


The relationship between quality of life and the use of immunobiologicals in patients with psoriasis

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ABSTRACT

This study investigated the relationship between quality of life and the use of immunobiologicals in patients with psoriasis. In order to assess how these therapies affect the daily lives and well-being of patients, a cross-sectional study was conducted at the General Hospital of Fortaleza between September 2023 and June 2024, with 29 patients with psoriatic arthritis. Using a questionnaire based on the Psoriasis Life Quality Index (DLQI), two groups were compared: those who used immunobiologicals and those who did not. The results showed that, although treatment with immunobiologicals offers effective control of the disease, the impact on quality of life varied. In particular, the use of immunobiologicals was associated with a significant improvement in the ability to play sports. However, the overall psychosocial impact seemed attenuated, possibly due to the patients' long time with the disease and their familiarity with its condition. Limitations of the study include the small sample size and the difficulty of evaluating patients with active disease. It is concluded that, while immunobiological therapy can improve specific aspects of quality of life, further research is needed in future research to better understand the impact of these therapies on different stages of psoriasis and to develop more comprehensive approaches.

Keywords: Health, Skin lesions, Psoriasis.

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INTRODUCTION

On the world stage, there are several community, technological, and economic changes that impact the mental health of the population. Emotional changes, such as anxiety, stress and depression, promote behavioral and body disorders that limit the individual's daily activities, whether in the student, work or social fields. ⁽¹⁾ The relationship between these factors and the onset of diseases has become a growing concern in recent years, highlighting the importance of investigating this problem in different contexts and populations. ⁽²⁾ That said, it is known that skin and brain cells are formed in the same embryonic leaflet, neuroectoderm. This allows the body, through the emotional state, to manifest this discomfort or anguish through skin lesions, as occurs in psoriasis. ⁽³⁾

Psoriasis is an immune-mediated inflammatory systemic disease in which the pathophysiology is not yet well established, but it is known that there is a relationship between the immune system, genetic predisposition, and environmental factors responsible for the period of exacerbation and remission of symptoms. ⁽⁴⁾⁽⁵⁾ The clinical cutaneous manifestations of psoriasis are diverse, but the most common is symmetrical, erythematous, and scaly plaques in regions such as the scalp, extensor areas, nails, palms, and soles. ⁽⁶⁾ In addition, the prevalence varies among different ethnic groups, in both sexes, and manifests initially in young adults, with 75% of cases before the age of 46 years, but it can appear in childhood. ⁽⁷⁾

Treatment of psoriatic disease should be based on its severity, extent, associated comorbidities, emotional impairment, and patient's lifestyle. ⁽³⁾⁽⁸⁾⁽⁹⁾ In this context, for psoriasis, the oral systemic therapy currently used consists of retinoids, methotrexate, and cyclosporine A, as well as topical agents such as corticosteroids, vitamin D analogues, calcineurin inhibitors, and keratolytics, and finally, UVB phototherapy, which can be used to control the condition. ⁽¹⁰⁾ It should be noted that patient management also involves screening for comorbidities, especially cardiovascular diseases, education about the disease, and detection of mood disorders. ⁽⁹⁾

In this context, according to guidelines from the *American Academy of Dermatology-National Psoriasis Foundation*, the treatment for moderate to severe forms is immunobiologicals, due to their high efficacy and safety. ⁽¹⁰⁾ These drugs target the IL-23/Th17 axis and TNF- α signaling, which are essential in the development and chronicity of psoriasis. Its application occurs subcutaneously or intravenously in different weekly regimens. ⁽¹¹⁾ The most commonly used biologic agents are: TNF α inhibitors (*infliximab*, *adalimumab*, *certolizumab pegol*), IL 12/23 inhibitors (*ustekinumab*), IL 23 inhibitors (*guselcumab* and *risankizumab*), and IL 17 inhibitors (*secukinumab*, *ixekizumab*, and *brodalumab*). ⁽¹²⁾ In addition, there is a high prospect for growth in the therapeutic arsenal, as a result of the constant studies for the introduction of new immunobiologicals, such as JAK inhibitors. ⁽¹²⁾

