

Clinico Epidemiological Study of Psoriasis in a Tertiary Care Hospital

M. Tharanika¹, A. Bhuvanaratchagan², K. Manoharan³

^{1,2,3}Department of Dermatology, Venereology & Leprosy, Sri Lakshmi Narayana Institute of Medical Sciences
Affiliated to Bharath Institute of Higher Education and Research, Chennai, Tamil Nadu, India.
³manoharan.k@bharathuniv.ac.in

ABSTRACT

Psoriasis was long considered is a common multifactorial disease, affecting skin mainly as an epidermal disease. Psoriasis a dermatological condition is of importance to a clinician beyond treatment of the skin lesions. Psoriasis of skin is chronic inflammatory disease characterized by inflammation of epidermis & dermis associated with thickened epidermis & atypical keratinocyte proliferation & differentiation. The use of anti-inflammatory agents in the treatment of psoriasis and observation of a marked improvement in the disease led to exploration of the immunological background of this disease. Strong associated with HLA CW6 in patients with early onset. Psoriasis is present in several different forms in affected population. Patients tend to display any one form at a given point of time. Different forms have been found to co- exist as well. This could include manifestation of one psoriatic form from another. Around 80% of all psoriasis cases are classified as mild. There are three different types of classification. The present study shows the various patterns of presentations and prevalence of psoriasis among the patients attending dermatology outpatient.

Keywords:

Psoriasis, epidermal, keratinocyte proliferation & differentiation, anti-inflammatory, HLA

1.Introduction

Psoriasis, is a chronic inflammatory skin disease affecting skin, nail and joints with a strong genetic basis, characterized by complex alterations in epidermal growth and differentiation. Psoriasis of skin is chronic inflammatory disease characterized by inflammation of epidermis & dermis associated with thickened epidermis & atypical keratinocyte proliferation & differentiation. Psoriasis a dermatological condition is of importance to a clinician beyond treatment of the skin lesions ^[1]. This skin condition characterized by red, scaly plaques, which could cover all parts of the body, has a greater impact on the affected persons psychological and physical well-being than many other chronic medical ailments like diabetes or cancer. Psoriasis is a common disease with estimated prevalence of approximately 2-3% of the world population Exact Etiology of psoriasis is unknown but epidemiological studies have identified several risk factors including smoking, high body mass index, sedentary life style and excess alcohol consumption.^[2-7] A lifelong chronic disease, Psoriasis is independently associated with depression, down look and psychiatric co-morbidity. Psoriasis is heterogeneous in its morphology, affected sites, natural history, age at onset, duration, precipitating factors.

It's an immune mediated genetically determined condition with various systemic associations and the genetic predisposition has a significant role in the etiopathogenesis of the disease and familial clustering of the cases has been observed. But Indians studies show low familial association of the disease. Bedi reported positive family history of psoriasis in 14% of their patients. Kaur et al reported family history in only 2% of their patients. The prevalence of Psoriasis varies across the world and according to published report prevalence in different parts varies from 0 to 11.8 %. In India, prevalence varies from 0.44 to 2.8 %; twice common in males, more common in third or fourth decade at the time of presentation. Psoriasis is associated with certain HLA antigens and complementary factors. In India common HLA association is HLA A1, HLA B17, HLA CW6. In South India, HLA BW57, and HLA DR7.^[2, 7-12]

There is a growing number of population-based studies providing worldwide prevalence estimates of psoriasis. Prevalence of psoriasis varies in different parts of the world. According to published reports, prevalence in different populations varies from 0% to 11.8%.^[1,2] For most of the data given, the range extends from around 0.5% to close to 2.5%. In the USA, the prevalence of psoriasis was estimated to be around 4.6% while in Canada it was 4.7%. Data from Europe show little variation in countries with a range from 1.4% (Norway), 1.55% (Croatia) and 1.6% (UK). In East Africa, the figure was 0.7% and in the Henan district of China only 0.75% were found affected^[12-17]. Most of the data on prevalence has been derived from hospital-based studies while there are only few well-defined large population based studies done to find the exact prevalence of these dermatoses in the community. The present study shows the various patterns of presentations and prevalence of psoriasis among the patients attending dermatology outpatient.

