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Original Article

A clinco-epidemiological study and assessment of Life Quality Index among patients with lichen planus at a tertiary care centre in South India

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Abstract

Introduction Lichen planus [LP] is a papulosquamous disease which is prevalent all over the world. Although its not a fatal disease, it is having a considerable influence on the health related quality of life (QOL) but it remains under evaluated.

Objective The present study was conducted to study the clinico-epidemiological features and the effect of lichen planus on the QOL of patients in a tertiary care hospital.

Methods This was a cross sectional study, conducted between April 2018 – April 2019. A total of 84 patients with lichen planus of were included in the study. Quality of life was assessed by using dermatological life quality index (DLQI) questionnaire.

Results The 84 patients with LP formed 0.56% of the total number of new dermatology out patients. The male: female ratio was was1:0.95. The patient age ranged from 8 to 72 years, most being in the age range from 41-70 years (53.6%). The majority of the patients (50%) showed classical lesions followed by hypertrophic type(19%) next in frequency. Most patients (85.7%) had pruritus. Regarding Dermatological Life Quality Index (DLQI**),** most of the patients that is, 47 cases (56.0%) had moderate effect on quality of life, 28 (33.3%) had very large effect on quality of life and 9(10.7%) had small effect on quality of life.

Conclusion This study depicts that LP is having impact on the quality of life and its mainly attributed to the symptom (pruritus) and also the cosmetic disfigurement caused by these lesions on extremities.

Key words
Lichen planus, epidemiology, Dermatology Life Quality Index, quality of life.

Introduction

Lichen planus [LP] is a papulosquamous disease of the skin and mucous membranes.[1] Lichen planus was first described in 1869 by Erasmus Wilson. It is an idiopathic, non-infectious, pruritic, clinically and histologically typical dermatosis that affects the skin, mucous membranes, and less commonly hair and nails.[2] Many factors were suggested to be involved in the aetiology of lichen planus, including HLA association, infectious agents, drugs, metals like gold & mercury, diabetes, hepatic diseases, graft versus host disease, and psychological factors, but none of these were proved. It is now believed to be an immune-mediated disease.[2]

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The incidence as well as pattern of LP changes according to geographical areas. A higher incidence of LP has been seen in Middle East countries. Its incidence appears to be higher in India also.[3] LP affects all races and is common in the age group between 30-70 years. Childhood lichen planus is relatively rare with 2-3% of all lichen planus cases occurring below the age of 20 years. There have been varying reports about the sexual predilection of lichen planus with some studies suggesting that it is slightly more common in females. In India various studies have found incidence to be around 0.8% of the Dermatology patients.[4]

Although its not a fatal disease, it is having a considerable influence on the quality of life (QOL) because of the severe itching and hyperpigmented lesions, thereby affecting the psychological well-being of the patients. As the disease mainly occurs on exposed areas of the body, it may affect interpersonal and social behavior thereby increases the psychosocial morbidity. Very few studies have assessed the quality of life in patients suffering from LP.

Objectives

The objective was to study the clinico-epidemiological features and the effect of lichen planus on the QOL of patients with the help of the dermatological life quality index (DLQI) questionnaire.

Materials and methods

This was a cross sectional study conducted in our Skin & STD outpatient department after getting approval from ethical committee of our institution. The study population included 84 patients with LP who attended our outpatient department during the study period of April 2018-April 2019. Those patients in whom drug induced LP was suspected and patients who were already on treatment for LP were excluded from the study.

After getting written informed consent a structured questionnaire was used to obtain socio-demographic data, history and clinical findings from all the patients. A proper history taking and clinical examination of the skin, genitalia, mucous membranes, hair and nails were performed. The diagnosis of LP was made clinically and supported by histopathologic examination. Also, severity of itching was assessed by visual analogue scale (VAS).[5] It was a 10 cm long line (oriented horizontally or vertically), on which patients indicated the intensity of pruritus by crossing the line at the point that corresponded to their pruritus severity, being informed that the beginning of the scale refers to no pruritus (0 points) and the end to the most severe pruritus they can imagine (10 points).

The DLQI questionnaire, first introduced by Finlay and Khan, in 1994[6] was used as the study instrument for this study after obtaining a formal permission.

