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Original Research Article

Assessment of quality of life in patients of psoriasis

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ABSTRACT

Background: Psoriasis can have a profound impact on a patient quality of life. The measurement of disease severity and its impact on patient's quality of life is being neglected in Indian population.

Objective: This study was conducted to assess the clinical severity as well as physical and psychosocial disability and to analyze their interrelationship in psoriasis patients.

Materials and Methods: Clinical severity and quality of life were measured using psoriasis area severity index (PASI), psoriasis disability index (PDI), and Dermatology Life Quality Index (DLQI) respectively, the latter two of which were suitably modified and translated into the local language, viz., Gujarati. Appropriate tests were conducted using STATA(14.2).

Results: The study enrolled 120 patients consisting of 72 males(60%) and 48 females(40%). The commonest age group affected was 41-60years (55%). The mean DLQI, PDI and PASI were 14.45 (SD=9.42), 21.62(SD=14.21) and 12.79(SD=9.79) respectively. DLQI and PDI showed statistically significant association with sex and area of residence while age, progression of disease, occupation and duration of disease had no effect on quality of life. Study showed positive correlation between DLQI and PASI (r=0.9650 respectively, p=0.001) and PDI and PASI (r=0.9666.p=0.001). Questions related to symptoms and feelings most commonly affected in DLQI while questions related to daily activities most commonly affected in PDI.

Conclusion: The present study shows that psoriasis affects the quality of life and has a positive correlation with the severity of the disease.

1. Introduction

Psoriasis is a relatively common, chronic, inflammatory, and hyperproliferative disease of the skin. It affects only 1.4%–2.0% of the population.[1] It ravages the quality of life (QOL) mainly due to it's visibility. This in turn not only affects the appearance but also the psychological and social aspect of the patient. Thus assessment by a health professional of the extent of apparent disease in terms of the clinical severity alone may not suffice, and a more holistic approach to the quality of life is mandatory.[2] There is changing degree of mental status from depression to extremes leading to suicidal thoughts indicating that the psychological aspect of this disease is a spectrum rather than a fixed approach. The disease severity, as measured by instruments such as the Psoriasis Area and Severity Index (PASI), is not the sole factor determining the burden of illness because relatively minor psoriasis located on visible parts of the body may also have a detrimental effect on quality of life.[3] Over many decades the western literature has very well documented the helplessness and frustration expressed by psoriasis patients. To our surprise very few Indian studies have explored how this disease vandalizes the appearance as well as the psychology of psoriasis patients. Thus mainly our study aims at the clinical severity associated with the physical, mental and psychosocial disability and their inter relationship.

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2. Materials and Methods

The observational study was carried out from June 2014 to May 2015 in the department of Dermatology, Venerology and Leprology at rural based tertiary care centre after approval from institutional ethical committee (IRB number-HREC/2015/7). All patients suffering from psoriasis for atleast 3 months of all ages and either sexes were included in the study after informed consent. Patients having psoriatic arthropathy, pustular psoriasis and psoriatic erythroderma were excluded form our study. Total 120 cases were enrolled after taking their written and informed consent in vernacular language (Gujarati). A detailed history was taken, and a thorough general, physical, local and systemic examination was carried out according to prestructured proforma. The extent of clinical severity of the disease was assessed by the psoriasis area severity index (PASI) and a multidimensional QOL was assessed by Psoriasis disability index (PDI) and Dermatology Life Quality Index (DLQI). This questionnaire was translated into Gujarati and validated by back-translation to English by two unbiased individuals separately. The Dermatology Life Quality Index (DLQI) is one of the most widely used index, described in at least 36 skin diseases.[4] The DLQI consists of 10 questions with simple tickbox answers. It aims to measure how much your skin problem has affected your life. DLQI is a validated questionnaire which grades QoL by assessing the following domains: (a) physical symptoms and feelings (b) daily activities (questions1,2,3,4and5) (c) leisure (lesions 11,12,13 and 14) (d) work/school(questions 6,7 and 8) (e) personal relationships(questions 9 and 10) and (f) treatment(question 15). Each question is scored as “very much” (score 3), “a lot” (score 2), “a little” (score 1), and “not at all” (score 0). Final DLQI score is the sum of all scores (range 0–30). High scores indicate poor QoL. DLQI score interpretation is done as follows: • 1–5 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.

