

The impact of psoriasis vulgaris on physical activity and vacation plans of patients in Poland*

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ABSTRACT

Introduction: The impact of psoriasis vulgaris on physical activity and vacation plans of patients in Poland was studied. The negative impact of psoriasis on these areas of patients' lives is a complex issue. It includes, among others, psychological aspects, resulting primarily from the reluctance to publicly display skin lesions, as well as physical limitations related to the disease, such as itching or joint pain. The symptoms, causes, and frequency of the negative impact of psoriasis on patients' rest and physical activity were analyzed. The impact of psoriasis was also assessed in the context of disease advancement.

The aim of the study was to analyze the symptoms, causes, and frequency of the negative impact of psoriasis vulgaris on the forms of physical activity and relaxation of patients.

Materials and methods: The research material included 150 adult patients, recruited at the Department of Skin and Venereal Diseases of the Pomeranian Medical University in Szczecin, burdened with psoriasis vulgaris with the presence of active skin lesions. The study was based on questionnaires, including both the author's survey and validated tools.

Results: More than half of the patients observed a negative impact of psoriasis on vacation plans and physical activity, mainly due to the presence of visible skin lesions. Among other bothersome symptoms of psoriasis during rest and physical activity, patients most frequently mentioned itching, discomfort, and burning sensations associated with the location of disease lesions in the skin folds, as well as joint pain. The methods of antipsoriatic treatment used and the costs associated with them were also important for patients. A correlation was observed between the degree of psoriasis advancement and its adverse effect on patients' rest and physical activity.

Conclusions: Psoriasis vulgaris, particularly the presence of skin lesions in exposed areas and a more advanced form of the disease, adversely affects the ways in which patients spend their holidays and engage in physical activity. The reluctance to expose skin lesions is the greatest limitation for patients in undertaking physical and recreational activities. In the context of the systemic nature of psoriasis, it is important to draw patients' attention to the benefits of leading a healthy lifestyle, including physical activity and rest.

Keywords: physical effort; leisure; social aspects; quality of life; financial burden.

INTRODUCTION

Psoriasis vulgaris is a chronic skin disease affecting approx. 3% of the Polish population [1]. It is currently perceived as a systemic inflammatory process, sustained by the continuous production of proinflammatory cytokines, which manifests primarily in the form of skin lesions but also affects other organs and the patient's psyche [2]. It is very important to draw patients' attention to the benefits of maintaining a healthy lifestyle that includes physical activity and rest. Playing sports, by increasing the production of anti-inflammatory cytokines, including adiponectin, reduces the inflammation that stimulates psoriasis [3, 4].

The aim of the study was to analyze the symptoms, causes, and frequency of the negative impact of psoriasis vulgaris

on the forms of physical activity and relaxation of patients. Additionally, the impact of psoriasis on these aspects was assessed in the context of the advancement of the disease.

MATERIALS AND METHODS

The impact of psoriasis vulgaris on patients' physical activity and holiday plans was studied as part of a broader assessment of the socioeconomic aspects of psoriasis vulgaris in Poland. The research material included 150 adult patients suffering from psoriasis vulgaris with the presence of active skin lesions, who were treated in 2016–2017 at the Department of Skin and Venereal Diseases of the Pomeranian Medical University in

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Szczecin and at the Dermatology Outpatient Clinic. Each patient underwent a thorough interview using an original questionnaire. Additionally, during the physical examination, the stage of disease advancement was determined using the psoriasis area and severity index (PASI) and the body surface area (BSA) assessment scale, supplemented with data from the dermatology life quality index (DLQI).

According to current guidelines, mild psoriasis was defined as a form of the disease in which skin lesions cover less than 10% of the total skin surface area (BSA <10%), their severity does not exceed 10 points (PASI <10 points), and the negative impact of the disease on the quality of life assessed using the DLQI is less than 10 points (DLQI <10 points). Psoriasis was considered moderate to severe when at least 1 of the above indicators had a value of 10 or more (i.e., BSA \geq 10% and/or PASI \geq 10 points and/or DLQI \geq 10 points) [2].

Statistical calculations were performed using the software environment R v.4.1.1 and IDE RStudio v.1.04.1717. During the analysis, built-in functions of the packages: "psych" (descriptive statistics), "sjPlot" (contingency tables), "MASS", "stats" (regression analysis), "tidyverse", "dplyr" (manipulations on data frames), "rstatix" (statistical tests), and "rcompanion" (post hoc tests) were used. The significance level of statistical tests was considered to be $\alpha = 0.05$. The analyzed data came from 3 measurement scales: interval, ordinal, and nominal.

