seen in males than females (Table 1).

Bacterial and viral infections were common in the age group 1 to 10 years of age. Fungal infections were seen predominantly in 21-30 years. Scabies was seen more commonly in children aged 1-10 years of age. Eczema was seen maximum in 1-10 years followed by 31-40 years of age. Pigmentary disorders and hair disorders were more common in the age group 21-30 years. Urticaria was seen in 31-40 years. Sexually transmitted diseases were more common in 31-40 years age group. Among papulosquamous psoriasis and lipid disorders was common in 31-40 years of age. Acne was common in 11-20 years of age. Pruritus as a finding was seen in old age 61-70 years. Drug reactions and connective tissue disorders were seen around 41-50 years (Table 2).

The dermatoses in our study were divided into infective and non infective etiology. In present study the most common presenting symptom was the skin infections present among 4436 (44.36%) patients (Table 3). Among infections, the most common was fungal, constituting a total of 2012 patients (20.2%) of the study population. Tinea was clearly the most common fungal infection diagnosed in 1672 (83.1%) patients, in which tinea corporis was the most common infection present in 818 (40.6%) patients (Figure 2). Arthropods infections were found to be second most common having been diagnosed in 1600 (16%) of the study population. Scabies was seen in the majority of these 1557 (97.3%) followed by insect bite hypersensitivity in 34 patients. Viral infections were the third most frequent infections 479

(4.7%). Warts were the commonest viral infection present in 199 patients (Figure 3). Bacterial infections accounted for 326 (3.2%) patients. Among bacterial, folliculitis was the commonest infection diagnosed in 97 (29.7%) patients. Cutaneous tuberculosis was diagnosed in 3 patients and in 9 patients leprosy was detected. About 19 cases of Cutaneous leishmaniasis visited our outpatient department for treatment. After infections next common finding was eczema which was present among 1633 (16.3%) patients in which contact dermatitis (41.4%) was present in majority in 677 (41.4%) (Figure 4). Among pilosebaceous, acne was the most common seen in 846 patients (8.4%). Pigmentary disorders constituted for total of 820 (8.2%) cases. Melasma was the commonest pigmentary disorder present in 428 (4.2%) patients followed by vitiligo in 111 (1.1%) patients (Figure 5). Urticaria as the finding was present in 449 (4.4%) patients. Among papulo squamous (3.8%) disorders, psoriasis vulgaris was the commonest seen in 269 (2.6%) patients. Hair disorders were seen in 276 (2.7%) patients. Telogen effluvium was the most common seen in 116 patients followed by alopecia areata in 100 patients. Photo-dermatosis and lichenoid disorders as a diagnosis was seen in 137 (1.37%) and 121 (1.2%) cases. A total of 110 (1.1%) STIs cases were reported (Figure 6). 99 (0.9%) patients showed cold injuries among study population. Keratinisation disorders were common in 68 (0.6%) patients constituting corn in 29 patients, keratosis pilaris in 22 and callosity in 17 patients. Cystic and lipid disorders were present in only 0.6% of the cases. Among lipid, xanthelasma was the most common seen in 58 patients. Connective tissue diseases (CTD) were diagnosed in 55 (0.5%) patients. Among CTD, discoid lupus erythematosus (DLE) is the most common found in 29 patients followed by Morphea in 11, lichen simplex atrophicus (LSA) in 9, Raynauds, Systemic lupus erythematosus (SLE) and Systemic sclerosis (SS) in 2 patients respectively. Drug reactions were common in 52 (0.5%) patients. Pruritus as a finding was seen in 50 patients. Only 23(0.2%) patients were diagnosed with Vesico-bullous disorder (Table 4).

Other disorders including Psycho cutaneous and Nevi (19), (Nail (10), Hemangioma(9),Granulomatous disorders(13), Carcinomas including BCC and SCC (8), Granuloma pyogenicum (13), Pregnancy specific

dermatosis(5), Panniculitis(5) were reported. Genodermatoses were rare seen as congenital Ichthyosis in 2 patients. Angiomas and Aphthae are seen in 4 patients each. Single case of Colloidion baby and Mastocytoma presented to our OPD for treatment.