The complexity involved in the pathophysiology and treatment of psoriasis is notorious, but an equally complex issue that is often neglected or minimized by both health professionals and the



general population is the way in which this disease affects the quality of life of its patients. It is worth mentioning that the impact generated by psoriasis manifests itself in several ways, generating physical, social, psychological, and financial damage, which vary according to the clinical severity of the disease, presence of associated comorbidities, type of treatment used and its adherence, psychosocial state, in addition to personal perceptions about the cause, chronicity, and control of the disease. ⁽¹³⁾ Recent studies have shown that the psychological impact caused by psoriasis is as harmful as the physical lesions of the disease and contributes equally to its morbidity. Due to this understanding, several ways of qualifying and quantifying the impact on quality of life caused by psoriasis have been developed, among them, the most used and validated is the quality of life index in dermatology (DLQI). ⁽¹⁴⁾

In view of the above, it is concluded that psoriasis is a chronic inflammatory dermatological disease that manifests itself not only by skin lesions, but also leads to serious psychological damage to those affected. In addition, due to the minimization of the importance of the impacts generated on quality of life, despite the various treatments on the market, there is still a great difficulty in dealing with the disease in a multiprofessional way and with a support network appropriate to the needs of patients.

Thus, the main objective of the present study is to evaluate the relationship between quality of life and the therapy used in patients with psoriasis, aiming to contribute to a more comprehensive and effective approach to this chronic disease.

METHODS

The study was carried out between September 2023 and June 2024, at the General Hospital of Fortaleza (HGF), and data collection was carried out from September 2023 to January 2024. The study population consisted of patients followed up at the rheumatology outpatient clinic of the HGF followed up with psoriatic arthritis, with a sample of 29 people. The exclusion criteria were individuals who denied consent to the research and those who left the questionnaire incomplete. The study design is cross-sectional. A questionnaire was developed through the *Google Forms* platform, with single-answer questions, addressing sociodemographic data and quality of life in patients with psoriatic arthritis. Statistical analysis was performed using the Mann-Whitney U test, using the *Statistical Package for the Social Sciences (SPSS) software*. Approval for this study was obtained from the Institutional Ethics Committee.

APPROVAL OF STANDARD PROTOCOLS, REGISTRIES, AND PATIENT CONSENTS

Approval for this study was obtained from the Institutional Ethics Committee. Written informed consent was obtained from and with their consent.

PROCEDURE

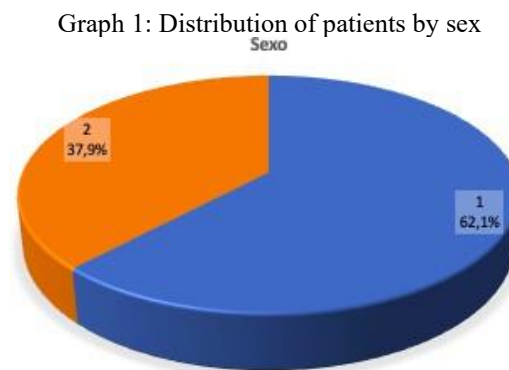
All participants were asked to fill in their information about age, full name, biological sex, and use of immunobiologicals. The questionnaire (Psoriasis Life Quality Index - DLQI), containing 10 questions, about the impact of signs and symptoms on the quality of life of individuals, taking into account physical, social and emotional aspects. The questions have been translated into the local language (Portuguese).

After completing the questionnaire, the individuals were divided into two groups according to their "Yes" or "No" answers to the question "Do you use immunobiologicals?". Based on this, the group that answered "Yes" and the group that answered "No" were compared with each other with the other questions about the impact of the disease on quality of life, such as embarrassment, limitations in social relationships of friendship and love life, and interference in daily activities, such as going shopping, leisure activities, and sports. work and studies.

RESULTS

SAMPLE CHARACTERISTICS

The number of patients with psoriasis who participated in the study was 29 individuals, 18 females (62.07%) and 11 males (37.93%) (Graph 1).



Source: Prepared by the authors.

The predominant age group was 50-60 years, totaling 11 patients (37.93%), followed by the ages of 60-70 years with 7 (24.14%), 40-50 years with 6 (20.69%), 30-40 years with 2 (6.90%), 20-30 years with 2 (6.90%) and 70-80 years with 1 (3.45%) (Graph 2).

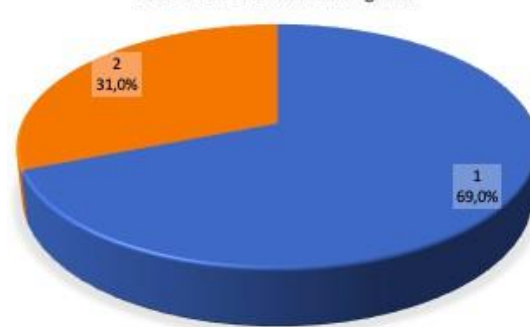
Graph 2: Distribution of patients by age group



Source: Prepared by the authors.

