

## ASSESSMENT OF PALMO-PLANTAR PSORIASIS AND ASSOCIATED FACTORS

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### ABSTRACT

**Background:** Psoriasis is characterized by immune mediated chronic, non-infectious, inflammatory and proliferative condition which affects 2-4% population worldwide and associated with genetic and environmental factors. Palmoplantar psoriasis is a subtype of psoriasis that characteristically involves the skin of the palms and soles. **Material & Methods:** The present study was conducted at department of dermatology of our tertiary care hospital. All patients who had Palmoplantar psoriasis variant were enrolled for the study. All patients who had psoriasis other than Palmoplantar psoriasis were excluded from the study. Clearance from Institutional Ethics Committee was taken before start of study. **Results:** In present study, Instep involvement and extension beyond the sole in to heels were present among 46% of patients and hyperkeratosis, scaling, fissures with well-defined borders present among 35% of patients and diffuse involvement of both palms and soles present among 19% of patients. On the basis of occupation 63% of patients involved in household work, 27% patients involved in agriculture and 10% patient were involved in clerical work. Majority of patients were underweight 42% and normal BMI 40%. Diabetes was found among 11 patients, dyslipidemia was found in 24% and hypothyroidism was reported among 6% patients. **Conclusion:** The overall prevalence of psoriasis and Palmoplantar psoriasis was low in our study. Middle aged females affect predominantly in our study. High BMI, diabetes mellitus, dyslipidemia and hypothyroidism were the associated comorbidities found in present study.

**Key words:** Palmoplantar psoriasis, Hyperkeratosis, Comorbidities.

### INTRODUCTION

The prevalence of skin diseases is depending upon environmental conditions and the quality of medical care provided to them (1). Since the spectrum of skin diseases is very wide the overall magnitude of disease burden depends upon age, gender, their regional distribution, prevalence and underlying factors which are essential for the prevention programs (2). Skin diseases have gained a lot of interest over the past decades because they are potentially preventable, controllable and prevalent worldwide. Skin disease are

considered very upsetting, especially in younger age groups. The burden and type of any disease in particular geographical area depends on the genetic constitution of the individuals, their social background and nutritional and hygiene status (3).

Psoriasis is characterized by immune mediated chronic, non-infectious, inflammatory and proliferative condition which affects 2-4% population worldwide and associated with genetic and environmental factors (4). Psoriasis is presented with

systemic involvement of cardiovascular system, joints along with metabolic and renal disease which significantly leads to impairment of health-related quality of life. Palmoplantar psoriasis is a subtype of psoriasis that characteristically involves the skin of the palms and soles as the name. It characterized by hyperkeratotic areas, pustular and mixed morphologies (5). Palmoplantar pustular psoriasis, is characterized by small and sterile pustules which is seen in palmoplantar psoriasis as characteristic entity. Palmoplantar psoriasis is a persistent, refractory and disabling type of psoriasis which affects 5% of all psoriasis patients (6). Hence, we conducted present study to estimate the burden and pattern of Palmoplantar psoriasis and its associated factors at our geographical study area.

## MATERIALS & METHODS

The present prospective study was conducted at department of dermatology of our tertiary care hospital. The study duration was of one year from January 2018 to december 2018. In this epidemiological study patients of age of both the genders who had consented were enrolled for the study. Clearance from Institutional Ethics Committee was taken before start of study.

Detailed clinical history with general physical examination was done and recorded in the proforma prepared for this study. The presenting complaints were noted in the chronological order. All patients who had Palmoplantar psoriasis variant were enrolled for the study. All patients who had psoriasis other than Palmoplantar psoriasis were excluded from the study. Data analysis was carried out using SPSS v22. All tests were done at alpha (level significance) of 5%; means a significant association present if p value was less than 0.05.

## RESULTS

In present study, we enrolled 100 patients who had Palmoplantar psoriasis out of 662 patients of psoriasis, among all patients who were visiting dermatology OPD and gave consent for the study. Out of these 100 patients 32% were males and 68% were females.

Majority of patients were in 41-50 years of age group (26%) which was followed by 51-60 years of age group (24%) and 31-40 years of age group (23%). 12 patients belong to 61-70 years of age group and 10 patients in 21-30 years of age group. On the basis of disease duration majority of patients (27%) had disease from less than one-year duration. 19 patients had disease from 1-2 years and 15 patients had disease from 2-3 years. 13 patients had disease from 3-4 years and 12 patients had disease from 4-5 years. 14 patients had disease from >5 years. (Table 1)

Table 1: Distribution of patients according to age, gender and duration of disease.