DLQI is a validated questionnaire which grades QoL by assessing the following domains:

(a) physical symptoms and feelings (questions 1 and 2), (b) daily activities (questions 3 and 4), (c) leisure (questions 5 and 6), (d) work/school (questions 7), (e) personal relationships (questions 8 and 9), and (f) treatment (question 10). Each question is scored as “very much” (score 3), “a lot” (score 2), “a little” (score 1), and “not at all” (score 0), keeping in mind the problems faced the previous week due to the disease. Final DLQI score is the sum of all scores (range 0–30). High scores indicate poor QoL.

DLQI score interpretation is done as follows:

• 0-1 no effect on patient's life.

• 2-5 small effect on patient's life.

• 6-10 moderate effect on patient's life.

• 11-20 very large effect on patient's life.

• 21-30 extremely large effect on patient's life.

Patients were asked to fill up the DLQI questionnaire (Tamil or English) without assistance. English version of the DLQI was translated into Tamil by two bilinguals. Forward and backward translation were done by different translators and validated by two other members.

The Data gathered using the questionnaire and clinical examination were compiled, coded and entered in data analysis sheet. DLQI and domain scores were correlated with various variables such as clinical type of LP, symptoms and the site of LP. Scores were correlated with categorical variables using Pearson's chi square test. SPSS Version 16 (SPSS, Inc.,Chicago,IL,USA) was used for data analysis. Level of significance was estimated with 95% confidence intervals and $P< 0.05$ was considered to be statistically significant

Results

During the study period of April 2018-April 2019, there were 84 new patients with a diagnosis of LP among the patients who attended the outpatient department of Skin and STD, making the incidence to be 0.56%. Of the 84 patients, majority of the study subjects were in the age group of 41-70 years **(Table 1)**.The youngest patient in this study was 8 years old and the oldest being 72 years of age. The mean age of the study population was 41.82±16.78. In our study, 43 (51.2%) patients were males while 41 (48.8%) patients were females **(Table 1)**. There was a slight male preponderance, and the male:female ratio was 1:0.95.

Table 1 Age, Sex, Eductaion, Symptoms and Clinical subtypes of LP.

Parameters	*n (%)*
Age	
1-10 yrs.	1 (1.2)
11-20 yrs.	12 (14.3)
21-40 yrs.	21 (25)
41- 70 yrs.	45 (53.6)
>70 yrs.	5 (6)
Total	84 (100)
Sex	
Male	43 (51.2)
Female	41 (48.8)
Total	84 (100)
Education	
Literate	47 (56)
Illiterate	37 (44)
Total	84 (100)
Symptoms	
Asymptomatic	2 (2.4)
Itching	72 (85.7)
Burning sensation	4 (4.8)
Pain and burning sensation	3 (3.6)
Itching and burning sensation	3 (3.6)
Total	84 (100)
Type of LP	
Classical LP	42 (50)
Hypertrophic LP	16 (19)
Actinic LP	4 (4.8)
Lichen planus pigmentosus	2 (2.4)
Acute generalized LP	6 (7.1)
Follicular LP	4 (4.8)
Genital LP	2 (2.4)
Oral LP	5 (6)
Linear LP	3 (3.6)
Total	84 (100)

Out of the 84 patients, 47 (56%) were literate and 37 (44%) were illiterate. Out of the 84 cases, regarding influencing factors 27 (32.1%) cases gave history of exposure to sunlight **(Table 2)**. Regarding family history, 3 (3.6%) patients had similar lesions in family members. Regarding associated conditions, 11.9% had diabetes mellitus, 7.1% had both diabetes mellitus and systemic hypertension, 3.6% had systemic hypertension and 2.4% had anaemia.

In our study, itching was the most common symptom seen in 72 (85.7%) cases out of 84 cases **(Table 1)**. Koebner's phenomenon was seen in 6% of our study population. In our study,

Table 2 Duration, family history, influencing factors and site of onset of LP.