Regarding the use of immunobiological therapy, 20 patients (68.97%) used immunobiologicals and 11 patients (31.03%) used other medication to control psoriasis (Graph 3).

Graph 3: Use of immunobiological therapy



Source: Prepared by the authors.

Regarding the time of adherence to immunobiologicals, in years, Graph 4 shows that the patients who stand out the most in terms of time using immunobiologicals are those in the range of 5 to 10 years (29.41%), followed by those who use 2 to 3 years (17.65%); those aged 10 to 15 years; from 4 to 5 years old; from 3 to 4 years old and those under 1 year old, all with (11.76%).

Graph 4: Distribution of patients by time of adherence to immunobiologicals



Source: Prepared by the authors.

IMPACT ON QUALITY OF LIFE

The results highlight the impact of treatment, both with immunobiologicals and with the use of other medications, and addresses the influence of the disease on work, leisure activities, relationships and self-esteem, with an impact rating ranging from 0 to 3, being **3 - Really a lot; 2 - Quite a lot; 1 - A little; and 0 - Nothing**. The data revealed an effective control of disease activity in all treated patients. (Table 1).

Table 1: Outcomes of the impact of therapy on quality of life

1. How much has your skin been affected during the past week because of itching, inflammation, pain, or burning?	
0 - Nothing	37,93%
1 - A little	34,48%
2 - Quite a lot	13,79%
3 - Really Very Much	13,79%
2. How much embarrassment or other type of limitation was caused by your skin during the past week?	
0 - Nothing	48,28%
1 - A little	20,69%
2 - Quite a lot	13,79%
3 - Really Very Much	17,24%
3. How much has your skin interfered with your shopping activities or outings, at home or in public places, during the past week?	
0 - Nothing	44,83%
1 - A little	37,93%
2 - Quite a lot	6,90%
3 - Really Very Much	10,34%
4. To what extent has your skin interfered in the past week with the clothes you normally wear?	
0 - Nothing	51,72%
1 - A little	27,59%
2 - Quite a lot	6,90%
3 - Really Very Much	13,79%
5. How much has your skin affected any of your social or leisure activities in the past week?	
0 - Nothing	62,07%
1 - A little	13,79%
2 - Quite a lot	10,34%
3 - Really Very Much	13,79%
6. How hard was it for you to play sports during the past week?	
0 - Nothing	58,62%
1 - A little	6,90%
2 - Quite a lot	10,34%
3 - Really Very Much	24,14%

7. Did your skin prevent you from going to work or study during the past week?	
0 - Not relevant	6,90%
1 - Yes	27,59%
2 - No	65,52%
8. How problematic has your relationship with your partner, close friends, or relatives become because of your skin?	
0 - Nothing	58,62%
1 - A little	10,34%
2 - Quite a lot	17,24%
3 - Really Very Much	13,79%
9. To what extent has your skin created difficulties in your sex life in the past week?	
0 - Nothing	79,31%
1 - A little	3,45%
2 - Quite a lot	10,34%
3 - Really Very Much	6,90%
10. To what extent has your dermatological treatment created problems for you in the past week?	
0 - Nothing	72,41%
1 - A little	13,79%
2 - Quite a lot	13,79%
3 - Really Very Much	0,00%

Source: Prepared by the authors.

The comparison between treatment with immunobiologicals and other drugs was conducted using the *Mann-Whitney U* test, as shown in Table 2. These results suggest a differentiated improvement in the ability to play sports among the treatment groups, indicating a potential benefit of the use of immunobiologicals in this specific aspect of the quality of life of patients with psoriasis.

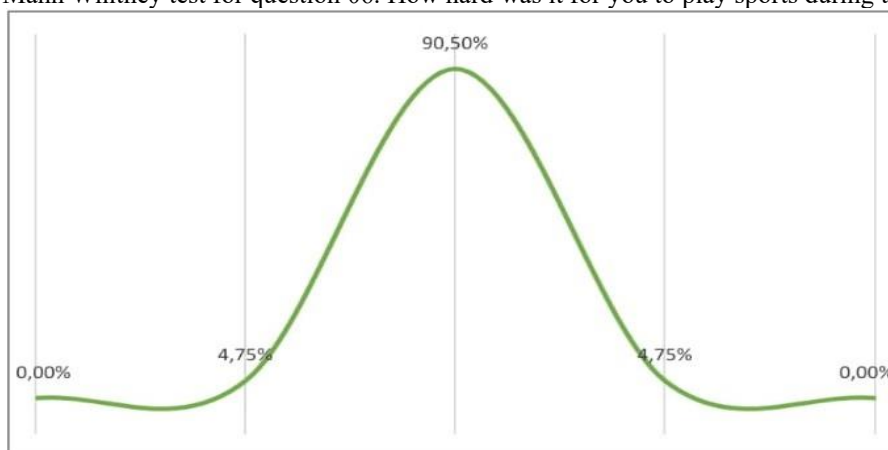
Table 2: U-Mann Whitney test for the questions