Parameters	No. of patients	
Age (years)	10-20	3
	21-30	10
	31-40	23
	41-50	26
	51-60	24
	61-70	12
>70	2	
Gender	Male	32%
	Female	68%
Duration of disease	<1 years	27
	1-2 years	19
	2-3 years	15
	3-4 years	13
	4-5 years	12
	>5 years	14

In present study, Instep involvement and extension beyond the sole in to heels were present among 46% of patients and hyperkeratosis, scaling, fissures with well-defined borders present among 35% of patients and diffuse involvement of both palms and soles present among 19% of patients. On the basis of occupation 63% of patients involved in household work, 27% patients involved in agriculture and 10% patient were involved in clerical work. Majority of

patients were underweight 42% and normal BMI 40%. Diabetes was found among 11 patients, dyslipidemia was found in 24% and hypothyroidism was reported among 6% patients. (Table 2 & 3)

Table 2: Distribution study participants according to associated factors.

Parameters	No. of patients
Occupation	agriculture 27
	Household work 63
	Clerical work 10
BMI	Underweight 42
	Normal 40
	Overweight 16
	Obese 2
Type of lesion	Hyperkeratosis, scaling, fissures with well-defined borders 35
	diffuse involvement of both palms and soles 19
	Instep involvement and extension beyond the sole in to heels 46

Table 3: Distribution study participants according to comorbidities.

Comorbidities	Number of cases (%)
Diabetes mellitus	11%
Dyslipidemia	24 %
Hypercholesterolemia	19%
hyper-triglyceridemia	12%
Hypothyroidism	6%

## DISCUSSION

In present study, we enrolled 100 patients who had Palmoplantar psoriasis out of 662 patients of psoriasis, among all patients who were visiting dermatology OPD and gave consent for the study. The prevalence

of Palmoplantar psoriasis among psoriasis patients was 15.1% (100 of 662). Similar results were reported in a study conducted by Rasool F et al among 54 patients of Palmoplantar psoriasis (7). Another study conducted by Venkatesan et al reported in their prospective study on Palmoplantar psoriasis over six months of study duration that Palmoplantar psoriasis was most common variant seen among all cases of psoriasis (8).

In present study, Out of 100 patients 32% were males and 68% were females. Majority of patients were in 41-50 years of age group (26%) which was followed by 51-60 years of age group (24%) and 31-40 years of age group (23%). 12 patients belong to 61-70 years of age group and 10 patients in 21-30 years of age group. Similar results were reported in a study conducted by Trattner H et al among 102 patients of psoriasis and found that majority of subjects were females and most common age group affected was 31-50 years of age, which was comparable to present study (9). On the basis of disease duration majority of patients (27%) had disease from less than one-year duration. 19 patients had disease from 1-2 years and 15 patients had disease from 2-3 years. 13 patients had disease from 3-4 years and 12 patients had disease from 4-5 years. 14 patients had disease from >5 years. Similar results were reported in a study conducted by Trattner H et al among 102 patients of psoriasis (9).

In present study, Instep involvement and extension beyond the sole in to heels were present among 46% of patients and hyperkeratosis, scaling, fissures with well-defined borders present among 35% of patients and diffuse involvement of both palms and soles present among 19% of patients. Similar results were reported in a study conducted by Kaur I et al among 1220 patients attending to dermatology department (10). On the basis of occupation 63% of patients involved in household work, 27% patients involved in agriculture and 10% patient were involved in clerical work. Similar results were reported in a study conducted by Kaur I et al among 1220 patients(10)

In present study, majority of patients were underweight 42% and normal BMI 40%. Similar results were reported in a study conducted by Naito R I et al among patients of psoriasis (11). Similar results were reported in a study conducted by Huda E et al

among 81 patients of psoriasis on assessing them according to body mass index (12). In the present study, diabetes was found among 11 patients, dyslipidemia was found in 24% and hypothyroidism was reported among 6% patients. Similar results were reported in a study conducted by Chopra A et al among 300 patients of psoriasis (13).

## CONCLUSION

We concluded from the present study that the overall prevalence of psoriasis and Palmoplantar psoriasis was low in our study. Middle aged females affects predominantly in our study. High BMI, diabetes mellitus, dyslipidemia and hypothyroidism were the associated comorbidities found in present study.

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