Parameters	*n (%)*
Duration of disease	
0-3 months	22(26.2)
4-6 months	21(25)
7-9 months	10(11.9)
10-12 months	6(7.1)
>12 months	25(29.8)
Total	84(100)
Family history	
Yes	3(3.6%)
No	81(96.4%)
Total	84(100)
Influencing factors	
No factors	53(63.1)
Exposure to sunlight	27(32.1)
Usage of dental fillers	2(2.4)
Trauma	2(2.4)
Total	84(100)
Site of onset	
Lower limb	53(63.1)
Upper limb	16(19)
Trunk	4(4.8)
Face	2(2.4)
Oral cavity	6(7.1)
Scalp	1(1.2)
Genitals	2(2.4)
Total	84(100)

Table 3 Severity of itching in the study population.

Severity of itching (Visual analogue scale)	*Number of patients (%)*
0-2	7 (8.3%)
2-4	6 (7.1%)
4-6	8 (9.5%)
6-8	27 (32.1%)
8-10	27 (32.1%)
Total	75 (89.3%)

9 (10.7%) cases had no itching. Among the 75 (89.3%) cases who had itching, by using visual analogue scale, 32.14% cases had scale of 8-10 , 32.1% had a scale of 6-8, 9.5% had scale of 4-6,7.1% had a scale of 2-4, 8.3% had a scale of 0-2 **(Table 3)**. In our study, duration of the disease was more than 12 months in 25(29.8%) in majority of the patients **(Table 2)**. Lower limbs were the first site for the appearance of lesion in 63.1% of the study population **(Table 2)**.

In our study, 42 patients (50%) had classical lichen planus,16 patients (19%) had hypertrophic LP **(Figure 1)**, 6 patients (7.1%) had acute generalised LP, 5 patients (6%) had oral LP, 4 patients (4.8%) had Actinic LP **(Figure 2)**, 4 patients (4.8%) had Follicular LP, 3 patients (3.6%) had linear LP **(Figure 3)**, 2 patients (2.4%) had lichen planus pigmentosus and 2 patients (2.4%) had exclusive genital LP **(Figure 4)**. Of the 84 cases, 57 cases (67.9%) had skin involvement alone, 17 patients (20.2%) had both skin and oral involvement, 3(3.6%) patients had both skin and genital involvement, 5 patients (6.0%) had oral involvement alone, 2 cases (2.4%) had involvement of genitalia alone, one case (1.2%) had scalp involvement along with skin, 23 (27.4%) cases had nail involvement along with skin **(Table 1)**.

In this study, papules and plaques were the common morphology of skin lesion which was

Figure 1 Hypertrophic LP showing thick hyperpigmented plaque with Wickham's striae.

Figure 2 Actinic LP with erythematous papules over upper lip in a female patient.

Figure 3 Linear LP showing violaceous plaque with adherent scales in lower limb.

Figure 4 Lichenoid papules in scrotum with annular LP over glans penis.

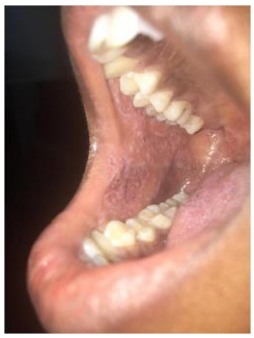

Figure 5 Oral LP showing white lacy reticulate pattern over buccal mucosa.

seen in 40 cases (47.6%), followed by papules alone in 11.9% cases, hyperkeratotic papules and plaques in 7.1% cases. In our study, Wickham's striae was seen in 20.3% of cases. About 38.1% cases had bilateral and asymmetrical distribution, followed by bilateral symmetrical distribution (34.5%) and unilateral (19.0%) distribution. In our study, 23 patients (27.4%) had lesions over both upper limb and lower limb, 19 patients (22.6%) had lesions over upper limb, lower limb and trunk. In this study, keratotic follicular papules with plugs and fronto temporal recession was seen in one case (1.2%) and the remaining cases 98.8% had no scalp involvement.

In our study, 22 cases (26.2%) out of 84 had oral involvement **(Figure 5)**. Out of the 22 cases, 5 (6%) cases had exclusive oral lesions. Out of these 22 cases, buccal mucosa was common site (13.1%), followed by lips (4.8%) and both buccal and retromolar pad (3.6%). Reticular type (21.4%) was the common morphology followed by papule (3.6%) and erosive/ulcerative type (1.2%). Usage of dental fillers was seen in 2.4% of the patients who had involvement of oral mucosa. Of the 84 cases, 61 cases (72.6%) had normal nails. Most commonly seen nail changes in this study was longitudinal ridging (14.3%) followed by onychorrhexis (4.8%) and onycholysis and subungual hyperkeratosis (3.6%).