The study included patients aged 19–76. The largest group consisted of people aged 40–69, making up over $\frac{2}{3}$ of the respondents. Among participants, women constituted 44.67% and men 55.33%. The duration of psoriasis from the first episode of skin lesions ranged from 1 month to 56 years (average 17 years). More than half of the respondents (51.3%) admitted that they had never achieved complete remission of the disease.

The mean PASI value in the entire study group was 8.22 (± 9.42) points. The mean BSA value was 19.54% (± 16.44). The mean DLQI value was 9.38 (± 6.98) points.

Based on the obtained PASI, BSA, and DLQI results, the surveyed psoriasis patients were divided into 2 groups depending on the stage of the disease. Mild psoriasis was found in 28% of the examined patients, and moderate to severe psoriasis in 72% of the group.

RESULTS

The impact of psoriasis on the physical activity of patients in Poland

More than half of the respondents (50.67%) observed the impact of psoriasis on their physical activity in the year preceding the study. Among them, 43.42% limited physical effort due to psoriasis, 28.95% changed the type of activity they practiced, and 35.57% gave up physical activity completely (Fig. 1).

The leading cause (77.63%) negatively affecting the forms of physical activity of patients with psoriasis was the presence of skin lesions visible to others. Many patients also associated the impact of psoriasis on their physical activity with the occurrence of joint pain (39.47%), itching (35.53%), and discomfort and

burning associated with the presence of lesions in the skin folds (32.89%). The methods of antipsoriatic treatment used (9.21%) and the financial aspects of psoriasis therapy (6.58%) were also significant factors influencing patients' physical effort (Fig. 2).

Psoriasis influenced patients' forms of physical activity with varying frequency during the year preceding the study: 21.05% of respondents observed its influence several times a week, 35.53% several times a month, and 43.42% only several times a year.

Among the respondents, a link was also observed between the degree of advancement of psoriasis and its impact on patients' forms of physical activity. Patients with moderate to severe psoriasis were more likely to report a negative impact of the disease on physical activity (Fig. 3).

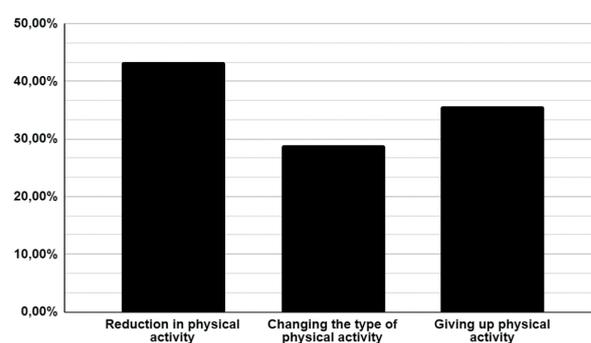


FIGURE 1. Manifestations of the influence of psoriasis on the forms of physical activity of patients from the study group (n = 76)

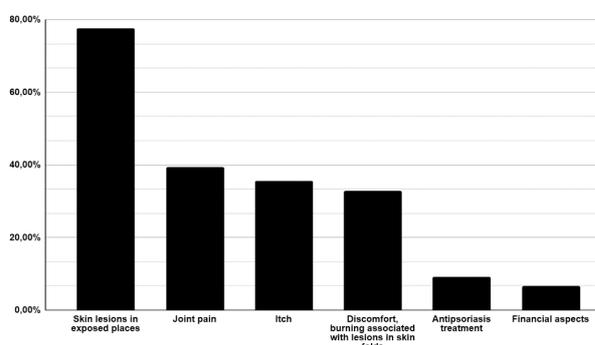


FIGURE 2. Factors related to psoriasis contributing to its impact on the forms of physical activity of patients from the study group (n = 76)

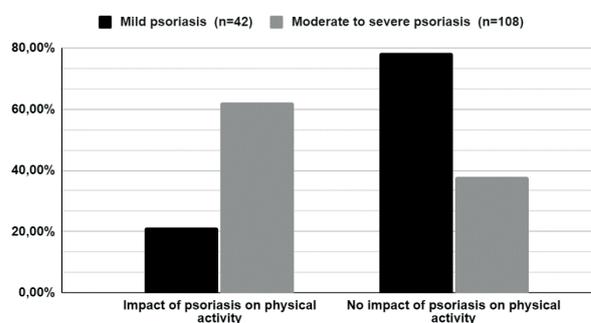


FIGURE 3. Comparison of the impact of psoriasis on the physical activity of patients in the last year depending on the stage of psoriasis – in the group of patients with mild psoriasis (n = 42) and in the group of patients with moderate to severe psoriasis (n = 108)

The impact of psoriasis on patients' holiday plans in Poland

The study found that in more than half of the patients (56.67%) psoriasis affects the way they spend their holidays. As many as 45.88% of patients from this group completely gave up their holiday, 40% changed their holiday destination, 5.29% changed the date of their holiday, and 2.35% shortened the duration of their holiday (Fig. 4).