2. Materials and Methods

The study was carried out as a cross sectional study in a teaching hospital. This study was undertaken in outpatient department of dermatology in our hospital. The study was carried out for a period of one year from April 2018 - March 2019. The study population consisted of all patients who visited the outpatient department during the study period. A structured interview schedule was used to collect information regarding the background characteristics and skin lesions.

Data Analysis

Data was entered and analyzed using SPSS version 21 software. Percentages were used to describe the prevalence of different types of psoriasis among the patients attending the dermatology OPD. The investigator conducted some background research studies in the same setting as the doctoral thesis. These studies not only support the need for the study but also help define the statement of the problem clearly. In an assessment of disability level among patients with psoriasis 33% of the male patients were found to experience mild disability and 17% of male patients were found to experience moderate disability. Among female patients, 23% experienced mild disability and 27% experienced moderate disability. There was a significant association between the duration of illness and disability level. The longer the duration of illness, the greater the effect on the quality of life and the functional capacity of patients this disables them **(R.Revathi,2009)**.

In a study on the quality of life of patients with skin disease and spouses of the patients, 90% of the psoriasis patients and 50% of the spouses were found to have poor quality of life. The burden of disease of psoriasis patients was found to be higher than those with other diseases and these patients were found to be in need of special counseling. It was found from this study that efforts to improve quality of life of patients should address the quality of life of their family as well **(Revathi, Victoria, & E.Sujitha, 2012)**.

3. Results and Discussion

This cross-sectional study was carried out among 100 participants visiting the outpatient clinic of our department. The consent form was given to the patients prior to the interview. A structured interview schedule was used to elicit history regarding the medical conditions. Each participant

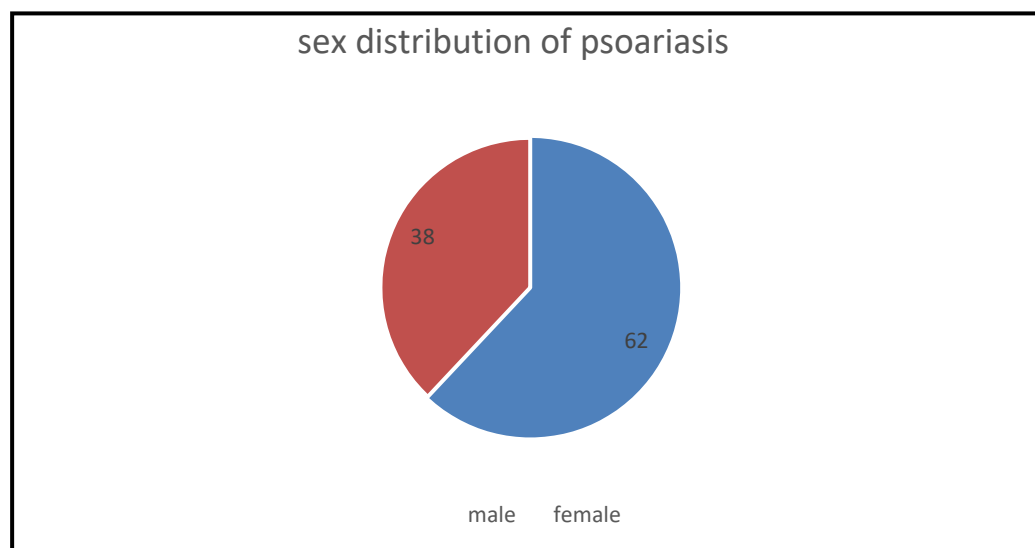
was clinically examined to identify the type of psoriasis. Clinical signs were elicited. Majority of participants in our study belong to the age group > 40 yrs. Males were about 62% and females were 32% out of 100 patients. Frequency of complaints, drug history, progression, relapse & remission, seasonal variation, personal history, family history, comorbidities, site of involvement, distribution, clinical signs, diagnosis were elicited.