Regarding Dermatological Life Quality Index (DLQI), most of the patients that is, 47 cases (56.0%) had moderate effect on quality of life, 28 (33.3%) had very large effect on quality of life and 9(10.7%) had small effect on quality of life **(Table 3)**. It shows that out of the 47 patients with moderate effect on their DLQI, 29 patients (34.5%) were between 41-70 years of age with a p value of 0.674, which was statistically not significant. It shows that out of the 47 patients with moderate effect on their DLQI, 28 patients (33.3%) were male and 19 (22.61%) were female patients, with a p value of 0.1, which was statistically not significant **(Figure 6)**.

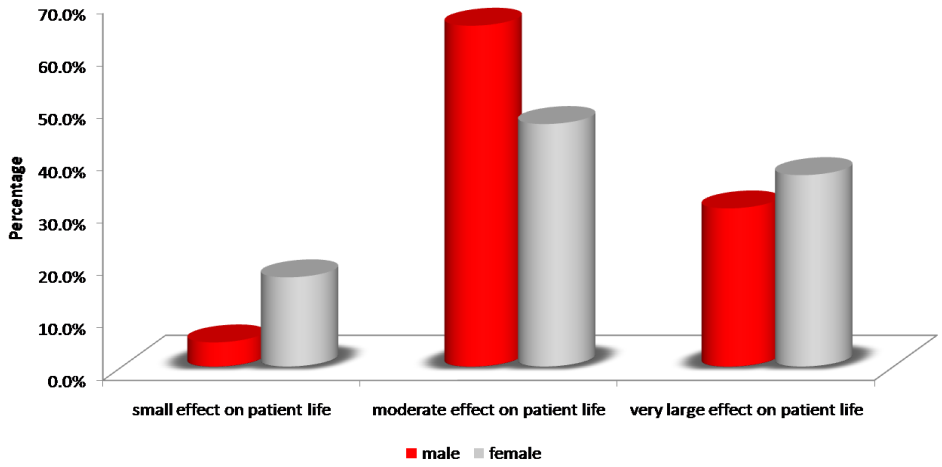

Figure 6 Sex wise distribution of Dermatological Life Quality Index (DLQI) in the study population.

Table 5 Correlation of Subtype of LP with DLQI scores.

Type of LP	*DLQI*			*Total*
	Small effect on patient life	*Moderate effect on patient life*	*Very large effect on patient life*	
Classical LP	3 (3.57%)	28 (33.3%)	11 (13.09%)	42 (50%)
Hypertrophic LP	2 (2.38%)	5 (5.95%)	9 (10.71%)	16 (19.04%)
Actinic LP	1 (1.19%)	1 (1.19%)	2 (2.38%)	4 (4.76%)
Lichen planus pigmentosus	0	0	2 (2.38%)	2 (2.38%)
Acute generalized LP	0	4 (4.76%)	2 (2.38%)	6 (7.14%)
Follicular LP	1 (1.19%)	1 (1.19%)	2 (2.38%)	4 (4.76%)
genital LP	0	2 (2.38%)	0	2 (2.38%)
oral LP	2 (2.38%)	3 (3.57%)	0	5 (5.95%)
Linear LP	0	3 (3.57%)	0	3 (3.57%)
Total	9 (10.71%)	47 (55.95%)	28 (33.33%)	84 (100%)

Table 6 Correlation of symptoms of LP with DLQI scores.

Symptoms of LP	*DLQI*			*Total*
	Small effect on patient life	*moderate effect on patient life*	*very large effect on patient life*	
Asymptomatic	0	1(1.19%)	1(1.19%)	2(2.38%)
Itching	7(8.33)	39(46.4%)	26(30.95%)	72(85.71%)
Burning sensation	1(1.19%)	2(2.38%)	1(1.19%)	4(4.76%)
Pain and Burning sensation	1(1.19%)	2(2.38%)	0	3(3.57%)
Itching and Burning sensation	0	3(3.57%)	0	3(3.57%)
Total	9(10.71%)	47(55.95%)	28(33.33%)	84(100%)

P=0.603

Regarding the correlation between symptoms and DLQI, itching was having more impact on the quality of life but it was not statistically significant. There was statistically no significant relationship of DLQI scores with clinical types of LP ($P = 0.084$), site of the disease ($P=0.309$) and the symptoms of LP ($P = 0.603$) (**Table 5 and 6)**.