Discussion:

A total of 10000 patients were recruited for the study who presented with the skin disease in the outpatient department at our tertiary care hospital during a year 2019-2020. Out of 10000, 5002 (50%) were males 4998 were females (49.9%) ratio being 1.1. This is similar to the study conducted by Kar et al in Kolkata indicating male and female ratio to be 1.1. (7). Whereas in studies conducted by Alahi MN et al (8) in Bangladesh, Grover et al (9) in Allahabad showed the female preponderance. The prevalence of skin disorders were maximum in the age group of 21-30 years of age in our study, which is in accordance to the study conducted by Das S et al (10) and Alahi MN et al.(8)

The result of the present study showed that infective skin diseases (44.3%) were the most common diagnosis among patients presenting in the outpatient department than non infective disorders, concordance with the studies done by Gupta S et al (11) and Kuruvilla et al (12), but against a study by Devi T et al (1) and Sayal SK et al (13) where non infectious were more common than infectious. The reason for the large number of infective dermatoses was the large family size, hot and humid climatic conditions and low socio economic status of few urban slums. Among infections fungal (20%) were the commonest followed by scabies (15.5%). These findings were comparable with the studies done by Grover et al (59.1%) (9), Kar et al (39.5%) (7), Asokan N et al (35%) (14) and Alahi MN et al (54.9) (8) where fungal infections were predominant. However, a study by Kumar TP et al (5) stated the parasitic skin infection to be greater than fungal infection. Tinea corporis (8.2%) was the leading fungal infection among the patients followed by Tinea cruris and Tinea capitis. Similar findings were seen by studies of Kumar TP et al (5), Alahi MN et al (8), Kar et al. (7). Among Bacterial, folliculitis was the commonest followed by furuncle and impetigo. Similar findings were seen in study by Grover et al. (9). Viral infections accounted for the total of 4.7% of the

patients matching with the study done by Asokan N et al (4.1%).(14).The incidence of viral infection was relatively low in our study as compared to the similar study done in Kashmir (14%) (3) and Pune (7.1%). (13).The reason being because such patients mainly consult the physician. The low prevalence of Hansen disease (0.09%) in our study is due to the fact that these patients regularly attend the leprosy centres for medications. Among non infectious eczema has been reported among the largest group, seen in approximately 16.3% of the total patients. Similar findings were seen in studies conducted by Devi T et al (1) which estimated 17.4% of eczema cases, Jain et al (15) concluding eczema cases to be around 22%, Asokan N et al (14) estimated to be around 21.8%, Kar et al (7) , Sayal SK et al etc. (13). Contact dermatitis was the commonest form of eczema shown in various studies by Das KK et al (16) and Kuruvilla et al (12) in accordance with our study, owing to the occupational variation.

Cold injuries were reported in only 1% of the population whereas a study in Kashmir region reported its prevalence around 7%. (3)

Acne vulgaris and pigmentary disorders were seen in 8.4% and 8.2% of the patients. Though the incidence of vitiligo is low (1.1%), incidence of melasma (4.2%) lies in between other studies 1.5-4.75%, in accordance with the studies done by Das KK et al (16) and Das S et al. (10). In our present study Papulosquamous disorders constituted for about 3.8% of the total dermatoses, of which psoriasis vulgaris was seen in 2.6% of the total patients due to hot and humid climate.. Similar observation was seen in a study by Kar et al (7), stating its prevalence to be 2.3%. However studies by Das S et al (10) and Asokan N et al (14) showed somewhat higher prevalence. Hair disorders were seen only in 2.7% of the patients in similarity with study by Das S et al. (10)

Photodermatoses (1.3%), lichenoid disorders (1.25) and keratinisation disorders (0.6%) were also important comprising significant percentage in our study. Similar prevalence was seen in study by Das S et al in his study. (10). Our study revealed quite low (1.1%) percentage of STIs than other studies conducted by Das S et al (10) and Das KK et al (16) because of lack of privacy and social stigma attached to it. There is no dissimilarity between the studies

about total percentage of connective tissue disorders (0.5%) from Das S (10), Das KK (16) and Kuruvilla et al. (12)

