

Psoriasis: correlation between severity index (PASI) and quality of life index (DLQI) in patients assessed before and after systemic treatment*

Psoríase: correlação entre gravidade clínica (PASI) e qualidade de vida (DLQI) em pacientes avaliados antes e depois de tratamento sistêmico

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Abstract: BACKGROUND: Psoriasis is a chronic inflammatory disease of the skin that affects patients of all ages and both genders. The impact of the disease on quality of life is greater among patients with moderate to severe psoriasis. OBJECTIVE: to establish a correlation between the psoriasis area and severity index (PASI) and the Dermatology Life Quality Index (DLQI) based on a quality of life questionnaire adapted to the Brazilian context for patients with plaque psoriasis before and after systemic treatment. METHODS: This was a cross-sectional, descriptive study of psoriasis patients who did not undergo treatment or who manifested clinical activity of the disease. Patients were evaluated according to the PASI and the quality of life questionnaire adapted to the Brazilian context before and 60 days after systemic treatment. RESULTS: Thirty-five patients participated in the study. Twenty-six were men, with a mean age of 46 years. There was no correlation between the PASI and the quality of life questionnaire adapted to the Brazilian context, but there was a correlation between the PASI and some items of the quality of life questionnaire adapted to the Brazilian context, such as jobs involving public contact. CONCLUSION: The non-correlation between the PASI and the quality of life questionnaire adapted to the Brazilian context in this work may be associated with a history of chronic disease, which implies greater acceptance of the illness, or may be related to the low income and social status of the patients studied. The correlation observed among patients with careers involving public contact suggests that some professions are more impacted by the disease. It may be necessary to adapt the quality of life questionnaire to patients with a low income and cultural and social limitations. The small sample size (n=35 patients) and the short follow-up period of 60 days were some of the limitations of this work.

Keywords: Clinical evolution; Psoriasis; Quality of life; Quality of life indicators; Therapeutics

Resumo: FUNDAMENTOS: Psoríase é doença inflamatória crônica da pele que afeta pacientes de todas as idades e ambos os gêneros. O impacto negativo na qualidade de vida é mais importante naqueles pacientes com psoríase moderada a grave. OBJETIVO: Correlacionar o índice de gravidade e extensão da psoríase e o índice de qualidade de vida, segundo questionário de qualidade de vida adaptado ao Brasil, em pacientes de psoríase em placas antes e depois de tratamento sistêmico. MÉTODO: Estudo transversal, descritivo, de pacientes de psoríase, virgens de tratamento ou em atividade clínica, submetidos a avaliação do índice de gravidade e extensão da psoríase e ao questionário de qualidade de vida adaptado ao Brasil antes e após 60 dias de tratamento com medicação sistêmica. RESULTADOS: Trinta e cinco pacientes foram estudados, 26 homens, com idade média de 46 anos. Não houve correlação entre índice de gravidade e extensão da psoríase e questionário de qualidade de vida adaptado ao Brasil. Mas, houve correlação entre índice de gravidade e extensão da psoríase e itens do questionário de qualidade de vida adaptado ao Brasil, tal como "atividade profissional com público". CONCLUSÃO: A não correlação entre índice de gravidade e extensão da psoríase e questionário de qualidade de vida adaptado ao Brasil nessa investigação pode estar relacionada com história crônica de psoríase, o que implicaria em melhor aceitação da doença ao longo do tempo ou às condições sociais e de baixa renda dos pacientes estudados. A correlação observada entre aqueles com atividade pública sugere que algumas profissões podem sofrer maior impacto da enfermidade. É possível que o questionário de qualidade de vida adaptado ao Brasil deva ser adaptado a pacientes de baixa renda e com dificuldades de acesso cultural e social. Como limitação do trabalho há que citar o pequeno número de pacientes (n=35) e o tempo de acompanhamento (60 dias).

