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A Study on Dermatological Life Quality Index in Different Forms of Psoriasis

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Abstract

The present study focuses on assess the quality of life of patients diagnosed with different forms of psoriasis. The mean DLQI scores were highest for patients with pustular psoriasis followed by nail psoriasis, palmoplantar psoriasis, scalp and psoriasis vulgaris in that order. While the type of psoriasis did significantly influence the impact on the QoL, the association was found to be weak. The present study includes the regardless of the type of psoriasis, the quality of life impairment is significant in all forms of the disease and hence treatment should be aimed at improving the quality of life of the patient along with bringing down the disease severity.

Keywords : psoriasis, vulgaris, pustular, Scalp, palmoplantar, DLQI and QoL

1. Introduction

Psoriasis is one of the most commonly encountered diseases by dermatologists. It can be described as an immune mediated inflammatory disease with a multifactorial causation. It is classified under the papulosquamous disorders as it is characterized primarily by the complex alterations in the growth and differentiation of the epidermis leading to the obvious clinical manifestations. Psoriasis commonly presents in the form of well defined, red scaly plaques mainly over the extensor aspects and scalp, with itching or burning of variable intensity. Psoriasis is a disease with universal occurrence, affecting 125 million people globally highlighting, the seriousness of the issue. Though psoriasis primarily affects the skin and its appendages, it has clearly been implicated that it carries systemic comorbidities during its chronic course. The WHO now recognizes psoriasis to be a disabling and disfiguring disease that negatively impacts the quality of life of affected patients. This highlights the importance of assessing the patient's quality of life. As medical professionals our treatment should not only be aimed at treating his skin condition, but to help bring about an sense of overall well being in the patient. The quality of life of patients suffering with psoriasis can be assessed through the "Dermatology Life Quality Index" which is a universally accepted, simple yet effective tool. The DLQI is a simple questionnaire with ten questions which the patients can fill by their selves , that grades the effect of the disease on different aspects of the patient's life like the severity of his symptoms, work, study, leisure activities, sport, relationships, sex and treatment. It was created by Finlay and Khan from the Cardiff university, UK in 1993 as a tool to easily assess the impact of cutaneous condition on the

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quality of life of the patients within the span of one week. Each question can be graded from 0 to 3 with a total possible score of 30. Analysing the DLQI during the earl y phases of the disease may help guide our clinical decisions and provide a more personalized treatment option which in turn can help avert much of the disease suffering.

2. MATERIALS AND METHODS

Study Design: Cross sectional study.

Study Area: Skin Outpatient Department Sree Balaji Medical College and Hospital

Study Population: All patients attending skin OPD, who are clinically diagnosed with psoriasis

Study Method: observational study.

Sample Size: 500

Exclusion Criteria:

- Those not consenting for the study.
- Patients less than 16 years of age
- Patients with erythrodermic psoriasis

Inclusion criteria:

Patients above 16 years of age who consented for the study.

The recruited patients were subjected to the following,

(A) Full History Taking

(B) Thorough General and Dermatological Examination.
(C) DLQI questionnaire

STATISTICAL ANALYSIS:

A cross sectional study was carried out in 500 patients to study the affect on life

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quality of life in patients diagnosed with different types of psoriasis. The distribution of qualitative variables such as gender, age group, marital status, type of psoriasis, impact of affection was expressed in terms of frequency with percentage. The distribution of quantitative variables like age and DLQI score is expressed in terms of mean, median and. The association of type of psoriasis with DLQI impact score is carried out by using chi square test and the strength of relationship between the variables is found by using Cramer's v test. The comparison of median (range).DLQI score between gender and marital status were carried out by using Mann Whitney U test. All analysis was carried out at 5% level of significance with p value less than 0.05 were considered as statistically significant. The analysis was performed by using SPSS (PASW statistics version 16) and graph were created in MS excel 2010 .

3. Results

Table 1 DISTRIBUTION OF PATIENTS AS PER AGE, GENDER AND MARITAL STATUS

Variable	Sub group	Frequency	Percentage
Age Group	< 20 years	24	4.8
	21- 40 years	193	38.6
	41- 60 years	198	39.6
	>60 years	85	17
Gender	Male	260	52
	Female	240	48
Marital Status	Married	405	81
	Unmarried	95	19