Drug reactions comprised only 0.5% of the total patients in our study similar with the study by Kar et al (0.6%). (7). The incidence of Vesico-bullous disorders in our study was quite low , only 0.2% of the total patients, in accordance with the two Indian studies by Asokan N et al (14) and Agarwal S et al (0.3-0.4%) (17), but slightly lower than the other Indian studies by Das S et al (10) and Das KK (0.6-0.7%). (16)

Conclusion:

To conclude, our study showed the higher prevalence of infective skin diseases than non infective. A relatively higher prevalence of fungal infections, scabies and eczemas were observed, which probably reflects the minor regional variance in our study group. Our study also reflects the burden of skin disease in the outpatient department of tertiary care hospital with the predominance of infective diseases. This burden of dermatological diseases should be managed to prevent the contamination to others.

References:

1. Devi T, Zamzachin G. Pattern of skin diseases in Imphal. Indian J Dermatol 2006;51:149-50
2. Mehta TK. Pattern of skin diseases in India. Indian J Dermatol Venereol Leprol 1962;28:134-9
3. Jaiswal AK, Singh G. Pattern of skin diseases in Kashmir region of India. Indian J Dermatol Venereol Leprol 1999;65:258-60
4. Gupta V. Pattern of Skin Diseases in Rural India: A Hospital Based Study. Int J Sci Stud 2015;3(1):44-47
5. T Praveen Kumar, S Shivani. Epidemiological Study of Various Skin Diseases and Prescription Pattern of Drugs in Dermatological OPD in Khamman Region. In J Pharm Pract 2019;13:42-49
6. Purohit S., Epidemiological Study of Dermatological Disorders At Tertiary Care Center. Int.J.Med.Sci.Educ 2019;6(3):38-41
7. Kar C, Das S, Roy AK. Pattern of skin diseases in a tertiary institution in Kolkata. Indian J Dermatol 2014;59(2):209-15

8. Alahi MN, Hossain MA, Mohammad AS. Pattern of Skin Diseases in Patients Attending OPD of Dermatology and Venereology in a Tertiary Care Hospital in Bangladesh. *J Natl Inst Neurosci Bangladesh* 2018;4(2):116-122
9. Grover S, Ranyal RK, Bedi MK. A cross section of skin diseases in rural Allahabad. *Indian J Dermatol* 2008;53:179-81
10. Das S, Chatterjee T. Pattern of skin diseases in a peripheral hospital's skin OPD: A study of 2550 patients. *Indian J Dermatol* 2007;52:93-5.
11. Gupta S, Khan W, Krishna A. Pattern of skin diseases and common drugs prescribed in dermatology OPD of an Indian tertiary care hospital. *Int J Basic Clin Pharmacol* 2017;6:203-7
12. Kuruvilla M, Sridhar KS, Kumar P, Rao G. Pattern of skin diseases in Bantwal Taluq, Dakshina Kannada. *Indian J Dermatol Venereol Leprol* 2000;66:247-8.
13. Sayal SK, Das AL, Gupta CM. Pattern of skin diseases among civil population and armed forces personnel at Pune. *Indian J Dermatol Venereol Leprol* 1997;63:29-32
14. Asokan N, Prathap P, Ajithkumar K, Ambooken B, Binesh VG, George S. Pattern of skin diseases among patients attending a tertiary care teaching hospital in Kerala. *Indian J Dermatol Venereol Leprol* 2009;75:517-8
15. Jain S, Barambhe M S, Jain J, Jajoo U N, Pandey N. Prevalence of skin diseases in rural Central India: A community-based, cross-sectional, observational study. *J Mahatma Gandhi Inst Med Sci* 2016;21:111-15
16. Das KK. Pattern of dermatological diseases in Gauhati medical college and hospital Guahati. *Indian J Dermatol Venereol Leprol* 2003;69:16-8
17. Agarwal S, Sharma P, Gupta S, Ojha A. Pattern of skin diseases in Kumaun region of Uttarakhand. *Indian J Dermatol Venereol Leprol* 2011;77:603-4.