Palavras-chave: Evolução clínica; Indicadores de qualidade de vida; Psoríase; Qualidade de vida; Terapêutica

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INTRODUCTION

Psoriasis is a chronic inflammatory disease of high prevalence. It is characterized by mild to severe involvement of the skin and sometimes of the joints. Psoriasis causes functional impairment, distress and embarrassment to patients. The impact of the disease can result in restrictions to social and recreational activities and productive life, in addition to possible harm to these patients' affective and sexual relationships.^{1,3} The economic burden of psoriasis is also a matter of concern to patients due to the permanent cost of treatment and the possibility of lower productivity and absenteeism in the workplace.⁴ Therefore, it is currently accepted that the evaluation of disease severity should include clinical, psychological and social factors.⁵

Several tools have been tested and validated to measure the severity of psoriasis. In 2003, Naldi *et al.* identified more than 40 instruments of clinical evaluation proposed in the literature from 1977 to 2000, and in 2010 Bronsard *et al.* identified 21 questionnaires for quality of life assessment that were published from 1988 to 2009.^{6,7}

The *psoriasis area severity index* (PASI), which is used for clinical evaluation, and the *dermatology life quality index* (DLQI), for quality of life assessment, are the most cited and most often used tools due to their high degree of reliability, applicability and reproducibility.^{8,9}

It is natural to believe that disease severity has an impact on quality of life, which is confirmed by many studies in the literature, but some recent studies have challenged this strict association.^{4,10-17}

The objective of this work is to investigate the correlation between clinical severity of psoriasis and patients' quality of life by using the PASI and the DLQI tools, applied before and after the systemic treatment of patients.

PATIENTS AND METHODS

This was an observational, cross-sectional study of 35 patients with plaque psoriasis and clinical indication for systemic treatment seen at a tertiary dermatology unit in 2008. Nine women and 26 men aged from 23 to 85 years agreed to participate in the study and signed a consent form approved by the local research ethics committee.

All patients were clinically assessed by the same dermatologist to establish disease severity using the PASI.

In a single appointment, the patients answered the standardized quality of life questionnaire adapted to the Brazilian context (DLQI-Bra).⁸ The systemic treatment schedule was methotrexate (15 mg - 20 mg/week) or acitretin (0.5 mg/kg/day), according to clinical and demographic considerations.

Patients were reassessed 60 days after the start of treatment and were once more clinically evaluated by the same physician. They also answered the same standardized questionnaire, regardless of their current medical condition.

Statistical analysis

A comparative analysis of moments, before and after treatment, was done by means of Wilcoxon's test for two related samples.

Disease severity (PASI), quality of life (DLQI) and their subdivisions were correlated by means of Spearman's correlation coefficient.

All tests were carried out using the INSTAT statistical software package, Graph-Pad, San Diego, California (2000), and the level of significance was set at 5%.

RESULTS

The patients' social and economic profiles are summarized in table 1.

There was a significant reduction ($p < 0.01$) in clinical scores 60 days after treatment according to the PASI and in quality of life scores based on the DLQI-Bra (Table 2). No correlation was found between the PASI and DLQI-Bra before or after treatment. No correlation was found between the PASI and DLQI-Bra before and after treatment when specific patient characteristics, such as education, age, gender, marital status, disease duration, and occupation were evaluated.

Patients' occupations provided the only statistical correlation between the PASI and DLQI-Bra, both before and after treatment (Table 3).

Occupation was differentiated into two groups: those with activities related to familiar or restricted groups of people (retired and rural workers and housekeepers) and those who had daily personal relationships with distinct and unfamiliar people (traders, civil servants and contractors). The first group did not show a positive correlation between the PASI and DLQI.

However, the second group showed a positive correlation between the PASI and the DLQI-Bra item related to work or school activities when assessed before and after treatment (Table 3). Moreover, in the same group, there was a correlation between the PASI and daily activities when patients were assessed after treatment (Table 3).

DISCUSSION

The PASI has been used by dermatologists in clinical trials to obtain more objective clinical measures. Despite some limitations, exemplified by different measures provided by the same rater or different measures provided by distinct raters when assessing

TABLE 1: Social and economic profile of patients with psoriasis

	Total (n=35)	Men (n=26)	Women (n=9)
Profession			
Housekeepers	6	1	5
Public employees	3	3	0
Rural workers	5	4	1
Civil servants	13	11	2
Retired	8	7	1
Education			
Illiterate	3	1	2
Elementary school	5	4	1
Middle school	14	10	4
High school	11	9	2
College	2	2	0
Mean (years)	6.2	6.3	6.0
Marital status			
Single	6	5	1
Married	19	15	4
Divorced	8	5	3
Widowed	2	1	1
Years of Disease (mean ± sd)	14.9±5.5	15.3±5.5	13.8±5.5
Age-years (mean ± sd)	46.7±14.5	50.5±13.5	35.9±12.5