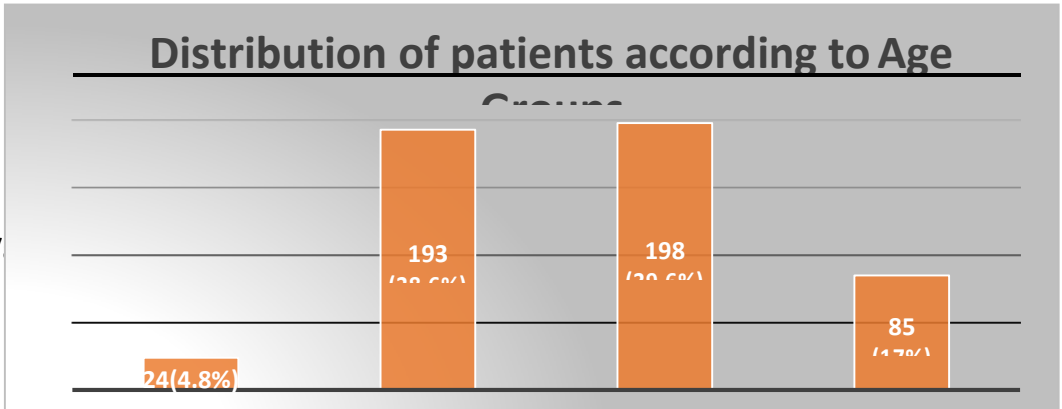

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Figure 1

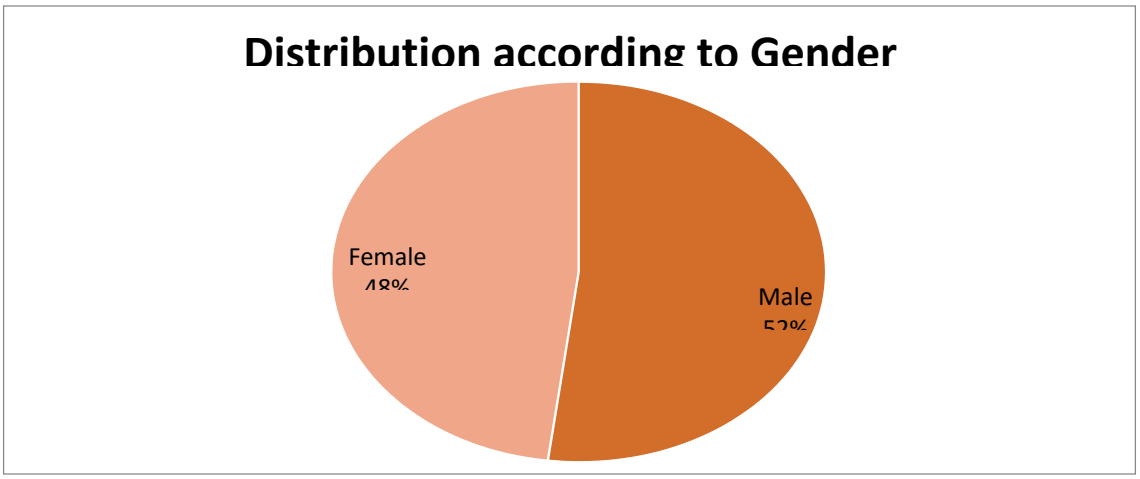

Figure 2

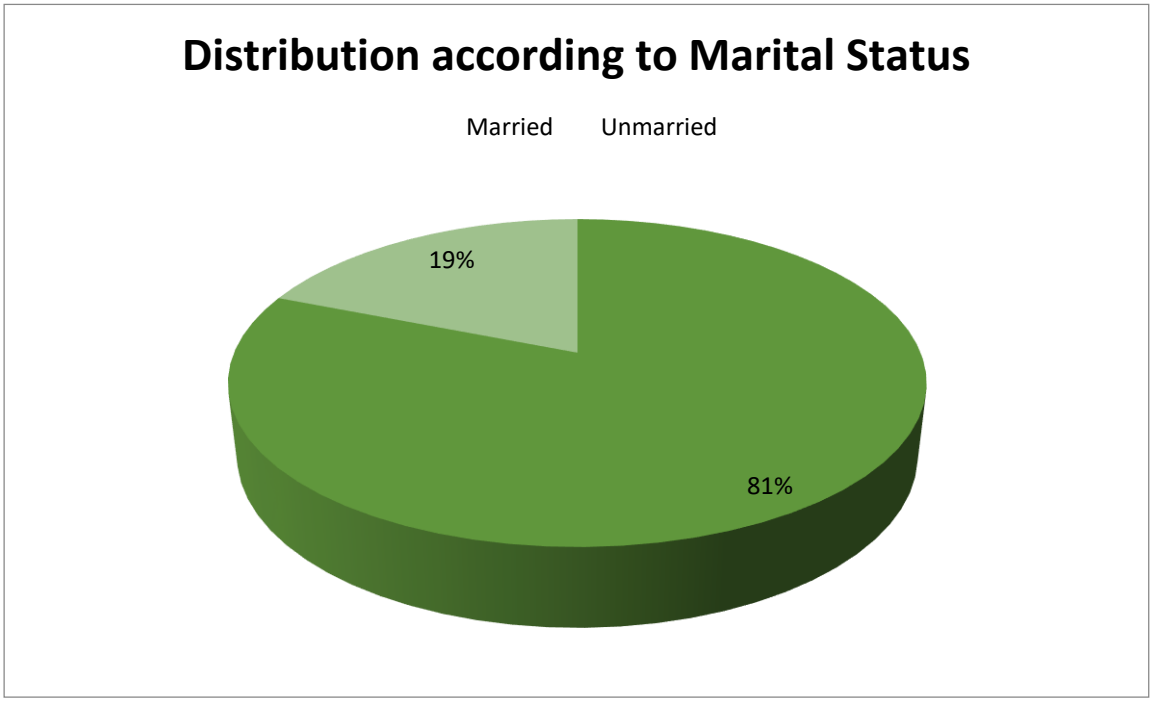

Figure 3

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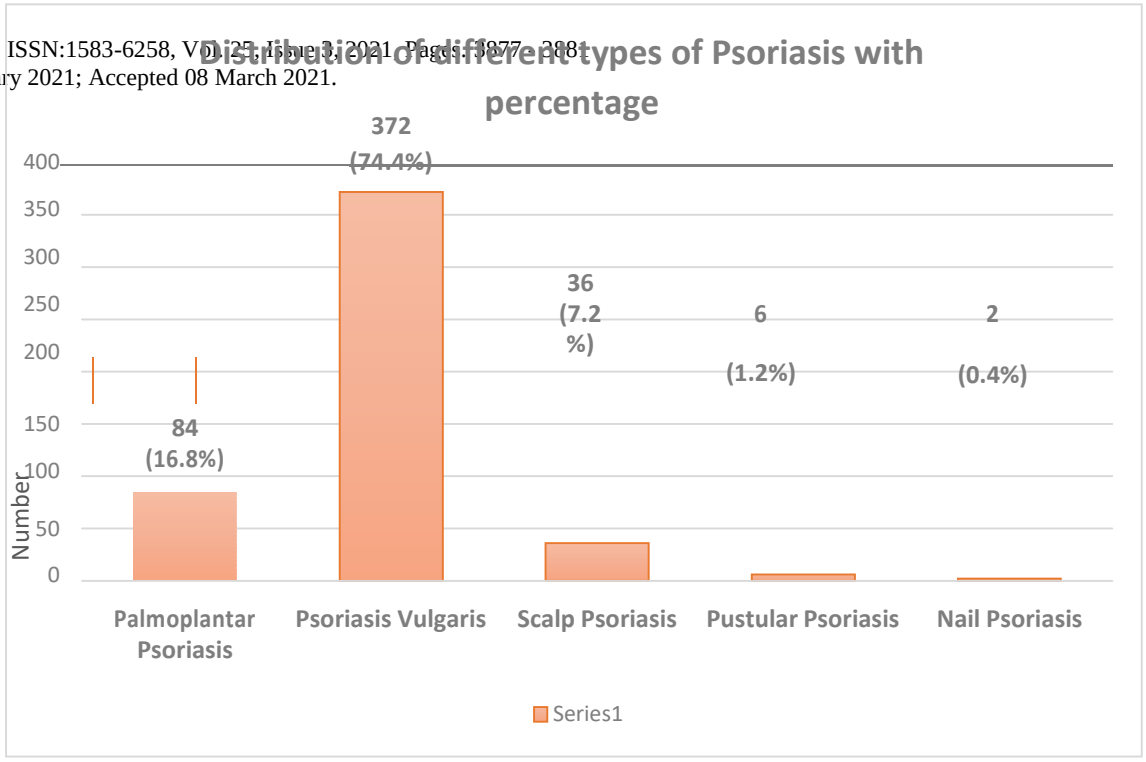