Tables

Table 1- Distribution of disease as per Gender (* Sexually transmitted infections)

GROUP DISEASE	GENDER		TOTAL
	F	M	
BACTERIAL INFECTIONS	141	185	326
KELOID	44	15	59
COLD INJURIES	43	56	99
CONNECTIVE TISSUE DISORDERS	45	10	55
DRUG REACTIONS	23	29	52
ECZEMAS	764	869	1633
FUNGAL INFECTIONS	903	1109	2012
HAIR DISORDERS	140	136	276
PRURITUS	24	26	50
KERATINISATION DISORDERS	37	31	68
LIPID DISORDERS	41	21	62
	78	43	121

LICHEN PLANUS	679	878	1557
SCABIES	580	240	820
PIGMENTARY DISORDERS	63	74	137
PHOTODERMATOSES	520	348	868
PILO SEBACEOUS DISORDERS	160	222	382
PAPULO SQUAMOUS	10	9	19
PSYCO CUTANEOUS	61	49	110
STIs*	227	222	449
URTICARIA	239	240	479
VIRAL INFECTIONS	13	10	23
VESICO BULLOUS			

Table 2: Distribution of various skin diseases based on age group (*Sexually transmitted infections)

Disease	0-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	Total
Bacterial infections	86	58	51	39	44	28	17	0	0	326
Viral infections	122	119	108	38	22	42	16	11	1	479
Fungal infections	205	401	552	393	231	144	79	5	2	2012
Scabies	426	293	392	189	132	71	35	16	3	1557
Eczemas	433	252	270	304	130	109	121	12	2	1633
Urticaria	54	82	110	114	45	21	19	4	0	449
Pigmentary disorders	74	131	323	231	31	27	3	0	0	820
Hair disorders	41	71	118	33	10	3	0	0	0	276
Pilosebaceous	10	473	312	65	8	0	0	0	0	868
Connective tissue disorders	0	1	6	17	28	2	1	0	0	55
Vesicobullous disorders	0	2	14	4	3	0	0	0	0	23
STIs*	11	8	25	36	21	7	1	1	0	110
Drug reactions	2	11	12	4	20	2	1	0	0	52
Pruritus	0	9	6	5	5	5	15	3	2	50

Papulosquamous	3	43	59	108	69	58	25	9	8	382
Lichen planus	14	16	24	25	15	16	6	5	0	121

Table 3: Distributions of various infections among study population

<u>INFECTIONS</u>	<u>TOTAL NO (%)</u>
Fungal	2012 (20.1%)
Arthropods	1600 (16%)
Viral	479 (4.79%)
Bacterial	326 (3.2%)
Parasitic	19 (0.19%)
TOTAL	4436 (44.36%)

Table 4: Other Non infective common skin diseases among study population

<u>OTHER DISORDERS</u>	<u>TOTAL NO (%)</u>
Eczema	1633 (16.3%)
Pilosebaceous disorders	868 (8.6%)
Pigmentary disorders	820 (8.2%)
Urticaria	449 (4.49%)
Papulosqamous disorders	382 (3.82%)
Hair disorders	276 (2.7%)
Photo dermatoses	137 (1.37%)
Lichenoid disorders	121 (1.2%)
Sexually transmitted infections (STIs)	110 (1.1%)
Cold dermatoses	99 (0.9%)
Keratinisation disorder	68 (0.68%)
Cyst	66 (0.66%)
Lipid disorders	62 (0.6%)
Keloid	59 (0.59%)
Connective tissue disorders	55 (0.55%)
Drug reactions	52 (0.52%)

Pruritus	50 (0.5%)
Amyloidosis	24 (0.24%)
Vesico bullous	23 (0.23%)
Sweat disorders	21 (0.21%)
Psycho cutaneous disorders	19 (0.19%)

Figure legends:

Figure 1- Distribution of patients based on Age groups

Figure 2- Fungal diseases categorization among study population

Figure 3- Viral diseases categorization among study population

Figure 4- Inflammatory skin disease categorization among study population

Figure 5- Pigmentary skin disease categorization among study population

Figure 6- Distribution of Sexually transmitted infections (STIs) among study group