Discussion

LP causes a significant distress to the patient by its clinical appearance on exposed areas and severe itching thereby lowering their quality of life. There were not many studies on this aspect of Lichen planus, justifying the need for this study. In our study, the incidence of LP was found to be 0.56%. The incidence found in our study was slightly lower when compared to the findings of Ireddy G *et al*.[4] (1.13%), Abdallat SA *et al.*[2] (0.73%), Kacchawa D *et al.*[3] (0.8%), OP Singh *et al.*[7] (0.76%) and VN Sehgal *et al.*[8] (1.4%), whereas Anbar TE *et al.*[1] (0.28%) showed lesser incidence than our study.

In our study, the age of the patients ranged from 8 years to 75 years of age, with a mean age of 41.82±6.78. Majority of the patients belonged to 41-70 years (53.6%) in our study. Our study is similar to other studies done elsewhere[2,9-11] regarding the age group.However, certain other studies[3,4,7,12-14] showed the common age group as 20-40 years. In short, lichen planus is mainly a disease of middle age. Our study depicted 15.5% of the patients belonging to the category of less than 20 years. This was in concordance with the findings of O P Singh *et al*;[7] wherein 17.2% of the cases of LP were diagnosed in the pediatric age group. The incidence of childhood LP has shown to be considerably higher in the Indian subcontinent when compared to studies from the west and has been described in various studies from India,[15-18] Whether there exists an unidentified environmental factor responsible for the same requires further studies. According to past literature, LP affecting the elderly is rare.

Our study demonstrated only 6% of our participants above the age of 70 years.

Even though in the literature there has been no consensus regarding any sex preference of LP, there was a slight male preponderance in our study. This is in correlation with other studies[1,3,7,11,14,19,20] where males were more commonly affected, while few other studies[2,4,9,12,13] showed female predominance in their study. Though there have been differences in most studies with respect to gender involvement for LP, it has been reported that there is a statistically significant increased frequency of Asian males in getting LP in both adults and children than their Caucasian counterparts.[21]

Our study showed that 3.6% patients had family history of LP which is similar to other studies[3,4,14,22,23] done elsewhere in the world. There is no consistency in literature with regard to the familial incidence of lichen planus. Itching was the predominant symptom seen in 85.7% of cases in our study which is in concordance with other researcher's studies[2,3,4,7,13,14] where pruritus was the most common symptom in their study also. From this we can infer that pruritus is the hallmark feature associated with LP. About 32.14% of patients in our study had severe itching as per visual analogue scale. Severe itching even leads to deprivation of sleep in such patients thereby affecting the quality of life. Burning sensation was exclusively seen in 4.8% of cases in our study and it was seen mostly in patients who had oral LP. Itching and burning sensation (3.6%) was noted in patients who had actinic LP in our study population. In a study by Rampal R *et al*,[9] 48.3% had burning sensation which was mainly noted in oral LP. This infers that burning sensation as the most common symptom in oral LP.

Regarding duration of the disease, most of the patients in our study had the disease for less than six months (51.2%) which is similar to other researcher's observations[14] however in Ireddy G *et al.* study[4] 81.52% of the patients had the duration less than six months which is at a higher level when compared to our study. The duration of the disease varied from 2 months to 29 months and the mean duration of the disease was 9.32 months in our study whereas in Ireddy G *et al.* study[4] the mean duration of disease was 4.69 months.

Lower limb was the most common site of onset with 63.1% of cases having onset from lower limbs in our study. Our findings were in correlation with few other's observations[1,2,4,13] done elsewhere. So, lichen planus commonly has onset on lower limbs.

In our study, 67.9% patients had only skin involvement, 6% patients had oral mucosa involvement only, 2.4% patients had genital involvement only, 20.2% patients had skin and oral mucosa involvement and 3.6% patients had skin and genitals involvement. Our study is in concordance with few other studies[2,3,9,14,20] where skin is the predominant area of involvement when compared with mucosal involvement. So, lichen planus commonly involves the skin followed by mucosa.