Figure 4

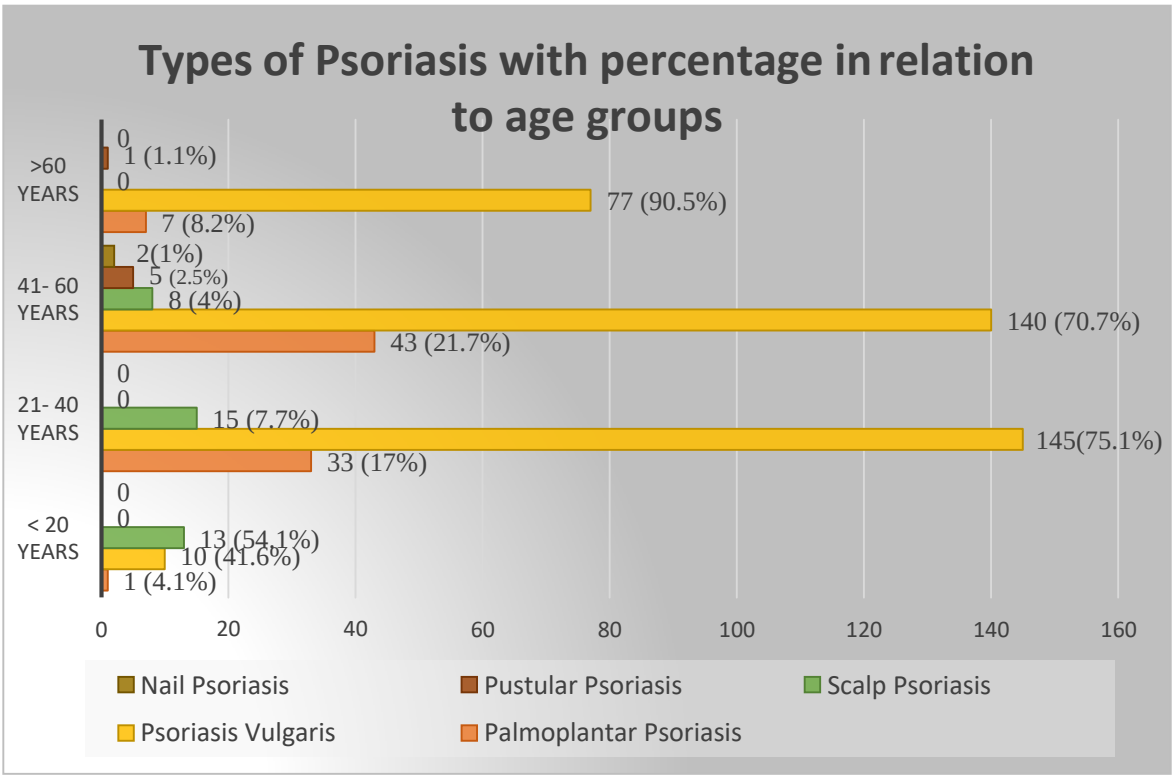

Figure 5

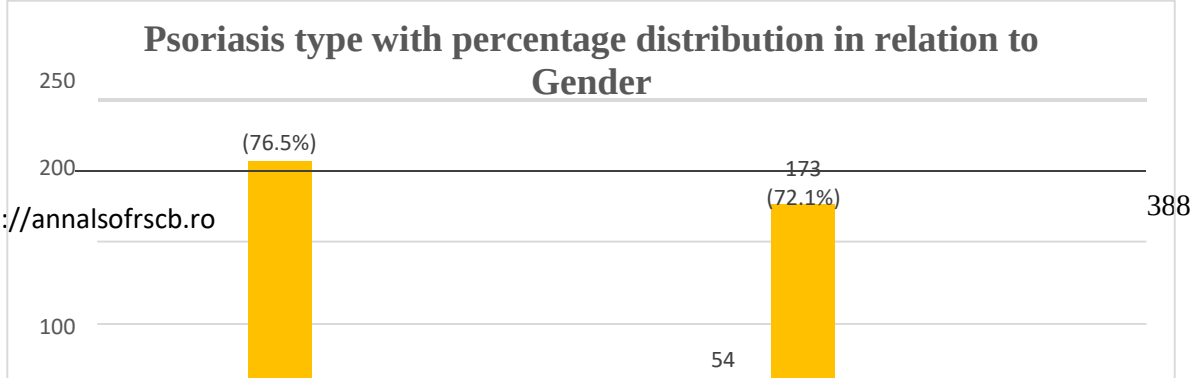

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Figure 6

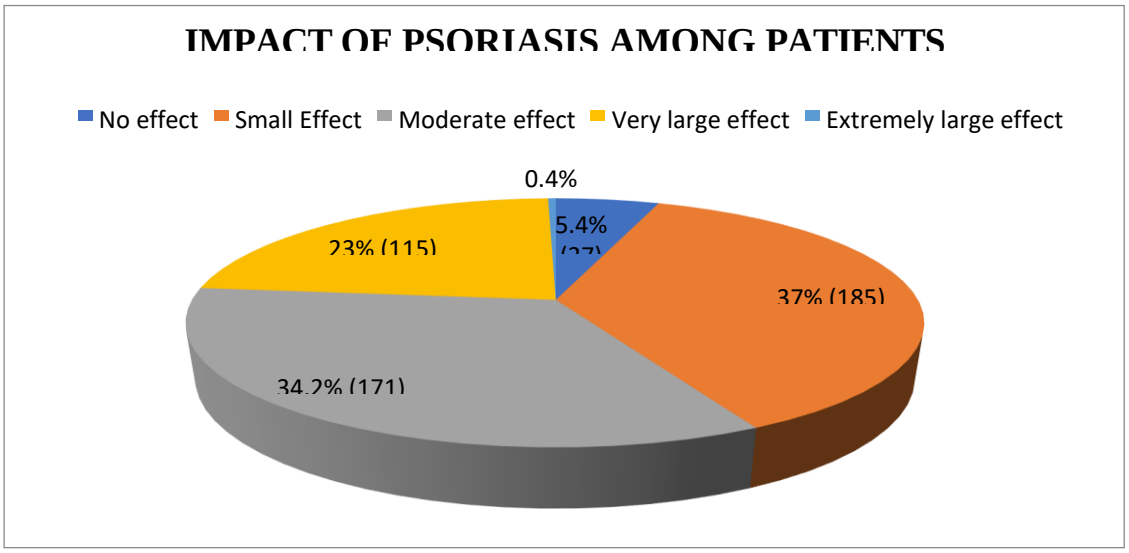

Figure 7

Table 2 Mean Age and DLQI scores with standard deviation

Variable	Mean	Median	Standard deviation
Age	44.27	45	15.45
DLQI Score	7.25	7	4.41

Table 3 Mean, Median& Standard deviation DLQI scores of different age

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groups

Age group	N	DLQI Score		
		Mean	Standard deviation	median
< 20 years	24	8.29	2.99	8.50
21- 40 years	193	7.59	4.46	7
41- 60 years	198	7.49	4.76	6
>60 years	85	5.6	3.36	4