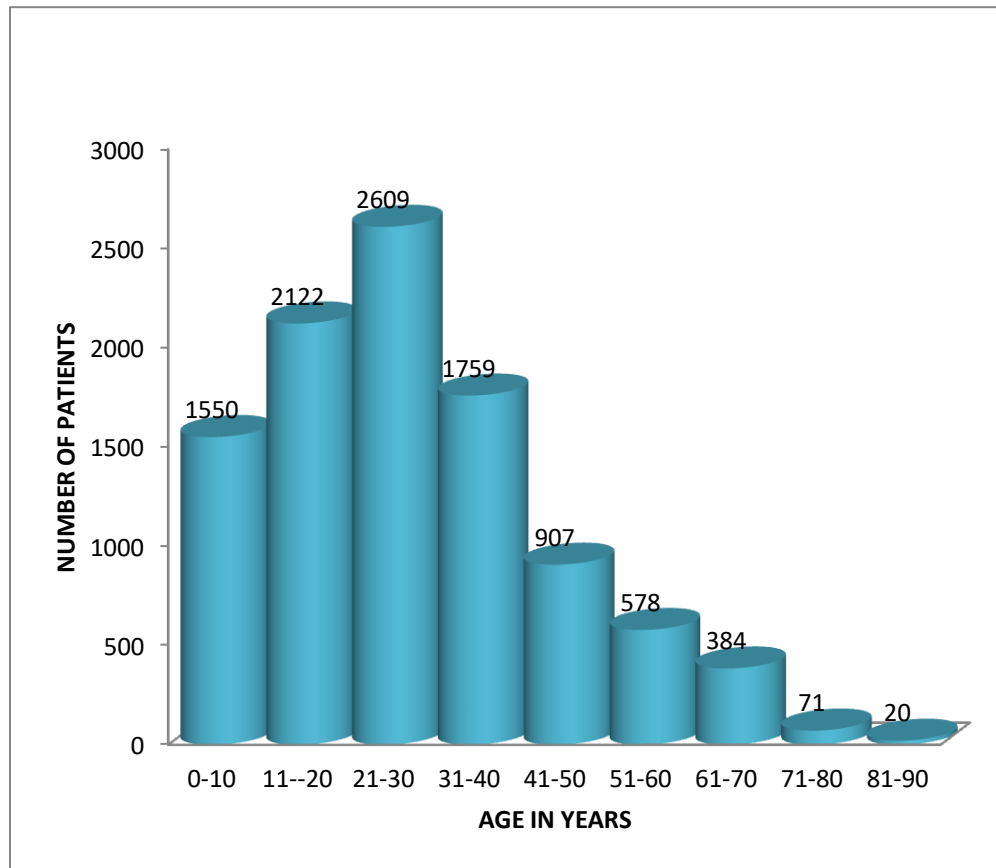


Figure 1- DISTRIBUTION OF PATIENTS BASED ON AGE GROUPS

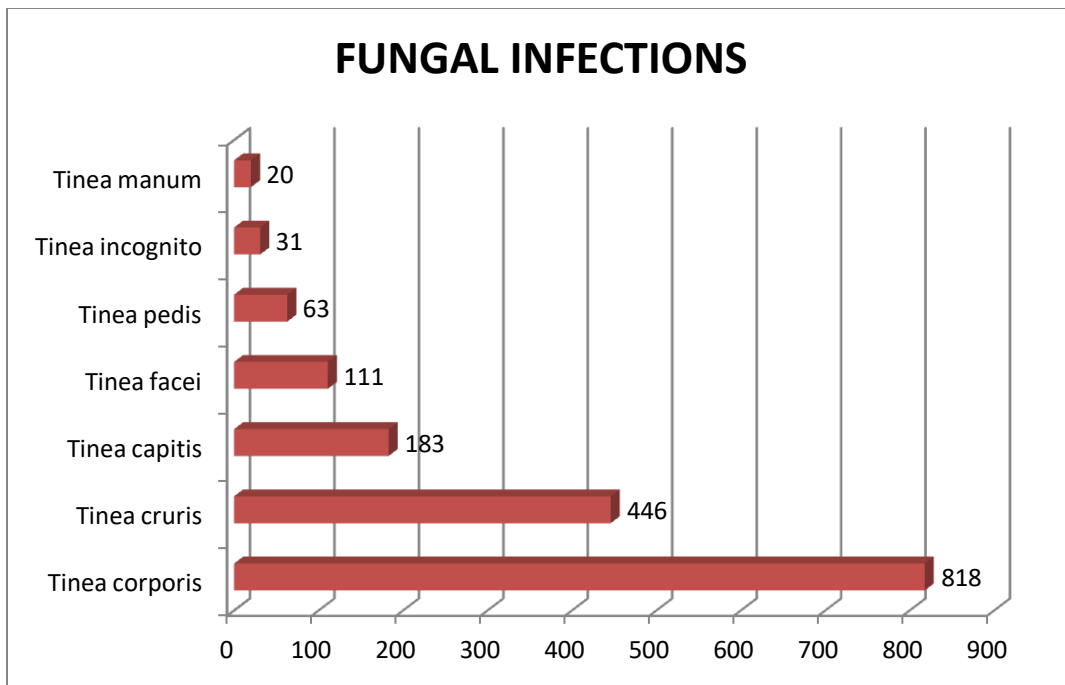


FIGURE 2: FUNGAL DISEASES