Question	Use of Immunobiologicals	Average	Standard deviation	P-value	Confidence Interval
Q1	Yes	0,95	1,00	62,70%	37,30%
	No	1,22	1,20		
Q2	Yes	0,85	1,14	31,70%	68,30%
	No	1,33	1,22		
Q3	Yes	0,70	0,80	56,20%	43,80%
	No	1,11	1,27		
Q4	Yes	0,80	1,11	72,90%	27,10%
	No	0,89	1,05		
Q5	Yes	0,60	1,05	29,50%	70,50%
	No	1,11	1,27		
Q6	Yes	0,70	1,17	9,50%	90,50%
	No	1,67	1,41		
Q8	Yes	0,65	1,09	15,30%	84,70%
	No	1,33	1,22		
Q9	Yes	0,20	0,62	14,00%	86,00%
	No	1,00	1,32		
Q10	Yes	0,35	0,67	66,00%	34,00%
	No	0,56	0,88		

Source: Prepared by the authors.

Just for the question "6. How difficult was it for you to play sports during the past week?" demonstrated statistical significance. For the patients who answered "Yes" regarding the use of immunobiologicals, the mean was 0.70 with a standard deviation of 1.17, while for those who answered "No" the mean was 1.67 with a standard deviation of 1.41. The "p" value obtained was 9.50%, with a confidence interval of 90.50%. Graph 5 below shows this result.

Graph 5: U Mann Whitney test for question 06. How hard was it for you to play sports during the past week?



Source: Prepared by the authors.

DISCUSSION

The main objective of this study was to determine how the use of immunobiologicals affects the quality of life of patients with psoriatic arthritis. To achieve this objective, we initially analyzed which questions indicated greater and lesser interference in the quality of life of the affected



individuals. It was observed that the question "6. How hard was it for you to play sports during the past week?" had the greatest impact on patients' quality of life, with the highest number of responses with the maximum score on the form, totaling 7 (24.14%) "3 - Really a lot" responses. In contrast, it was observed that in question "9. To what extent has your skin created difficulties in your sexual life?", was the question that was shown to affect the quality of life of patients in a milder way, with 21 (79.31%), answers corresponding to "0 - Nothing". A fact that may be related to the possible embarrassment in answering this question. In addition, other questions also stood out for the large number of answers that indicate a minimum interference in the quality of life, which are: "10.

To what extent did your dermatological treatment create problems for you past week?", with 21 responses (72.41%) "0 - Nothing" and "5. How much has your skin affected any of your social or leisure activities in the past week?", with 18 responses (62.07%) "0 - Nothing".

The results presented in the sub-item "Impact on Quality of Life" can be partially explained by the higher prevalence of patients who are using immunobiologicals chronically, with a minimal number of patients with the disease in its active form. Therefore, the psychosocial impact related to active injuries, such as embarrassment, itching crises, inflammation, pain, and burning, as well as social relationships with friends, family, and romantic partners, tends to be lower. Another relevant factor is that patients who have lived with the disease for years already have a better understanding of their illness and consequently a better relationship with the disease, thus accepting their condition and adapting to the various impacts already suffered in the past.

Consistent results were found in studies that used other scales, such as the "*Quality of Life of Patients with Psoriasis*", which assessed the quality of life of patients with the "Psoriasis Disability Index (PDI) scale. This study revealed that patients generally enjoyed a satisfactory quality of life, highlighting the need to evaluate factors such as gender and age. ⁽¹⁵⁾

Following this logic, the analysis of these characteristics of the sample was carried out with the answers obtained. According to Table 3, it was observed that females showed a greater impact on quality of life, with 20 (60.61%) answers "3 - Really a lot" and 97 (65.10%) answers "0 - Nothing", compared to the opposite sex, which obtained 13 (39.39%) answers "3 - Really a lot" and 52 (34.90%) answers "0 - Nothing". This difference may be related to the greater aesthetic social pressure suffered by women, leading to a greater psychosocial impact by exposing the lesions to the social cycle.