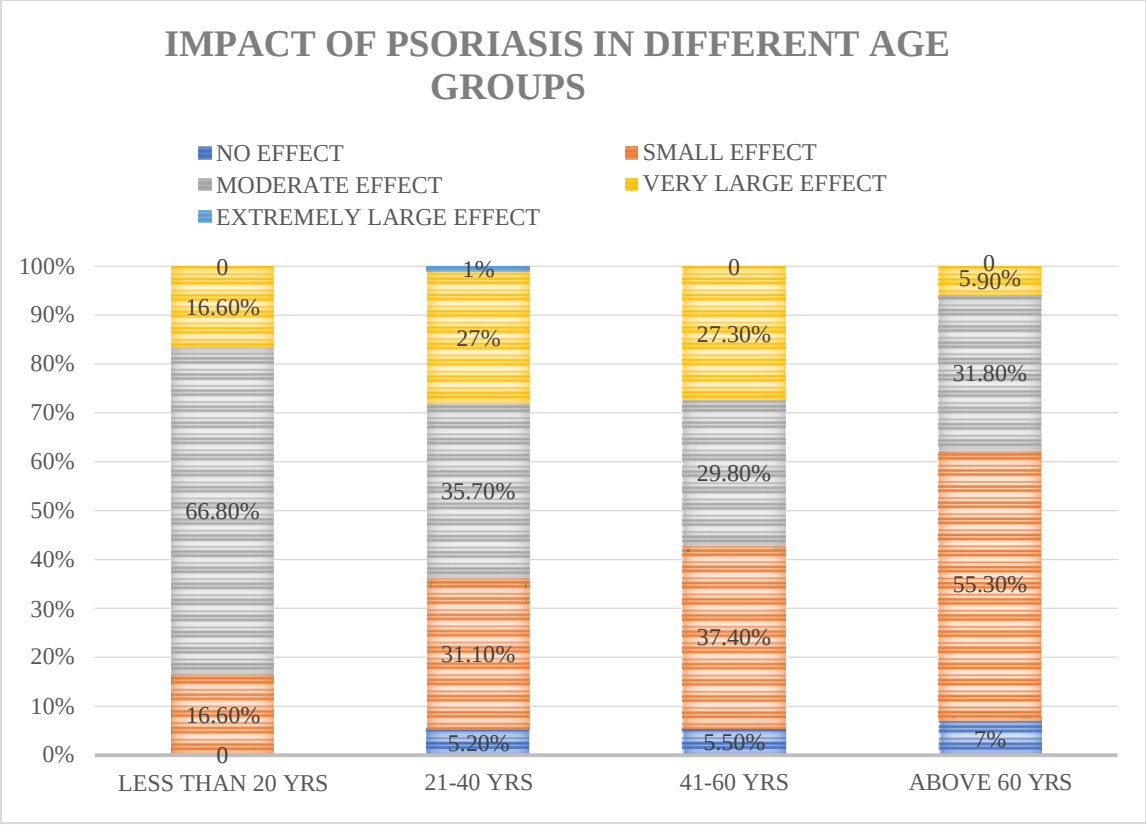

Figure 8

Annals of R.S.C.B., ISSN:1583-6258, Vol. 25, Issue 3, 2021, Pages. 3877 - 3881
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Table 5 Distribution of Impact of psoriasis in relation to Gender

Variables	Sub groups	Total (500), n	Male (260), n (%)	Female (240), n (%)
Impact	No effect	27	13 (5%)	14 (5.8%)
	Small Effect	185	128 (49.2%)	57 (23.8%)
	Moderate effect	171	68 (26.2%)	103 (42.9%)
	Very large effect	115	51 (19.6%)	64 (26.7%)
	Extremely large effect	2	0	2 (0.8%)