TABLE 1: SEXUAL DISTRIBUTION IN PSORIASIS AMONG THE PATIENTS IN OUR STUDY GROUP.

The below table shows sexual distribution of psoriasis among our study population with 62% being males and 38% females.

GENDER	NUMBER OF CASES	PERCENTAGE
MALE	62	62
FEMALE	38	38

Fig.1 Shows sex distribution of psoriasis



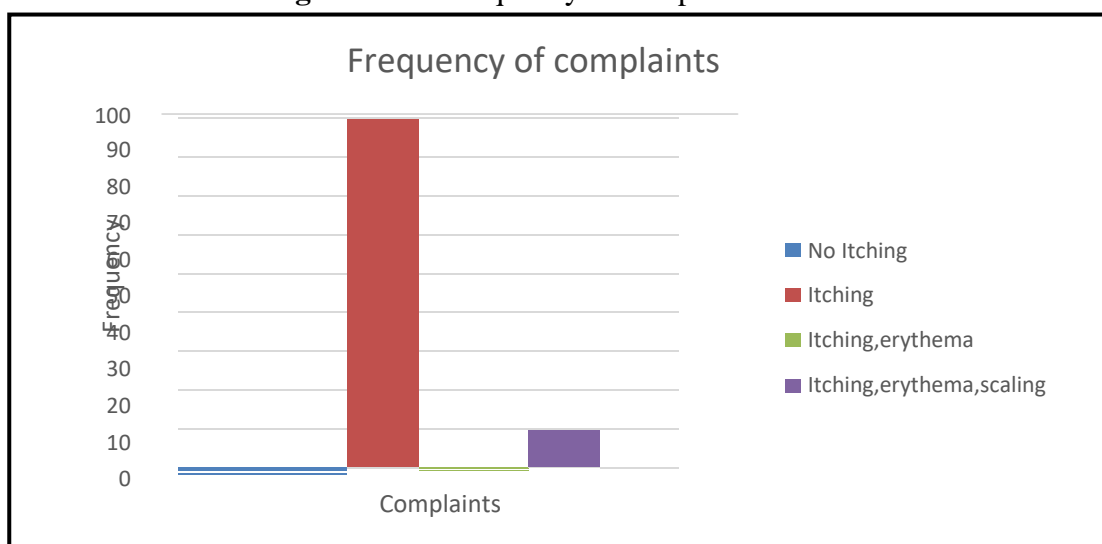
The above pie chart shows sexual distribution of psoriasis among study population .

TABLE. 2. Complaints In Psoriasis Among The Patients In Our Study Group

The below table shows the distribution of complaints in Psoriasis among the patients in our study, with 89% reporting the complaints of itching, 8% with erythema, itching and scaling, 1% with itching & erythema alone .

CHIEF COMPLAINTS	NUMBER OF CASES	PERCENTAGE
NO COMPLAINTS	2	2
ITCHING	89	89
ITCHING,ERYTHMA	1	1
ITCHING,ERYTHMA,SCA LING	8	8

Fig. 2. Shows frequency of complaints



The above Bar Diagram shows the distribution of frequency of complaints among the study population.

TABLE-3: DISTRIBUTION OF HISTORY IN PSORIASIS AMONG THE PATIENTS IN OUR STUDY GROUP.

The below table shows the distribution of history in Psoriasis among the patients in our study group where only 17% reported the history of drug.

DRUG HISTORY	NUMBER OF CASES	PERCENTAGE
PRESENT	17	17
ABSENT	83	83

TABLE.4 DISTRIBUTION OF PROGRESSION OF PSORIASIS AMONG THE PATIENTS IN OUR STUDYGROUP.

The below table shows the distribution of progressive nature of Psoriasis among the study group with 92% had the complaints of progression and the remaining 8% remained stable.

PROGRESSION	NUMBER OF CASES	PERCENTAGE
PRESENT	92	92
ABSENT	8	8

TABLE 5: DISTRIBUTION OF RELAPSE AND REMISSION IN PSORIASIS AMONG THE PATIENTS IN OUR STUDY GROUP.