CATEGORIZATION AMONG STUDY POPULATION

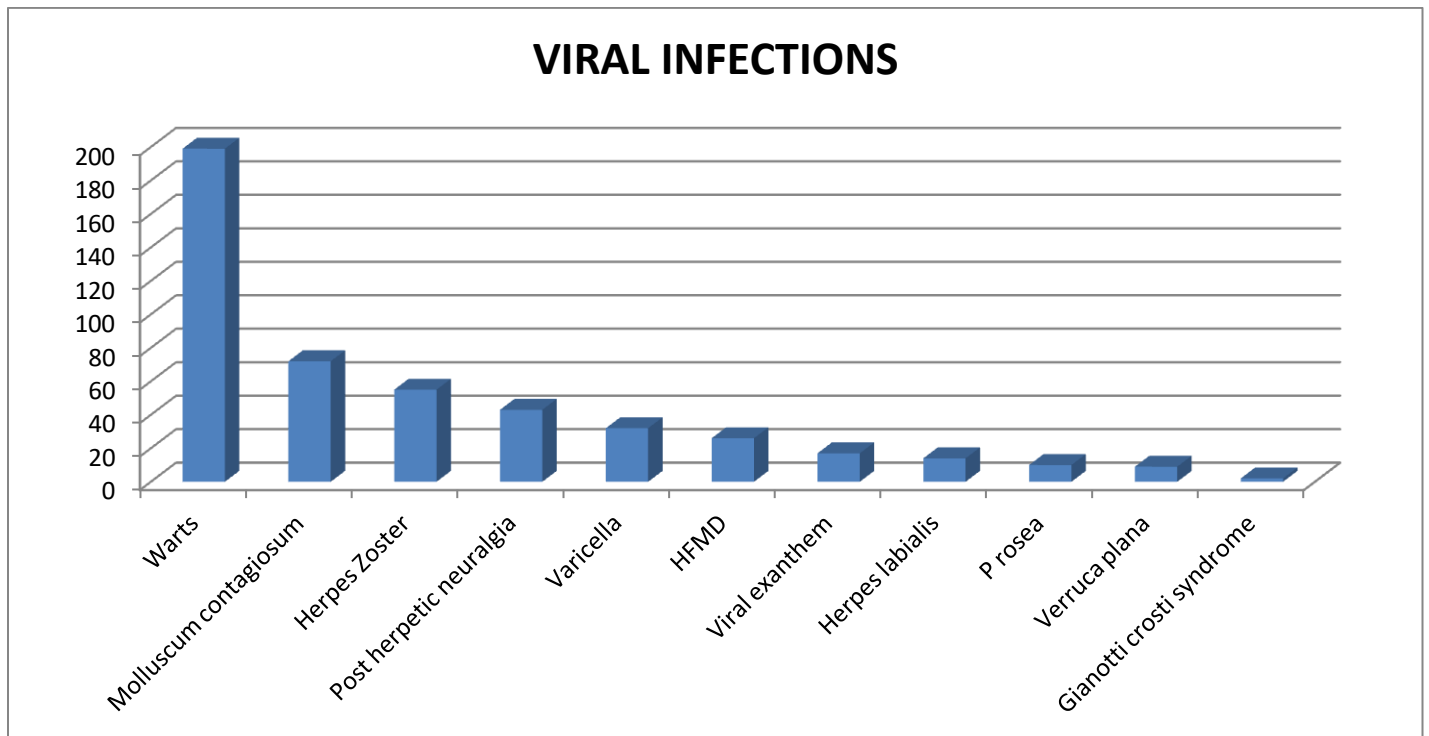


FIGURE 3: VIRAL DISEASES CATEGORIZATION AMONG THE STUDY POPULATION

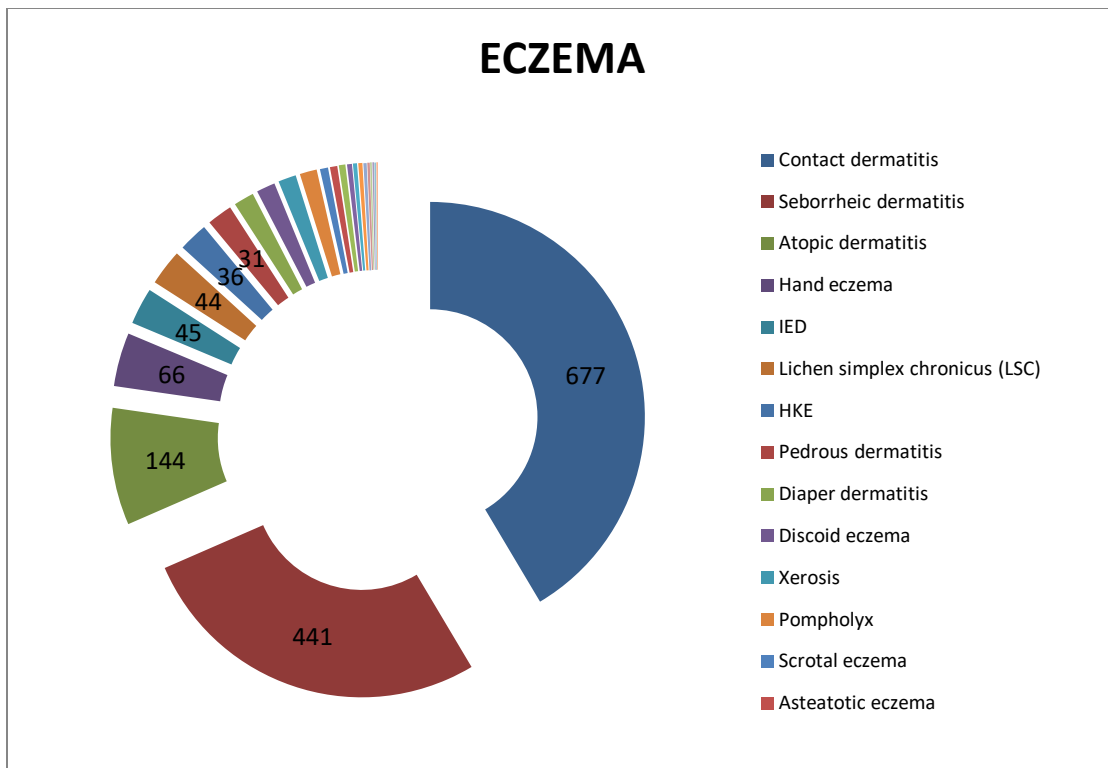


