Quality of life in patients with psoriasis

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Abstract

Introduction: *Psoriasis is a chronic inflammatory skin disease, in which an autoimmune mechanism participates, triggering an accelerated keratopoiesis. Its etiology is unknown; environmental factors, trauma, and infections are involved. The aim of this paper is to present the correlation between the index of severity of psoriasis and quality of life in patients with psoriasis.* **Methods:** *This was a cross-sectional study in 72 patients with psoriasis, older than 15 years old, who agreed to participate in the study. We applied the Dermatology Life Quality Index and the Psoriasis Severity Index; descriptive statistics, measures of central tendency, dispersion, and correlation measures were used.* **Results:** *Patients (n = 72), were 43% male, 57% female, with a mean age 51.22 (15-77) ± 14.05 years. Education: bachelor's degree 23.6%, housework occupation 26.4%, duration of the disease 12.25 (1-50) ± 10.58 years. Psoriasis plaques occurred in 88.9%, the Psoriasis Severity Index was mild in 70.8%. The result of the impact on quality of life was moderate in effect in 33.3%, the difference between the degree of involvement of the disease and the impact on quality of life was $p = 0.104$, and correlation between the quality of life and degree of psoriasis was $p = 0.463$.* **Conclusion:** *Quality of life is independent of the degree of disease in patients with psoriasis.*

KEY WORDS: *Quality of life. Psoriasis. Psoriasis area severity index.*

Introduction

Psoriasis is a chronic inflammatory disease characterized by keratinocyte hyperproliferation and aberrant differentiation. In normal skin, keratinization is accomplished in 28 days, unlike in psoriasis, where in 4 days there is hyperplasia characterized by thick plaques with abundant scales[1].

Psoriasis is a T cell-mediated inflammatory skin disease that affects individuals with genetic predisposition and where epidermal hyperplasia is produced owing to infiltration by immune cells. Elements of both immune and adaptive response intervene in psoriatic inflammation. The former include antigen-presenting dendritic cells, keratinocytes, neutrophils, macrophages and natural killer (NK) cells, whereas the latter include CD4+ and CD8+ T cells[2].

Psoriasis affects the quality of life of patients who suffer from it, which is related to the extent of involvement and the severity of clinical manifestations; it can have different degrees of involvement and physical impairment[3]. Formerly is was regarded as a disease that was limited to the skin with few implications on general health, but epidemiological studies have demonstrated that patients with psoriasis have an increased incidence of other chronic inflammatory conditions such as rheumatoid arthritis, inflammatory bowel disease, obesity, type 2 diabetes mellitus, cardiovascular disease and stroke, depression and anxiety and, therefore, now it is regarded as a systemic disease that should be treated with drugs that control the skin lesions and prevent the development of associated diseases[4]. Depression and anxiety are highly common[3].

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Table 1. Impact on quality of life and psoriasis index

	Impact on quality of life							
	Effect on patient's life	**No effect**	**Small effect**	**Moderate effect**	**Large effect**	**Extremely severe effect**	**Total**	
Degree of disease impact	Mild	13	16	18	4	0	51	Wilcoxon
	Moderate	0	4	5	3	2	14	Z = -1.628
	Severe	0	1	1	5	0	7	p = 0.104
	Total	13	21	24	12	2	72	95% CI: 0.059-0.219

95% CI: 95% confidence interval.

In the clinical approach, the severity of psoriasis is measured in terms of appearance of the lesions and body surface involved; however, the degree of clinical involvement is not indefectibly correlated with the degree of physical impairment perceived by the patient. Psoriasis of the palms and soles corresponds to moderate severity, where the body functionality impairment does not [5].

Psoriasis can be classified in three large groups: plaque psoriasis, erythrodermic psoriasis and pustular psoriasis[6]. Clinically, it is characterized by well-delimited erythematous-desquamative plaques, localized in the elbows, knees or the gluteal region, which evolve with flare-ups; other less common forms are guttata, erythrodermic, pustular, inverse or nail psoriasis. Disease severity is variable: there are mild, moderate and serious forms[3].

The treatment of psoriasis includes anti-inflammatory and anti-proliferative topical agents, phototherapy, systemic immunosuppressants and, more recently, biologics targeted against molecular structures that intervene in the pathogenesis of the disease[2].

Social discomfort and stigmatization are derived from psoriasis impact on esthetics. In severe cases, patients develop social phobias[7].