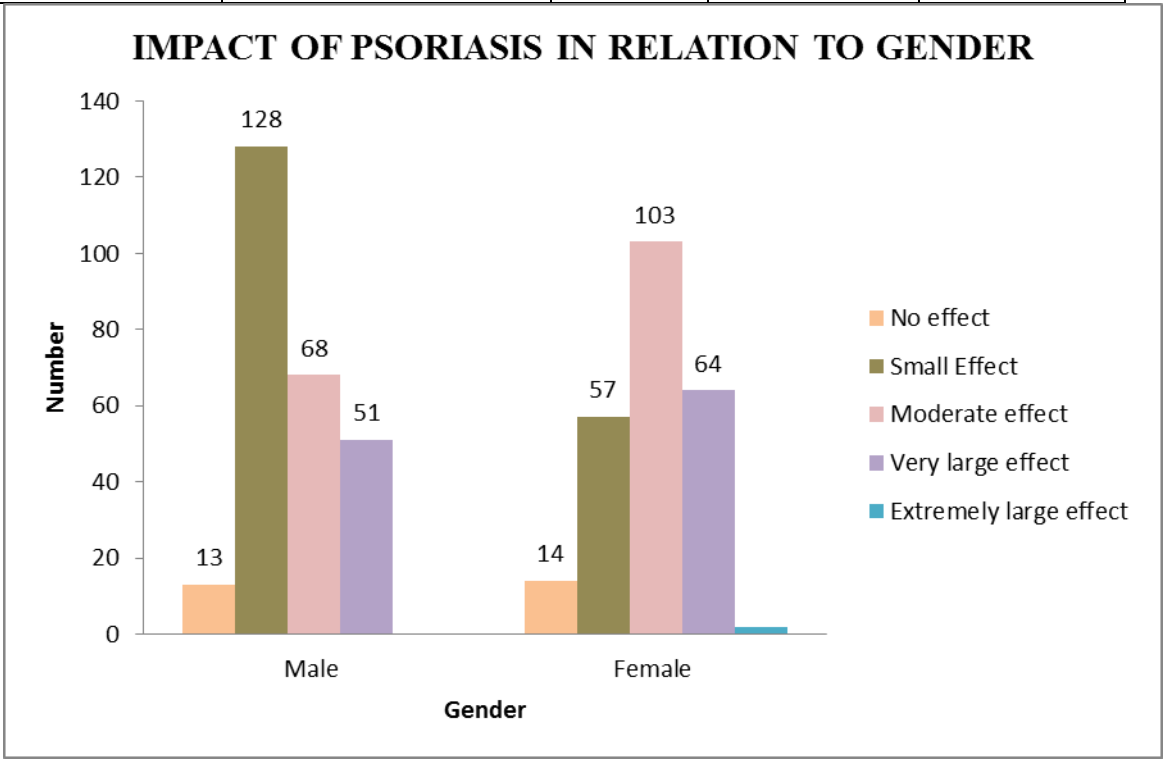

Figure 9

Table 6 Comparison of DLQI scores in relation to Gender and Marital status

			DLQI score	

Annals of R.S.C.B., ISSN:1583-6258, Vol. 25, Issue 3, 2021, Pages. 3877 - 3881
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Variable	Sub groups	N	Median (Range)	Mean ± SD	Statistical Significance
Gender	Male	260	5 (0,16)	6.45 ± 4.13	P<0.01**
	Female	240	8 (0, 21)	8.11 ± 4.56	
Marital Status	Married	405	6 (0, 21)	7.03 ± 4.49	P<0.05*
	Unmarried	95	9 (1, 14)	8.18 ± 3.96	