The below table shows the distribution of relapse & remission in psoriasis among the patients in our study group where 69% reported with frequent relapse and remissions, which was absent in the remaining 31%

RELAPSE/REMISSION	NUMBER OF CASES	PERCENTAGE
PRESENT	69	69
ABSENT	31	31

TABLE 6: DISTRIBUTION OF SEASONAL VARIATION IN PSORIASIS AMONG THE PATIENTS IN OUR STUDY GROUP.

The below table shows the distribution of seasonal variation of Psoriasis among the patients in our study group, where 43% had no variation, 32% reported variation during summer, 1% reported variation during summer & winter and the remaining 24% reported changes during winter.

SEASONAL VARIATION	NUMBER OF CASES	PERCENTAGE
NO VARIATION	43	43
SUMMER	32	32
SUMMER,WINTER	1	1
WINTER	24	24

TABLE 7: DISTRIBUTION OF PERSONAL HISTORY IN PSORIASIS AMONG THE PATIENTS IN OUR STUDY GROUP

The below table shows the distribution of personal history among the psoriatic patients in our study group with 72% reporting no alcohol intake & smoking, 8% reported the intake of alcohol 12% reported both alcohol and smoking habituation and the remaining 8% reported smoking.

PERSONAL HISTORY	NUMBER OF CASES	PERCENTAGE
NO ALCOHOL/SMOKING	72	72
ALCOHOL	8	8
ALCOHOL & SMOKING	12	12
SMOKING	8	8

TABLE 8: DISTRIBUTION OF FAMILY HISTORY IN PSORIASIS AMONG THE PATIENTS IN OUR STUDYGROUP

The below table shows the distribution of family history among the psoriatic patients of our study population where 2% had positive family history and the remaining 98% had no family history

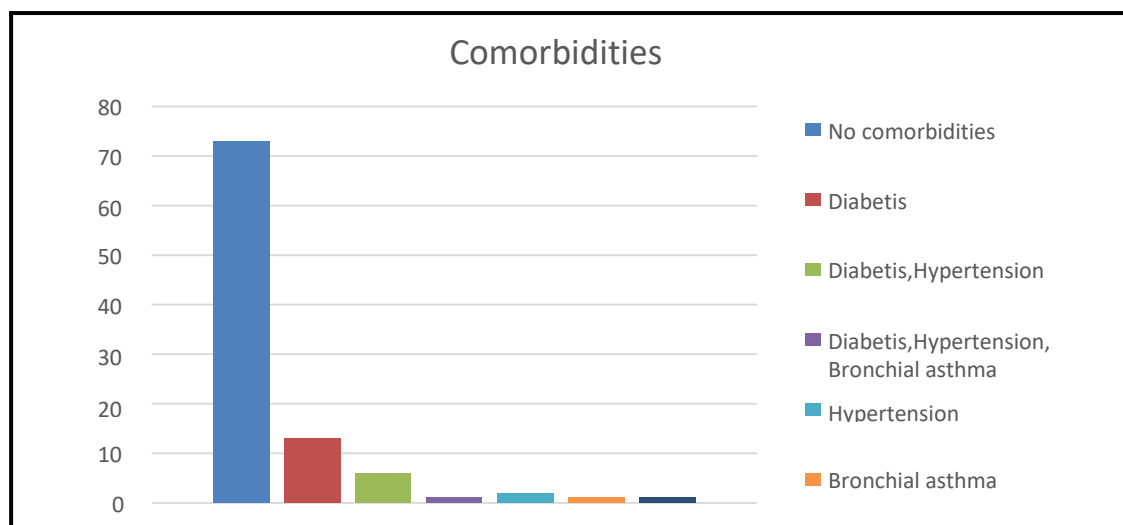
FAMILY HISTORY	NUMBER OF CASES	PERCENTAGE
PRESENT	2	2
ABSENT	98	98

TABLE 9: DISTRIBUTION OF CO-MORBIDITIES IN PSORIASIS AMONG THE PATIENTS IN OUR STUDY GROUP

The below table shows the distribution of co-morbidities where 73% had no co- morbidities, 13% with Diabetes,6% with both diabetes and hypertension, 1% with diabetes, hypertension and asthma, 5% with only hypertension, 1% with asthma and the remaining 1% with coronary artery disease.