FIGURE 4: INFLAMMATORY SKIN DISEASES CATEGORIZATION AMONG STUDY POPULATION

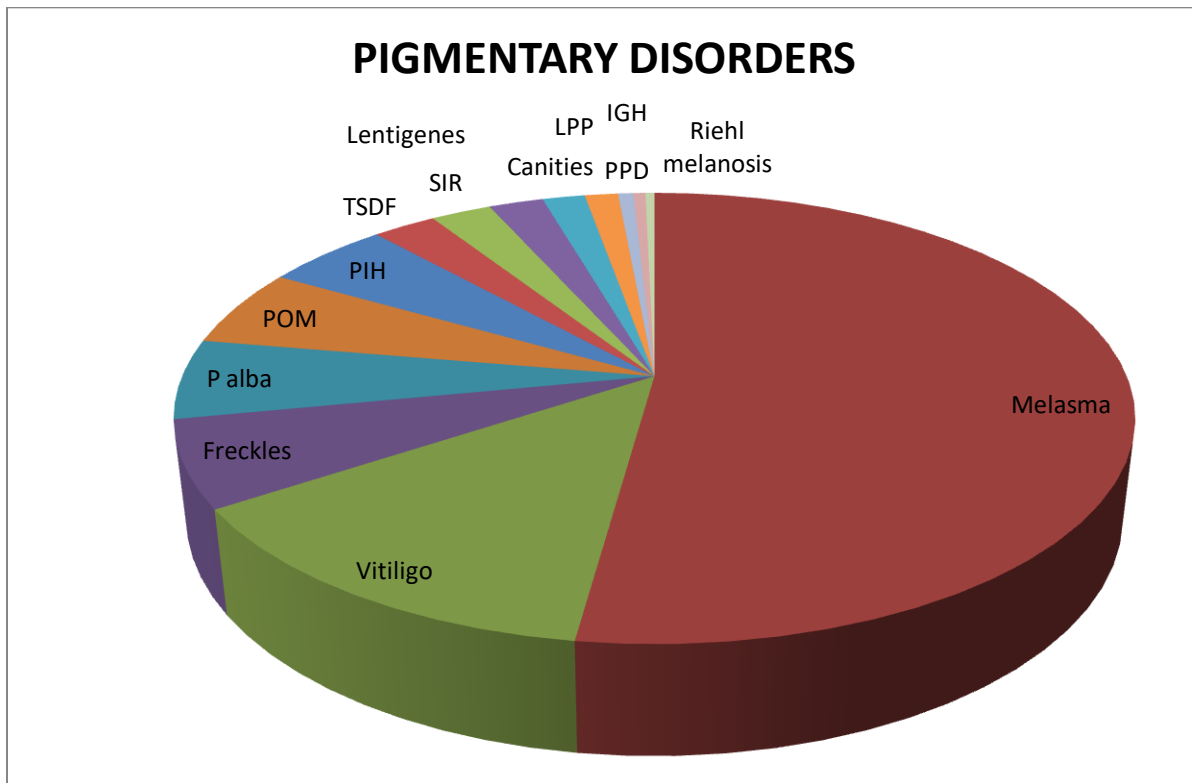


FIGURE 5: PIGMENTARY SKIN DISEASES