The adverse effect of psoriasis on the way of spending holidays was primarily associated by patients (89.41%) with the reluctance to expose skin lesions in public places. Other symptoms of psoriasis that negatively affected the way of spending holidays included: itching (27.06%), discomfort and burning related to the location of lesions in skin folds (18.82%), joint pain (14.12%), and financial limitations caused by the costs of antipsoriatic treatment (9.41%) – Figure 5.

Individuals also emphasized that they associate holidays with a sense of shame, isolation from friends, and the need to avoid public places.

Among the respondents, a relationship was observed between the degree of psoriasis advancement and its impact on patients' forms of recreation. Patients with moderate to severe forms more often observed a negative impact of psoriasis on forms of recreation (Fig. 6).

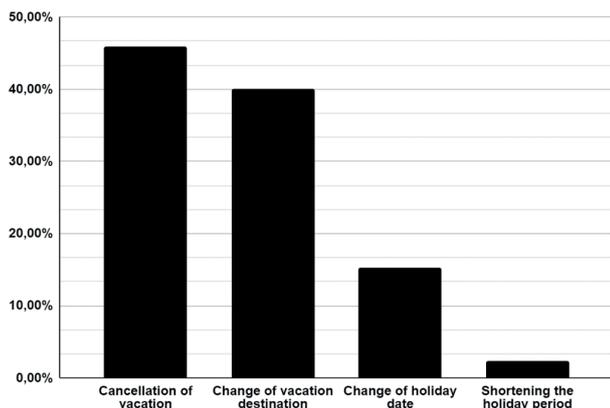


FIGURE 4. Manifestations of the negative impact of psoriasis on the form of spending holidays in patients from the study group (n = 85)

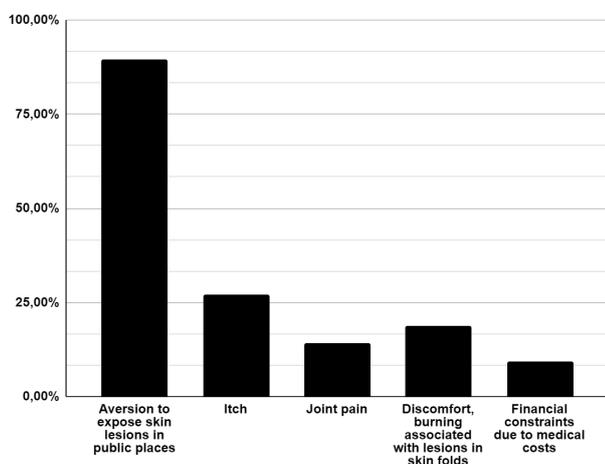


FIGURE 5. Factors related to psoriasis contributing to its negative impact on the way of spending holidays in patients from the study group (n = 85)

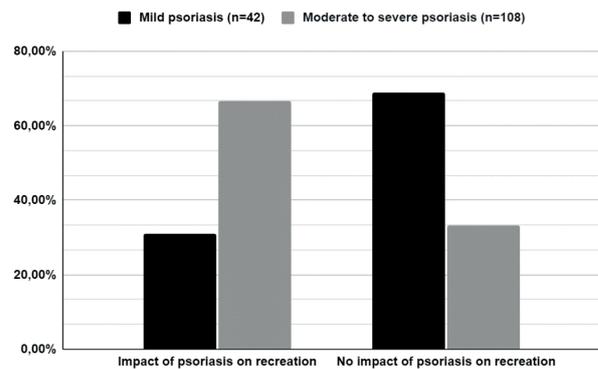


FIGURE 6. Comparison of the impact of psoriasis on the patients' leisure activities in the last year depending on the stage of psoriasis – in the group of patients with mild psoriasis (n = 42) and in the group of patients with moderate to severe psoriasis (n = 108)

DISCUSSION

Psoriasis and sport

Balato et al., in a large study analyzing the relationship between sports and psoriasis, confirmed that regular physical activity reduces the risk of psoriasis. A positive family history of psoriasis was similar in athletes and in the control group, while the incidence of the disease was significantly lower among athletes (1.7%) than in the control group (5.4%) [3]. Similar results were presented by Megna et al., who compared a group of soccer players with a control group of similar age, gender, body mass index (BMI), and family history of psoriasis [5].