CO-MORBIDITIES	NUMBER OF CASES	PERCENTAGE
NO CO-MORBIDITY	73	73
DIABETES	13	13
DIABETES,HYPERTENSION	6	6
DIABETES,HYPERTENSION,ASTHMA	1	1
HYPERTENSION	5	5
ASTHMA	1	1
CORONARY ARTERY DISEASE	1	1

Fig. 3. Shows frequency of co morbidities in the study group.



The above figure shows the distribution of co- morbidities among the Psoriasis patients of our study group.

TABLE. 10: DISTRIBUTION OF SITE OF INVOLVEMENT IN PSORIASIS AMONG THE PATIENTS IN OUR STUDY

The below table shows the distribution of site of involvement in psoriasis among the patients in our study where 34% reported involvement of palms & soles, 1% axilla and groin involvement, 3% elbow and knee involvement, 17% reporting extremities involvement, 1% nail and penis involvement each, 29% trunk and extremities involvement, 9% reporting involvement of trunk, extremities & face and the remaining 5% reported the involvement of trunk,face,scalp and extremities.

SITE	FREQUENCY	PERCENTAGE
PALMS & SOLES	34	34
AXILLA, GROIN	1	1
ELBOW, KNEE	3	3
EXTREMITIES	17	17

NAILS	1	1
PENIS	1	1
TRUNK, EXTREMITIES	29	29
TRUNK, EXTREMITIES, FACE	9	9
TRUNK, EXTREMITIES,FACE,SCALP	5	5

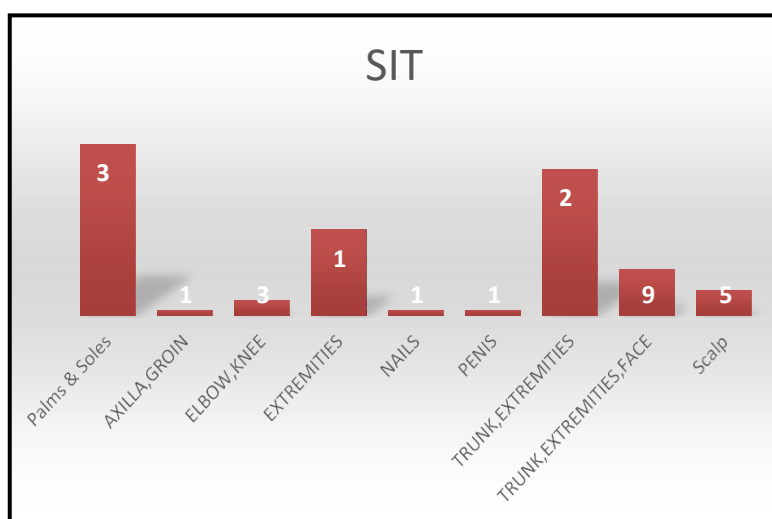


Fig. 4. Shows site of distribution of psoriasis in study population. The above figure shows the distribution of psoriasis in our study population.

TABLE 11: PATTERN OF DISTRIBUTION OF PSORIASIS AMONG THE STUDY GROUP

The below table shows the distribution of psoriasis among the study population where 15% reported asymmetrical distribution and 85% showed symmetrical distribution.

DISTRIBUTION	NUMBER OF CASES	PERCENTAGE
ASYMMETRICAL	15	15
SYMMETRICAL	85	85

TABLE 12: DISTRIBUTION OF SCALP INVOLVEMENT IN PSORIASIS AMONG THE PATIENTS IN OUR STUDY GROUP

The below table shows the distribution of scalp involvement where only 31% reported positive and the remaining 69% were negative.

SCALP	NUMBER OF CASES	PERCENTAGE
PRESENT	31	31
ABSENT	69	69

TABLE.13: DISTRIBUTION OF ORAL MUCOSA INVOLVEMENT IN PATIENTS WITH PSORIASIS IN OUR STUDY

The below table shows the distribution of oral mucosa involvement in patients with psoriasis in our study where 1% had the oral mucosa involvement and the remaining 99% remained negative.