The Psoriasis Disability Index (PDI) questionnaire was designed for use in patients over the age of 16 with psoriasis. We had taken 4 groups into account 1) 16-18 2)19-40 3) 41-60 4)>60. The questionnaire is self-explanatory and can be handed over to the patient who is asked to fill it in without the need for a detailed explanation. The PDI is calculated by adding the score of each of the 15 questions, resulting in a maximum of 45 and a minimum of zero. The higher the score, the more the QOL is impaired. The scores can also be expressed as percentage scores.

PASI combines the assessment of the severity of lesions and the area affected into a single score in the range 0 (no disease) to 72 (maximal disease).[8] The body is divided into four sections (head (H) (10% of a person’s skin); arms (A) (20%); trunk (T) (30%); legs (L) (40%)). Each of these areas is scored by itself, and then the four scores are combined

Table 1: Clinicoepidemiological details

Age Group(In years)	**No (%)**
<18	2(1.67%)
19-40	17(14.17%)
41-60	55(45.83%)
>60	46(38.33%)
Sex	
Male	72(60%)
Female	48(40%)
Occupation	
Labourer	20(16.66%)
Housewife	23(19.16%)
Job	20(16.66%)
Business	11(9.16%)
Student	6(5%)
Retired	26(21.67%)
Others	14
Duration	**Number (%)**
3-6M	50(41.66%)
7M-1yr	35(29.17%)
>1year	35(29.17%)
Progression of disease	
Progressive	61(50.83%)
Non – progressive	59(49.17%)
Place	
Rural	90(75%)
Urban	30(25%)

Table 2: Association of demographic parameters with DLQI and PDI (p values).

Parameters	**DLQI**	**PDI**
Age	0.70	0.08
Sex	0.001	0.003
Occupation	0.71	0.72
Duration	0.41	0.58
Progress	0.25	0.32
Rural/Urban	0.001	0.001

Table 3: Total score of DLQI Questionnaire

Questionnaire (DLQI)	**Mean(SD)**
symptoms and feelings (questions 1 and 2)	2.95(2.19)
daily activities(questions 3 and 4)	2.93(1.81)
leisure work(questions 5 and 6)	2.71(1.84)
work and school (questions 7)	1.66(1.01)
personal relationships(questions 8 and 9)	2.86(1.92)
treatment (question 10)	1.35(1.16)

Table 4: Total score of PDI Questionnaire

Questionnaire (PDI)	**Mean(SD)**
Daily activities (questions 1,2,3,4,5)	7.18(4.87)
Work or school (questions 6,7,8)	4.37(2.77)
Personal relationships (questions 9,10)	2.81(1.91)
Leisure (questions 11,12,13,14)	5.82(3.83)
Treatment (questions 15)	1.45(1.15)

Table 5: Mean PASIs, DLQIs and PDIs in different studies.

	Our study	Vettuparambil et al[5]	Aghaei et al[6]	Rakesh et al[7]
Mean PASI	12.79(SD=9.79)	8.80(SD=7.71)	11.35(SD=6)	22.23
Mean DLQI	14.45 (SD=9.42)	8.10(SD=4.45)	10.3(SD=5.2)	-
Mean PDI	21.62(SD=14.21)	-	28(SD=10.66)	17.06

into the final PASI. For each section, the percent of area of skin involved, is estimated and then transformed into a grade from 0 to 6: 0% of involved area, < 10% of involved area, 10–29% of involved area, 30–49% of involved area, 50–69% of involved area, 70–89% of involved area and 90–100% of involved area Within each area, the severity is estimated by three clinical signs: erythema (redness), induration (thickness) and desquamation (scaling). Severity parameters are measured on a scale of 0 to 4, from none to maximum. The sum of all three severity parameters is then calculated for each section of skin, multiplied by the area score for that area and multiplied by weight of respective section (0.1 for head, 0.2 for arms, 0.3 for body and 0.4 for legs).