** Significant at 1% level of significance

* Significant at 5% level of significance

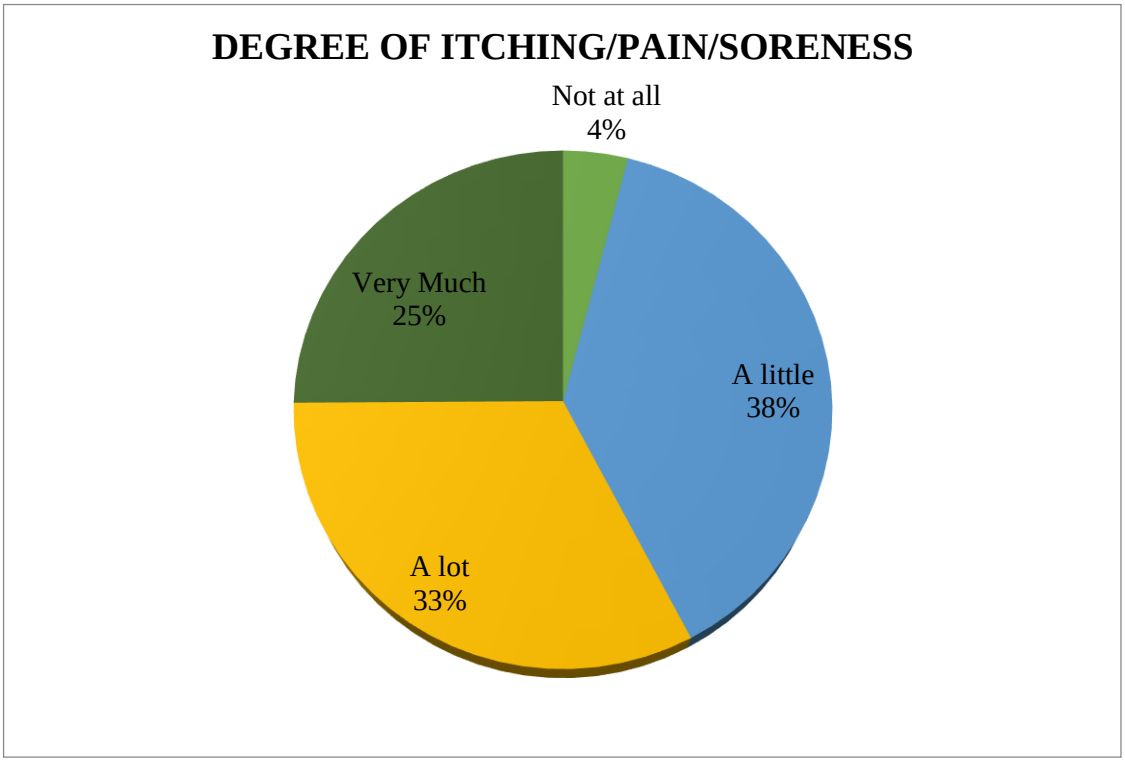

Figure 12

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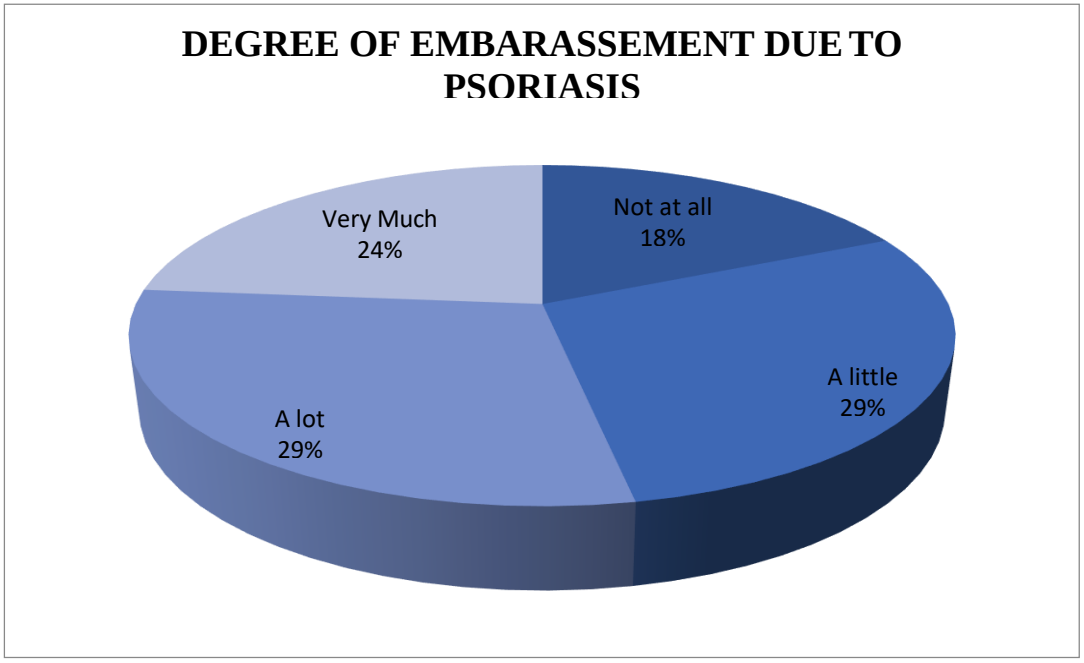

Figure 13

Discussion

1) Distribution of psoriasis according to Age:

All the patients in our study group was divided into different age groups (Table 1), i.e. less than 20 years, 21 to 40 years, 41-60 years and patients more than 60 years. It was found that the maximum number of the patients were within the age group 41-60 years (198 out of 500 which is 39.6%) closely followed by those within 21 -40 years (193/500, 38.6%), then above 60 years (85/500, 17%), with the least number of patients in the age group of less than 20 (24/500, 4.8%) (Figure 1).

Results published in a similar study by Parimalam K et al17 showed that the maximum number of patients in their study were in the age group 21 -40 years followed by patients aged 41-60 years. Also, a study conducted by Soumya et al 18 had maximum number of patients with psoriasis in the age group 30-40 years.

2) Distribution of patients according to Gender and Marital status: (Table 2)Of the total 500 patients' males outnumbered the females (260,52% against 240,48%) (Figure 2). This finding may be incidental, as male patients were more likely to seek medical help than female patients in our social setting therefore leaving several female patients undiagnosed. 81% (405) of our patients were married versus just 19% (95) unmarried patients (Figure 3). Our study results agreed with those published by Shaikh Gazi et al 19, Vettuparambil et al 10 and Soumya et al which showed a male preponderance among patients with psoriasis. However, the study conducted by Parimalam K et al showed the opposite, which had a female preponderance.

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3) Distribution of various types of psoriasis (Figure 4)**:**

In our study the different forms of psoriasis in decreasing order of frequency were Psoriasis vulgaris (372/74.4%) > Palmoplantar psoriasis (84/16.8%) > Scalp psoriasis (36/7.2%) > Pustular psoriasis (6/1.2%) > Nail psoriasis (2/0.4%)