Table 3: Sample characteristics by Sex

Answer	Male	Female	Total
0 - Nothing	34,90%	65,10%	100,00%
1 - A little	36,73%	63,27%	100,00%
2 - Quite a lot	53,33%	46,67%	100,00%
3 - Really Very much	39,39%	60,61%	100,00%
Grand Total	37,93%	62,07%	100,00%

Source: Prepared by the authors.

According to Table 4, in relation to the age of the research participants, it was shown that patients in the age group "50 – 60 years" were the most affected, with 10 (30.30%) "3-Really Very Much" answers and 53 (35.57%) "0 - Nothing" answers. Compared to those in the age group "20 – 30 years" who were less affected, with 3 (9.09%) answers "3-Really Much" and 7 (4.70%), answers "0 - Nothing". These results may be related to the presence of comorbidities, especially arthrosis, which further affect the quality of life of such patients.

Table 4: Sample characteristics by age group

Answer	20 - 30	30 - 40	40 - 50	50 - 60	60 - 70	70 - 80	Total
0 - Nothing	4,70%	6,71%	18,79%	35,57%	28,19%	6,04%	100,00%
1 - A little	12,24%	8,16%	12,24%	46,94%	20,41%	0,00%	100,00%
2 - Quite a lot	6,67%	6,67%	26,67%	43,33%	16,67%	0,00%	100,00%
3 - Really Very Much	9,09%	6,06%	36,36%	30,30%	18,18%	0,00%	100,00%
Grand Total	6,90%	6,90%	20,69%	37,93%	24,14%	3,45%	100,00%

Source: Prepared by the authors.

When relating the answers obtained with the use or not of immunobiologicals using Whitney's *U Mann* method, it is observed that the question "6. How difficult was it for you to play sports during the past week?" was statistically significant, as shown in the results. The current hypothesis for the specific statistical relevance of this question in comparison with the other questions on the form is that the practice of sports activities is not only related to the psychosocial impact on the quality of life of these patients, but also to the physical impediment caused by psoriatic arthritis, which can manifest itself with joint pain, difficulty in moving the affected joint, and local swelling.

In fact, according to the systematic review article "*Psoriasis and Co-morbidity*", arthritis has a great effect on the illness of those affected, evidencing its relationship with unemployment and loss of productivity at work, a factor that enhances the impact on the quality of life of individuals, in addition to the importance of early diagnosis and treatment, which can avoid permanent deterioration of the joints⁽¹⁶⁾.



LIMITING FACTORS

The study obtained results with large variables due to the sample size (N=29), a factor that makes it impossible to have a p with greater significance among the findings of the aforementioned research. In addition, future research should consider dermatological protocols other than the Psoriasis Life Quality Index (DLQI), since the form does not evaluate the influence of drug therapy such as treatment adherence, dose, and dosage within the daily life of psoriatic patients. However, according to the systematic review entitled "*Quality of Life and Body Region Affected by Psoriasis*", the most prevalent scale to assess quality of life in patients with psoriasis was the DLQI. The study highlighted the importance of using similar scales to allow a more accurate comparison between studies⁽¹⁷⁾.

Another challenge of the present study is the source of research data that were based only on the patients' responses. More interviews and analysis of medical records would be necessary for greater confidence in the results found. Recall bias can erroneously provide answers to past events, so future studies should consider gold-standard sources for better analysis and conclusion of the research. In addition, when filling out the DLQI form, some patients did not respect the 2-week time interval when answering the questionnaire, giving more relevance to the impact caused on quality of life during the other years of the disease. This reflects the fact that the patients are already in the disease control phase and with prolonged use of immunobiologicals, making it impossible to analyze the psoriatic disease in the active phase and its impact on the quality of life of the interviewees.

CONCLUSION

The analysis carried out in this study on the quality of life and the use of immunobiologicals in patients with psoriasis reveals that, although there is no significant and general change in the quality of life of patients after the use of these medications, it is crucial to consider the prolonged time of living with psoriasis and the familiarity of the participants with their condition. The predominance of patients in chronic use of immunobiologicals made it difficult to assess the impact on active disease. In addition, because they have already lived with the disease for a long time, the patients' understanding and acceptance of the psoriasis condition suggest an attenuated psychosocial impact. Therefore, the need for more specific questionnaires and additional studies that address the nuances between chronic and acute disease is highlighted, aiming at a deeper understanding of the impact of immunobiological therapy in this context.



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