ORAL MUCOSA	NUMBER OF CASES	PERCENTAGE
PRESENT	1	1
ABSENT	99	99

TABLE.14: DISTRIBUTION OF GENITAL MUCOSA INVOLVEMENT IN PSORIASIS AMONG THE STUDY GROUP

The below table shows the distribution of Genital mucosa involvement where 1% had genital mucosa involvement and the remaining 99% remained negative.

GENITAL MUCOSA	NUMBER OF CASES	PERCENTAGE
PRESENT	1	1
ABSENT	99	99

TABLE. 15: DISTRIBUTION OF PALMS & SOLES INVOLVEMENT IN PSORIASIS AMONG THE PATIENTS IN OUR STUDY GROUP

The below table shows the distribution of palms and soles involvement in psoriatic patients where 45% were positive and the remaining 55% remained negative.

PALMS & SOLES	NUMBER OF CASES	PERCENTAGE
PRESENT	45	45
ABSENT	55	55

TABLE. 16: DISTRIBUTION OF NAILS INVOLVEMENT IN PSORIASIS AMONG THE PATIENTS ATTENDED DURING STUDY PERIOD

The below table shows the distribution of nails involvement in psoriasis among the patient attended during study period where only 30% had pitting of nails, 15% with nail dystrophy and the remaining 55% had no nail involvement.

NAILS	NUMBER OF CASES	PERCENTAGE
NOT INVOLVED	55	55
PITTING	30	30
NAIL DYSTROPHY	15	15

TABLE 17: DISTRIBUTION OF SIGNS ELICITED IN PSORIASIS AMONG THE PATIENTS IN OUR STUDY GROUP

The below table shows the distribution of signs elicited in psoriasis among the patients in our study group where 38% reported with koebner phenomenon, 37% with auspitz sign, 13% auspitz & koebner, 1% had wornoff ring, 1% with oil drop sign and the remaining 10% had nosigns.

SIGNS	NUMBER OF CASES	PERCENTAGE
NO SIGNS	10	10
AUSPITZSIGN	37	37
OIL DROP SIGN	1	1
KOEBNER PHENOMENON	38	38
WORNOFF RING	1	1
AUSPITZ & KOEBNER	13	13

TABLE. 18: DISTRIBUTION OF FREQUENCY OF CLINICAL PATTERNS IN PSORIASIS AMONG THE POPULATION

The below table shows the distribution of frequency of clinical pattern among the psoriatic Patients where 37% had chronic plaque psoriasis, 27% had palmo plantar psoriasis, 12% had scalp psoriasis, 11% had guttate psoriasis, 9% had erythrodermic psoriasis, 1% with flexural psoriasis, 1% with nail psoriasis, 1% with genital psoriasis and the remaining 1% with pustular psoriasis.

DIAGNOSIS	NUMBER OF CASES	PERCENTAGE
CHRONIC PLAQUE PSORIASIS	37	37
PALMO PLANTAR PSORIASIS	27	27
FLEXURAL PSORIASIS	1	1
SCALP PSORIASIS	12	12
GUTTATE PSORIASIS	11	11
ERYTHRODERMIC PSORIASIS	9	9
NAIL PSORIASIS	1	1
GENITAL PSORIASIS	1	1
PUSTULAR PSORIASIS	1	1

Chronic Plaque Psoriasis seen in 37% of patients and this is the major type, among the study group. In general patients attending to our DVL OPD, majority patients are suffering from chronic plaque psoriasis. Many cases we are treating with PUVA/ Methotrexate. Many patients were middle aged; mostly males belong to this category. In a study Christensen TE, Callis KP, Hoffman MS et.al. in their observations identified two morphological variants, thin plaque and thick plaque Psoriasis. Erythrodermic Psoriasis is diagnosed and treated in our study in 9% of patients out of 100 cases. This condition usually less common, among the types of Psoriasis – the same is observed in our study. Primary erythroderma will present without comorbid conditions, but secondary erythroderma always associated with pre existing dermatoses, particularly psoriasis. According to literature majority of these patients develop secondary erythroderma.