4) Distribution of different forms of psoriasis in various age groups (Figure 5)**:**

In our study population the different types of psoriasis in the age group of 1) less than 20 years, in decreasing order of percentage are Scalp psoriasis (54.1%) > Psoriasis vulgaris (41.6%) > Palmoplantar psoriasis (4.1%), 2) 21 -40 years Psoriasis vulgaris (75.1%) > Palmoplantar psoriasis (17%) > Scalp psoriasis (7.7%), 3) 41 -60 years Psoriasis vulgaris (70.7%) > Palmoplantar psoriasis (21.7%) > Scalp psoriasis (4%) > Pustular psoriasis (2.5%) > Nail psoriasis (1%), 4) more than 60 years Psoriasis vulgaris (90.5%) > Palmoplantar psoriasis (8.2%) > pustular psoriasis (1.1%). It is observed that most common form of psoriasis is psoriasis vulgaris in all age groups except in patients less than 20 years where scalp psoriasis was the most predominant type. Palmoplantar psoriasis is the second most common type of psoriasis observed in most age groups except in patients less than 20 years. Also, there were no patients with pustular psoriasis and nail psoriasis less than 40 years of age. No cases of psoriasis with exclusive scalp involvement was observed in patients older than 60 years of age.

5) Distribution of different types psoriasis according to gender (Figure 6)

Among the male patients, psoriasis vulgaris was the most common type (76.5%) followed by Palmoplantar psoriasis (11.5) > Scalp psoriasis (11.5%) > Pustular psoriasis (10%) > Nail psoriasis (0.8%).

Among the female patients again Psoriasis vulgaris was the most common type observed (72.1%) followed by Palmoplantar psoriasis (22.5%) > Scalp psoriasis (4.2%) > Pustular psoriasis (1.3%). In this study we observe that while the pattern of distribution of different forms of psoriasis in both sexes were similar, a greater proportion of female patients had palmoplantar psoriasis while a greater proportion of males had scalp psoriasis. We had no female patients with psoriasis exclusively affecting the nails.