CATEGORIZATION AMONG STUDY POPULATION

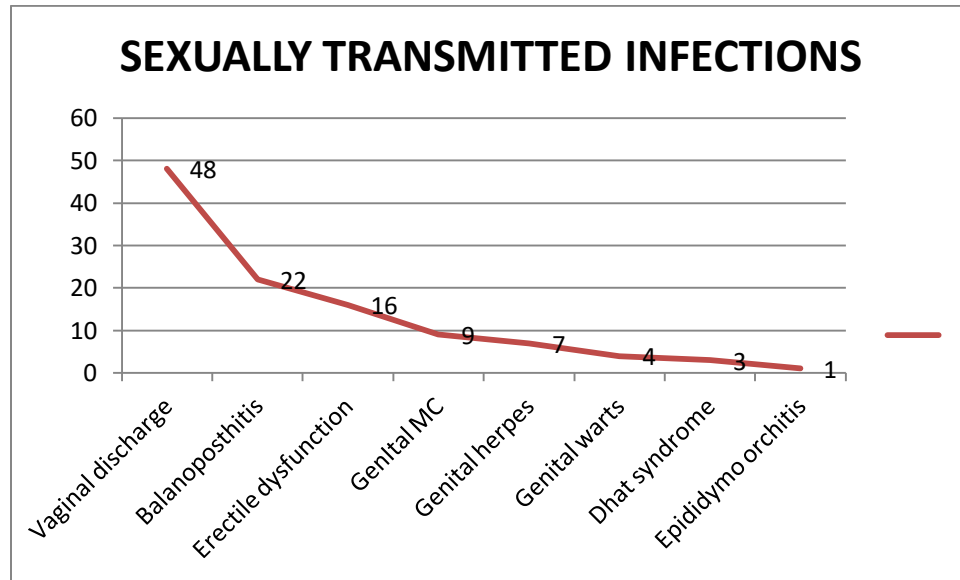


FIGURE 6: DISTRIBUTION OF SEXUALLY TRANSMITTED INFECTIONS (STIs) AMONG STUDY POPULATION