Pustular psoriasis least common condition, We found 1% involvement in our study group. Pustular psoriasis is most common cause for development of secondary erythroderma.

Oral mucosal involvement not seen in 99% of patients. But noticed in 1% of study group. Oral mucosal lesions can present as isolated variant, which is known as geographic tongue, variant of psoriasis^[18-23]. Unlike lichen planus or pemphigus. The involvement of oral cavity is rare in psoriasis. Palmoplantar psoriasis needs to be differentiated from Differential diagnosis with palmar eczema / contact dermatitis.

Psoriatic lesions over the genital mucosa observed in 2% of study group. But not found in rest of the 98% of patients. Involvement of genital mucosa is less common or least common, the same which study reveals. There is literature published by Babu M, Ramachandru P, Naikh BKH, on Psoriasis of the mucous membrane in IJDV, supporting our study. In the skin OPD in our hospital, many cases are attending with Palmoplantar Psoriasis, without involvement of other sites. Even during follow up lesions are confined to palms and soles only Known as Palmoplantar psoriasis^[24-27]. In our study group 73% of patients there is no involvement of palms and soles and 27% we observed lesions over palms and soles. Flexural psoriasis 1% in our study group, which is rare type of psoriasis. This condition also called Inverse psoriasis. We noticed these lesions in a male at the groin and inner aspect of thighs [24,29]. Erythematous shiny, asymptomatic lesion of environment.

Scalp involvement observed in 31% among total number of patients, whom we selected for the study and remaining 69% are without scalp lesions. In psoriasis scalp alone can involve; without involving other body sites, including nails[28,30-34]. Scalp psoriasis is common in patients who are attending DVL OPD in our hospital. This study reflects the same, which we noticed in our department.

Nail involvement seen in 45% of patients. Nails are normal in 55% of patients during my study period. Nail changes observed in our patients are Pitting and dystrophy^[35-38]. Other changes which we usually seen in Psoriasis, were not found in our study group. In the study which is conducted by Velappan R et al. Int. J. Res. Dermatol. 2019 Aug; 5930 452-456 reveals chronic plaque psoriasis is the most common clinical pattern, observed irrespective of age and sex.

4. Conclusion

In our study group surprisingly we never came across rare clinical presentations like Rupoid psoriasis or Ostraceous psoriasis or Elephantine psoriasis. In majority of patients, 37 % had Auspitz sign positive which is most commonly seen in Chronic plaque psoriasis. And 38 % showed koebner phenomenon, only 1% showed oil drop sign & wornoff ring. Remaining patients in the study group did not show any signs. Most of the patients attending with Plaque psoriasis and during the study period they did not go in to erythroderma and they responded well to Methotrexate. In this group not all patients show the nail changes.

Scalp involvement noticed in 31% of patients and this is the second highest among types of Cutaneous psoriasis. During the study period it did not spread to other body sites. Clinically we are able to exclude other scaly scalp dermatoses. Erythrodermic psoriasis consists of 9%, which is a cause for secondary erythroderma successfully treated as inpatient and absolutely no mortality. We are able to differentiate clinically palmoplantar psoriasis with Eczema Flexural psoriasis also known as inverse psoriasis seen in 1% of study group in middle aged men. it is asymptomatic and also chronic.

We observed 1% Pustular psoriasis in this study. Which is least common in clinical practice and also similar data reflects in the literature. Oral mucosa and genital involvement is rare – each

comprised of 1% only though there is no sexual predilection, we observed male preponderance in our study. Interestingly during the study, we did not find patients at younger age, neither infants nor children affected with psoriasis. Almost all patients are in the adulthood. Very few patients come under geriatric agegroup. Finally, our study is closely related to other Indian studies, the literature which is available on Epidemiology of psoriasis on clinical patterns.

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Ethical approval: The study was approved by the Institutional Ethics Committee

5. Conflict of Interest

The authors declare no conflict of interest.

6. Acknowledgments

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