Statistical analysis – Chi square test has been used to find out the association between variables like age, gender, occupation, duration, progress etc and DLQI/PDI. Finally, all the findings were analysed by STATA(14.2).

3. Result

In total, 120 patients were enrolled in the study, clinicoepidemiological details of which have been tabulated in Table 1 . The mean DLQI, PDI and PASI were 14.45 (SD=9.42), 21.62(SD=14.21) and 12.79(SD=9.79) respectively. DLQI and PDI showed statistically significant association with sex and area of residence while age, progression of disease, occupation and duration of disease had no effect on quality of life [Table 2]. Study showed positive correlation between DLQI and PASI (r=0.9650 respectively, p=0.001) and PDI and PASI (r=0.9666.p=0.001). Questions related to symptoms and feelings most commonly affected in DLQI [Table 3] while questions related to daily activities most commonly affected in PDI [Table 4]. Least affected questions were related to treatment in both DLQI and PDI [Tables 3 and 4].

4. Discussion

In this cosmetically licensed world the appearance of the skin plays a key role in the socialization process throughout life influencing the body image and self esteem. It has been reported that psychological stress perturbs the epidermal permeability barrier homeostasis, thus acting as a precipitant for psoriasis.

The mean age in our study was 45.25 years that was comparable to mean ages reported by Vettuparambil et al (45.46 years)[5] and Manjula et al (45 years)[9]while Rakesh et al[7] and Aghaei et al[6] reported 38.42 years and 34 years respectively. In our study, males outnumbered females that was similar to other studies.

Mean PASI, DLQI and PDI in different studies have been tabulated in Table 5. In our study, DLQI and PDI showed statistically significant association with sex and area of residence while age, progression of disease, occupation and duration of disease had no effect on quality of life while in Manjula et al,[9] There was association between PDI and duration (P = 0.02) but not with age or gender.

Similar to our study, Aghaei et al[6] showed strong correlation of PASI with DLQI (r=0.79, p=0.02) and PDI (r=0.92, p=0.005). Rakesh et al[7] showed positive correlation between PASI and PDI (r=0.598, p=<0.001). Manjula et al[9] reported 75% patients who had impaired quality of life. But Vettuparambil et al[5] Yang et al[10] and Fortune et al,[11] did not find any significant correlation between PASI scores and DLQI scores. Aghaei et al[6] also showed strong correlation between PDI and DLQI (r=0.94) and found PDI as better parameter than DLQI for calculating quality of life.

Similar to our study, questions related to symptoms and feelings most commonly affected in DLQI in study done by Vettuparambil et al[5]followed by work and school and daily activities. While in PDI, as reported by Manjula et al,[9] daily activities were affected the most (90.6%), followed by work (84.4%), leisure activities (71.9%), problems with treatment (68.7%) and the least affected was personal relations (62.5%). Aghaei et al[6] also showed significant correlation between the mean PDI score and all the scales in males and females ($P < 0.05$), except for the mean PDI and the work and school scale in females (P = 0.3).

The limitation of our study was that since it is a hospital based study, its findings cannot be extrapolated to all psoriatic patients in the community.

5. Conclusion

PASI is a reliable parameter to measure the severity of disease and PDI and DLQI for measuring the quality of life in psoriatic patients. This study showed statistically significant correlation between PASI as indicator of severity of disease and PDI and DLQI as indicators for quality of life.

6. Source of Funding

None.

7. Conflict of Interest

None.

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