The Dermatology Life Quality Index is a widely validated and highly used instrument in clinical practice to assess the quality of life of patients with psoriasis, but there are other instruments such as the Psoriasis Disability Index (PDI), the Psoriasis Life Stress Inventory (PLSI), the Salford Psoriasis Index (SPI) and the Psoriasis Index of Quality of Life (PSORIQoL), which are also used in these patients[8,9]. The purpose of this work is to correlate psoriasis severity with quality of life in patients with psoriasis.

Materials and Methods

A cross-sectional study was carried out including 72 patients with psoriasis who were older than 18 years, of either gender, without other skin disorders, without auditory or visual disorders, and without diseases such as rheumatoid arthritis, inflammatory bowel disease, obesity, type 2 diabetes mellitus, depression and anxiety. All participants authorized their participation by means of informed consent.

The participants were applied the DLQI and the Psoriasis Severity and Area Index (PASI). DLQI is a 10-item questionnaire where questions 1 and 2 assess symptoms and feelings; 3 and 4, daily activities; 5 and 6, leisure; 7, work or school; 8 and 9, personal relationships; and question 10, treatment. Question values are 3 = very much, 2 = a lot, 1 = a little and 0 = not at all; 0 = not relevant for each item. The highest sum is 30, and the lowest 0, and interpretation is as follows: 0 to 1 score = no effect on patient's life; 2 to 5 = small effect on patient's life; 6 to 10 = moderate effect on patient's life; 11 to 20 = large effect on patient's life, and 21 to 30 = extremely serious effect on patient's life.

PASI is a visual analogue scale that assesses psoriasis severity index by scoring the degree of erythema, desquamation and infiltration in four anatomical sites, namely, the head, upper limbs, the trunk and lower limbs, with a 0 to 4 score, respectively. The sum of scores is multiplied by the score given by the assessor to each affected area: 0 = 0%, 1 = 1.9%, 2 = 10-29%, 3 = 30-49%, 4 = 50-69%, 5 = 70-89% and 6 = 90-100%. Then, the result is multiplied by the constant assigned to each affected area: for the head 0.1, for upper limbs 0.2, for the trunk 0.3 and for the lower limbs 0.4. Finally, the result of the addition is the severity index. A single score between 0 = no psoriasis and 72 = very severe psoriasis is obtained, with PASI being interpreted as > 12 = severe, 7-12 = moderate and < 7 = mild.

Once the necessary information was gathered, it was collected in data concentration sheets and the obtained results were finally analyzed. A univariate analysis was performed for investigative and socio-demographic

Table 2. DLQI results

Domain	Question number	Mean	Minimum value	Maximum value	Total value	Cronbach's α
Symptoms and feelings	1	1.22	0.00	3.00	87	0.447
	2	0.97	0.00	3.00	70	
Daily activities	3	0.58	0.00	3.00	42	0.656
	4	1.01	0.00	3.00	74	
Leisure	5	0.75	0.00	3.00	54	0.584
	6	0.66	0.00	3.00	44	
Work or school	7	0.13	–	1.0	–	–
		0.34	0.00	2.00	25	
Personal relationships	8	0.51	0.00	3.00	37	0.196
	9	0.34	0.00	3.00	25	
Treatment	10	0.43	0.00	3.00	31	–
Overall		0.63	0.13	1.22		0.848

Tabla 3. Correlation between quality of life and disease impact degree

	Mean	Minimum	Maximum	SD	
Psoriasis impact	1.39	1.0	3.0	0.662	Pearson −0.657
Quality of life	1.56	0.00	4.0	1.05	p = 0.0001

SD: standard deviation.

variables, central tendency and dispersion measures were used for numerical variables, and frequency measurement (proportions) were applied to categorical variables. Spearman's correlation coefficient was used to correlate quality of life and the degree of impact of psoriasis on these patients, in the SPSS program, v. 22.

Results

There were 72 patients, 31 women (43%) and 41 men (57%), with a mean age of 51.22 + 14.05 years (min 18, max 77). In the level of education, college degree level was found in 17 patients (23.6%). With regard to occupation, 19 (26.4%) were homemakers. Mean evolution of disease was 12.25 + 10.58 years (min 1, max 50). Plaque psoriasis occurred in 69 patients (95.83%). The severity index of patients with this diagnosis showed mild impact in 51 (70.8%) and only 7 (9.8%) had a severe impact. With regard to impact on patient quality of life, moderate effect was obtained in 24 (33.3%) and important impact in 2 (2.8%) (Table 1).