Regarding morphology of lesions, in our study, 11 (13.1%) patients had violaceous papules, 43 patients (51.2%) had both violaceous and hyperpigmented papules and 15 patients (17.9%) had hyperpigmented papules. Certain other researchers[4,12,13,24] also showed the similar morphology in their studies. In short, Lichen planus presents predominantly as either violaceous or hyperpigmented papules and plaques that have a predilection to occur on extremities, more so the lower limbs.

Table 7 Comparison of clinical types of LP and associated conditions with similar studies done elsewhere.

SI. No.	*Researcher/ Study population*	*Clinical types of Lichen Planus*	*Associated conditions*
1	Our study Salem, South India	Classical LP-50%; Hypertrophic LP-19% Acute generalized LP-7.1% ;Oral LP-6% Actinic LP-4.8% ; Follicular LP-4.8% Linear LP-3.6%; LPP-2.4%;Genital LP- 6%	Diabetes-11.9%; Diabetes &hypertension-7.1%; Hypertension -3.6%; Anaemia - 2.4%.
2	Abdallat SA *et al;*[2] Jordan	Classical LP-57.7%; Hypertrophic LP-17.8% Actinic LP-16.1%;Acute generalized LP-6.7% Follicular LP-1.2%; Atrophic LP-0.5% Lichen planopilaris-1.2%; Genital LP-6%	
3	Isa an *et al;*[19] Turkey	Classical LP-82.2%; Hypertrophic LP-3% Acute generalized LP-5.2%; Oral LP-22.2% Actinic LP-0.7%; Lichen Planopilaris-4.4% LPP-2.2%; Atrophic LP- 1.5% LP pemphigoides-0.7%	
4	Rampal R *et al;*[9] Ludhiana, Punjab	Classical LP-31.7%; Hypertrophic LP-10% Acute generalized LP-5%; Oral LP-40% Actinic LP with DLE overlap-1.7% LPP-8.3%; Genital LP- 1.7%	
5	Babu CM *et al;*[20] Hyderabad, India	Generalized LP-46%;Hypertrophic LP-14% Actinic LP-8%; Linear LP-8%; LPP- 6% Follicular LP-4%; Palmo plantar LP-2% Bullous LP-2% ; Oral LP-8% ;Genital LP-2%;	
6	Parihar A *et al;*[12] Delhi, India	Classical LP-61%; LPP-27.5% Lichen planopilaris-11.5%	
7	Gurusamy L *et al;*[13] Madurai, South India	Classical LP-66.66%; Hypertrophic LP-11.11% Acute generalized LP-4.44% Oral LP-2.22%; Actinic LP-1.1% Follicular LP-2.22%;Linear LP-5.55% LPP-3.33%;Annular LP- 2.2% LE/LP overlap-1.11%	Diabetes-6.6%; Hypertension-2.2%, Hypothyroidism-2.2%, Vitiligo-1.1% Alopecia areata -1.1%
8	Tickoo U *et al;*[14] Chennai, South India	Classical LP-58.9%; Hypertrophic LP-28.4% Linear LP-4.2%; Lichen planopilaris-4.2% LPP-2.1%; Bullous LP- 2.1%.	Diabetes -10%; Hypertension-7% ; Vitiligo-5%; Chronic liver disease- 7%.
9	O P Singh *et al;*[7] India	GeneralizedLP-74.6%;HypertrophicLP-12.7% Actinic LP-7.48%;LP Pemphigoides-1.6% LPP- 1.8%	
10	Anbar TE *et al;*[1] Egypt	Actinic LP -36%;Classic LP -30% Hypertrophic LP -12%;Guttate LP -6% Atrophic LP -4%;Follicular LP -4%; Oral LP -8%.	
11	Khondker L,[11] Bangladesh	Classical LP -68.33%	

LPP-Lichen planus pigmentosus; DLE- discoid lupus erythematosus.