6) Mean and Median with standard deviation of Age and DLQI scores (Table 2)**:**

The overall mean age of all patients is 44.27 ± 15.45 and median age was 45 which fell under the group of patients within 41 to 60 years which in our study had the maximum number of patients. The mean DLQI scores were 7.25±4.4. which translates into a moderate impact on the overall quality of life.

The mean DLQI scores of patients within each age group were (Table 3) 1) Below 20 years –8.29±2.99 2) 21-40 years – 7.59±4.46 3) 41-60 years -7.49±4.76 4) Above 60 years – 5.6±3.36. This shows that the mean scores are highest in patients less than 20 years of age which then shows a decreasing trend with increase in age.

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7) The impact of psoriasis among patients (Figure 7)**:**

Among all the patients in our study group (500), psoriasis had a small effect on most of them (185/ 37%) followed by moderate effect (171/34.2%), very large effect (115/23%), extremely large effect (27/5.4%). Only 2 patients out of 500 had no effect due to psoriasis (0.4%). This clearly shows that psoriasis significantly affects the quality of life in most patients.

8) Impact of psoriasis in patients of different age groups

(Figure 8)**:**

1) In patients less than 20 years of age majority of the patients had a moderate effect (66.8%) and an equal proportion of the patients had a small effect and very large effect (16.6%). It was observed in our study that none of the patients in this age group were totally unaffected by psoriasis (No effect: 0)

2) In the age group 21 -40 years the impact of psoriasis in descending order is Moderate effect (35.7%) > small effect (31.1%) > Very large effect (27%) > No effect (5.2%) > Extremely large effect (1%)

3) In the age group 41 - 60 years, the observation was Small effect (37.4%) > Moderate effect (29.8%) > Very large effect (27.3%) > No effect (5.5%)

4) In patients above 60 years more than half of the patients (55.3%) had Small effect followed by Moderate effect (31.8%), No effect (7%) and Very large effect (5.9%).

From this we were able to observe that the proportion of people with No effect & Small effect due to psoriasis exhibited an increasing trend with age which corresponded with the decreasing mean DLQI scores with age thus showing that psoriasis as such seemed to have a smaller impact on the quality of life at higher age groups unless they suffer from severe complications due to psoriasis that limited their daily activities for example development of psoriatic arthritis.

Influence of gender on the DLQI scores and the impact on QoL (Table 5. Figure 8) **:**

The mean DLQI scores in men was 6. 45±4.13 with a maximum score of 16 when compared with women who had a higher mean DLQI of 8.11±4.56 and a maximum score of 21. This difference in the mean values of DLQI score in males and females is also found to be statistically significant ($P<0.01$). In the study by Soumya et al, there was no significant difference in the DLQI scores between males and females.

The impact on the quality of life was also significantly different among the two genders. The impact of psoriasis on men in the descending order is Small effect (49.2%) > Moderate effect (26.2%) > Very large effect (19.6%) > No effect (5%) and no men in our study had an extremely large effect on QoL due to psoriasis.In women, the impact on QoL in descending order is Moderate effect (42.9%) > Very large effect (26.7%) > Small effect

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(23.8%) > No effect (5.8%)> Extremely large effect (0.8%).This shows that women seem to be more adversely affected due to psoriasis when compared to men even though the disease is commoner in men.

4. CONCLUSION

The conclusions drawn from this study were:

- Most patients of psoriasis were clustered in the age group 41-60 years of age with a median age of 45.
- Male patients outnumbered the female patients. Most of our patients with psoriasis were married.
- Of all the types of psoriasis, psoriasis vulgaris was the most common
- Psoriasis vulgaris was the most common type in patients over 20 years of age, however scalp psoriasis cases predominated in patients less than 20 years of age
- While psoriasis vulgaris was the commonest form in both sexes, Palmoplantar psoriasis was commoner in females and scalp psoriasis was more common in males.
- When looking into the impact of psoriasis on the QoL on the whole, majority of the patients had a Small effect on the QoL
- The mean DLQI score of all patients was 7.25, which falls under the category of moderate effect on the QoL. The DLQI scores tend to show a decreasing trend with increase in the age of the patient, which tells us that younger patients appear to be more adversely affected by the disease.
- Even though male patients outnumbered female patients in our study, the females had a higher mean DLQI scores than men and the proportion of patients with higher impact on the quality of life, were higher in women when compared to men.
- Married patients with psoriasis had lower DLQI scores and hence lesser impact on QoL than the unmarried patients.
- Of all the domains affected in psoriasis, symptoms due to the lesions like itch, pain or burning sensation was the most common domain affected followed by degree of embarrassment, daily activities, leisure activity, interpersonal relationships, clothes, treatment difficulty, work/study, sexual difficulty and sports in that order.
- Patients with pustular psoriasis and nail psoriasis had very large effect on their QoL. Most patients with scalp and palmoplantar psoriasis had a moderate effect on their QoL while patients with psoriasis vulgaris generally had a Small effect on their QoL however both patients who had an extremely large effect had psoriasis vulgaris.

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

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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