TABLE 2: Psoriasis: PASI and DLQI-Bra values before and after treatment

	Before treatment n=35	After treatment n=23	% improvement
PASI (mean)	20.4	8	60.78*
men	21.77	7.68	64.72*
women	16.43	8.61	47.60
DLQI-BRA (mean)	11.2	5.35	52.23*
men	10.96	4.53	58.67*
women	11.89	6.88	42.13*

(*) p<0.05

the same patient, the PASI has been widely accepted as a very useful tool. DLQI is supposed to measure more subjective aspects and, for this reason, it is more dependent on distinct groups of people based on their socio-cultural profile.

The PASI and DLQI-Bra values after treatment were significantly lower when compared with those obtained before treatment; therefore, both instruments could detect changes in the clinical status and quality of life of patients that were caused by the treatment.

However, there was no correlation between the PASI and DLQI-Bra. In other words, clinical severity assessed by the physician was not necessarily associated with an impaired quality of life reported by the patients, both before and after treatment. This finding differs from the results of most studies, which establish a good correlation between disease severity and quality of life.¹⁰⁻¹⁴ Few studies in the literature show similar results and give support to those found in the present investigation.^{15,16}

At least two reasons can be given to explain our data: **a)** The original DLQI asks questions that are more associated with the daily lives of urban and literate patients. Our patients belong to social classes C, D and E, and 48.5% (17/35) are engaged in professions that require contact with a limited number of people from their neighborhood. This professional environment probably minimizes the impact of the disease at work. In addition, none of our patients were attending school at the time of the survey, and only three patients practiced sports regularly. **b)** Extended clinical history of psoriatic manifestations. Patients in this study reported 14.9 years of disease on average, suggesting the existence of a positive degree of adjustment to their clinical condition. This means that these patients could have developed coping strategies to live well with this psychosocial illness.

TABLE 3: Correlation between the PASI and DLQI-Bra items according to occupation

	Before systemic treatment					
	Symptoms	Daily activities	Leisure	Work/Study	Personal relationship	Treatment
Retired workers, Housekeepers, rural workers (n=17)	ns*	ns	ns	rs=-0.6203 p=0.0071	rs=-0.6597 p=0.0039	ns
Public and civil employees (n=18)	ns	ns	ns	rs=0.5346 p=0.0222	ns	ns
60 days after systemic treatment						
Retired workers, Housekeepers, rural workers (n=11)	ns	ns	ns	Ns	ns	ns
Public and civil employees (n=12)	ns	rs=0.5797 p=0.0481	ns	ns	ns	ns

ns* - not significant (p>0.05)

With regard to these observations, it is interesting to see a correlation between the PASI and some subdivisions of DLQI-Bra when patients are classified according to their occupations. For instance, for patients whose professional activity required contact with unfamiliar people, the PASI scores before treatment positively correlated with “problems” at work/school. It is understandable that the public exposure required by some occupations is, in fact, a reason for anxiety due to the possible negative reactions from unfamiliar individuals regarding these patients’ condition.

In sum, this study raises an important question about the validity of the DLQI-Bra when patients with a low socio-cultural status or those from rural environments are surveyed, especially patients with a long history of psoriasis. In fact, Nijsten *et al.* also question the validity of the translation of the original DLQI to other languages and cultures. They point to the lack of equivalence of some of the terms used.¹⁷ An example is the use of the word “shame” as a synonym for “embarrassment” in the DLQI-Bra questionnaire (such as in the original instrument), which could lead

to misunderstandings. These observations suggest that the external validity of surveys using the DLQI should be accepted within certain limits.

Further studies using the DLQI-Bra to assess populations with diverse socio-cultural profiles and other tools for evaluating quality of life are needed so that the impact of plaque psoriasis on the quality of life of patients can be better understood.

CONCLUSION

Psoriasis is a disease that impacts the quality of life of patients, particularly in its moderate and severe clinical forms. The non-correlation between the PASI and DLQI-Bra in this investigation may be related to a chronic history of the disease, which implies better acceptance of the illness and is related to the low income and social profile of the patients studied. The correlation observed among patients with jobs that require contact with the public suggests that some professions are more impacted by the disease. It may be necessary to adapt the DLQI-Bra questions to patients with a low income and social and cultural limitations. □

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