The DLQI results yielded an overall Cronbach α of 0.848. For symptoms and feelings, mean values were 1.22 and 0.97 for questions 1 and 2, respectively; for daily activities, mean values were 0.58 and 1.01 for questions 3 and 4, respectively; for leisure, mean values were 0.75 and 0.66 for questions 5 and 6, respectively; for work or school, mean values were 0.13 and 0.34 for question 7; for personal relationships, mean values were 0.51 and 0.34 for questions 8 and 9, respectively; and for treatment, mean value was 0.43 for question 10 (Table 2).

The correlation between quality of life and the degree of disease impact was rs = 0.657; p = 0.0001 (we considered a p-value ≤ 0.05 to be statistically significant) (Table 3).

Discussion

Psoriasis is a disease that affects patient's quality of life, which relates to the extent of involvement and severity of clinical manifestations[1,10,11]. It has been associated with painful feelings of social anxiety and stigmatization, fear of rejection and sometimes interference with work, relationships and daily life activities[7]. Skin conditions are indefectibly evaluable. An example is psoriasis, which has arisen social and relationship segregation since ancient times. Activating methods for assessment or knowledge of quality of life is important and significant in order to optimize patient treatment[12].

With regard to patient gender, psoriasis was found to occur more often in men (57%) than in women (43%), which is consistent with Cortés et al. results[12], who report that out of 59 patients with psoriasis 55% were males, and with the study by Lizama et al.[9], where 50.96% of subjects were males[14]. However, other authors refer that psoriasis affects both genders alike[1,7,15].

Patient mean age was 51.22 years, which is also consistent with Cortés et al.[15], who report a mean age of 52 years for patients with psoriasis, and differs from Lizama et al.[9], who found mean age to be lower than 35.70 years[13-17], although other authors state that there is no age predominance for psoriasis occurrence, which differs from these results[1,9,16].

As for disease time of evolution, a mean of 12.25 years (1-50) was found[1]. Cortés et al.[15] found that 25 out of 59 patients were in the 5 to 9 years' age range. We concur with this finding, since psoriasis has a chronic presentation with exacerbations and remissions. Some authors report that the age of symptom onset ranges from 15 to 34 years[12], with a mean age at symptom onset of 27 years[1,10]. In the study by Ordóñez et al.[10], age at disease onset ranged from 17.6 to 28.9 years.

The predominant psoriasis type was plaque psoriasis (95.83%), which is consistent with Cortés et al. findings[15], where the plaque psoriasis or psoriasis vulgaris type stands out (77.9%), followed by psoriatic arthritis (5.1%), hand & feet psoriasis (3.4%) and, finally, guttate psoriasis (1.6%), unlike this study, where diversity was found. With regard to the PASI, mild scores were predominant (70.8%), followed by moderate (19.4%) and severe scores (9.8%), which is consistent with the study by Acosta Medina[10], where the PASI yielded a mild score in 89%, moderate in 11% and there were no patients severely affected. The results obtained in this study reveal that quality of life was predominantly affected by the moderate effect (33.3%), followed by small effect on patient's life (29.2%), no effect on patient's life (18%) and large effect on patient's life (16.7%). In the study by D. Acosta Medina, quality of life was minimally affected in 79% of subjects. With regard to the impact on quality of life according to gender, females were observed to be more affected (58.2%)[7]. Thus, findings are not consistent. It is probable for the questionnaire to have yielded answers in a moment that patients had active, highly visible plaques, in spite of adequate medical control.

With regard to the DLQI sections, the symptoms and feeling dimension stood out (157 points), and the one that least stood out was school or work (27 points), similar to what Mazzotti et al. reported[17], who, in a study with 900 patients, found the symptoms and feelings section to be predominant (17%), with this being the section of the questionnaire in which this type of patients show the highest impact, and this study therefore agrees that patient self-esteem should be addressed and opportunely provide good control on its treatment, which will prevent dissatisfaction with the body image and even future depression[15,17].

In view of all the above, it can be concluded that disease severity in patients with psoriasis and the impact on their quality of life have a moderate, inversely proportional and statistically significant correlation.

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