Classical LP(50%) was the most common type of LP in our study which is in concordance with other studies[2,11,12,14,19] done in other parts of world. However, in Rampal R *et al*'s[9] study oral LP was the most common type in their study population. In few studies[1,2] which were done in Egypt and Jordan respectively, actinic LP was the most common subtype and they are attributing it to higher sun exposure. In our study Actinic LP was seen in 4.8% of the study

population **(Table 7)**. So classical type was the most common clinical variant of LP. In areas with hot and arid climate, actinic LP is showing increased prevalence.

Regarding distribution of lesions many dermatologists in their studies[4,14,12] have reported lower limb was the most common site to be affected in classical LP which was similar to our study. A similar observation has been reported in various studies[7,22,25] and venous stasis has been offered as a likely explanation by them for the distribution of lesions in lower extremities.

In our study, Wickham's striae was seen in 20.3% of cases, whereas Rampal R *et al*.[9] (35%), study showed more prevalence and Khondker L[11] (18.33%), showed lesser prevalence of wickham's striae in their study. Koebner's phenomenon was seen in 6% of our study population which is on lesser side when compared to other studies[9,11,13,14]

In our study, 22 cases out of 84 had oral involvement (26%) and 6% of patients had exclusive oral LP. Our study was similar to Kacchawa D *et al*'s study,[3] however few other people[2,13,19] showed lesser prevalence of oral LP in their studies whereas others[9,14] showed higher prevalence of oral LP in their study. In all the above-mentioned studies, buccal mucosa was the common site involved and reticular type was the most common morphological type of oral LP like our study.

Nail involvement was seen in 27% of the patients of our study population. However other researchers[2,3,9,12-14,19] showed lesser prevalence of nail changes in their study population. Like our study, longitudinal ridging was the most common type of nail change in few other studies[2,9,14] whereas pterygium was the most common nail change in Gurusamy L *et al*'s study.[13]

In our study, 6% of the patients had genital lesions which is similar to Abdallat SA *et al*'s study.[2] In our study, 3 were male and 2 were female cases. In these 3 male cases, 2 (2.4%) had involvement of glans penis and one (1.2%) had lesion over shaft of penis. One (1.2%) female case had lesion over labia minora and one (1.2%) in labia majora and mons pubis. Lichenoid papules were most common morphology of genital LP in our study, seen in all 5 cases along with annular lesion in a male patient **(Figure 4)**. In Abdallat SA *et al*'s study,[2] Lichenoid papules with annular configuration were seen on glans penis in 9 men and macerated lichenoid patch was seen on labia majora in one female case. Few studies[3,13,14] showed more prevalence of genital involvement in their study, whereas Rampal R *et al.* (1.6%)[9] showed lesser prevalence in their study.

Regarding associated conditions, our study has been compared with various other studies **(Table 7)**. In Kacchawa D *et al*'s. study polymorphic light eruption was seen in 2.1% of the study population apart from Diabetes and Systemic hypertension. Further larger scale studies are needed in this direction to elucidate the validity of these associated diseases.[3]

DLQI is an easy and practical tool to quantify the impact of a disease based on the patient's perception and it's a widely used one. Perception regarding the disease may vary between individuals and their impact also differs among them. In our study population, on the whole, 47 cases (56.0%) had moderate effect on quality of life, 28 (33.3%) had very large effect on quality of life and 9 (10.7%) had small effect on quality of life. From this we can infer that LP is having impact on the quality of life of a particular patient and it was mainly attributed to the symptom (pruritus) and also the cosmetic

disfigurement caused by these lesions on extremities. QoL measures in patients with skin lesions can supplement measures of clinical severity for comprehensively assessing the disease and treatment outcomes, and they are an important area for future research.[26]

Conclusion

Incidence of LP in our study was 0.56% and it was seen mostly in patients in the age group of above 40 years. Classical type was the most common type followed by hypertrophic LP in our study. The use of DLQI questionnaire can help us to understand how LP can affect the patient's self esteem and can aid in assessing the efficacy of therapy, thereby designing more aggressive interventions. From our study, we can infer that LP is having impairment on the quality of life. It is mainly attributed to the symptoms of LP and also the persistence of hyperpigmented lesions over the exposed areas even after treatment. So it is important to manage every patients as a whole considering both the clinical and psychological aspect of the disease. Proper counseling and prompt treatment are very important in improving the quality of life of such patients.

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