Regular physical activity has a beneficial effect on the course, extent, and degree of advancement of psoriasis, as well as on reducing the cardiovascular risk of patients, which is increased in psoriasis [3, 5, 6]. Despite this, for many reasons, psoriasis patients are reluctant to engage in physical activity [3]. One of the most important aspects is the psychological discomfort associated with the disease, primarily the reluctance to show skin changes while performing sports activities. Patients fear social stigma related to the common perception of psoriasis as an infectious disease or being judged as people with poor hygiene [7].

The study by Ramsay and O'Reagan also confirmed that patients consciously avoid sports due to a sense of shame about exposing their bodies; 72% of respondents declared that they avoid swimming due to fear of showing their skin in public. It is important to note that even among patients with mild psoriatic lesions, 46% still give up this form of activity; 64% of respondents avoid using showers and baths in public places. The authors also emphasized that psoriasis affects the type of clothing chosen by patients, including sportswear – as many as 64% of respondents avoid wearing shorts and short-sleeved shirts [7].

Similarly, in our own study, the vast majority of psoriasis patients (94%) reported that the condition of their skin and the disease's involvement in specific areas determined their choice of clothing in daily life. Patients also sometimes give up contact sports to avoid embarrassment related to being in close proximity to other exercisers [8].

Another significant obstacle to practicing sports is the frequent presence of itchy skin, which is intensified by sweat, high temperature, or humidity [9]. Due to joint pain, patients are also much less likely to engage in physical activity, although it can minimize the feeling of pain, improve everyday functioning, delay the onset of disability, and promote well-being [10].

Respondents noted that financial factors related to psoriasis therapy are also an obstacle to undertaking sports activities. Australian patients with psoriasis reported that the costs resulting from their physical activity are higher due to the presence of the skin disease, which they explained by, among other things, the need to be more careful in choosing sportswear that would hide skin lesions, the need for professional cleaning of this clothing, and the selection of mild detergents [11].

A very important aspect of engaging in sports is its positive effect on mental health. Physical effort helps reduce stress, has a positive effect on well-being, and can improve the quality of life of patients with psoriasis [3].

Psoriasis and holiday plans

Very few publications discuss the impact of psoriasis on patients' holiday plans. Factors that trigger and exacerbate the course of the disease may be related to the place and time of the holiday. Heat and sweating of the skin intensify the sensation of itching. Although using air conditioning helps reduce sweating, it can also increase skin dryness.

In a large study of 5,600 psoriasis patients, it was found that patients observed positive effects when using seawater baths and sun exposure at the same time. Salt water alone did not have as significant an effect as when combined with ultraviolet radiation. The publication also noted that 80% of patients experienced improvement in their psoriasis during the summer months, while 89% of respondents experienced worsening of their local condition in the colder months [12].

The exacerbation of psoriasis in the autumn and winter periods is primarily due to low air humidity and lack of exposure to ultraviolet radiation. Low humidity and ambient temperature increase transepidermal water loss, reduce the levels of lipids and natural moisturizing factors in the epidermis, increase epidermal thickness, and stimulate the production of inflammatory mediators, which ultimately leads to skin dryness and exacerbation of itching and psoriasis.

Another problem related to the holiday season is mosquito or other insect bites, as well as the use of repellents, which can exacerbate psoriasis [13, 14].

When deciding on the place and time of rest, patients with psoriasis must take many factors into account.

In the study by Eghlileb et al., which examined the impact of psoriasis on the lives of family members and partners of patients, an adverse impact of the disease on patients' holiday plans was also observed. As many as 44% of respondents felt limited in making holiday, recreational, or sports plans due to living with a person affected by psoriasis. The respondents emphasized the psychological aspect of the disease as the cause, primarily the embarrassment of patients with psoriasis while swimming or going to the beach and their reluctance to wear

shorts. Because of living with an affected person, respondents were forced to significantly limit or even stop resting on the beach [15].

Young people with psoriasis emphasized that they often feel isolated or different from their peers. Parents of teenagers with psoriasis, when choosing a form of vacation, despite being aware of the beneficial effect of solar radiation on reducing disease activity, primarily consider the possibility of covering up psoriatic lesions by the child. They do not want to additionally expose their child to stigmatization by the environment.

Stigmatization and exclusion of people with psoriasis contribute to their loss of a sense of belonging to society. This has a negative impact on patients' family and social relationships [16].

The results obtained in our study confirm that the dominant reason for the negative impact of psoriasis on rest is the reluctance of patients to reveal skin lesions in public places.

Modern therapies, primarily biological treatments, often allow for complete remission of symptoms (PASI in the range of 90–100), which significantly reduces the main cause of the negative impact of psoriasis on patients' physical activity and holiday plans. These drugs improve the daily social and professional activity of patients, influencing the change in their perception of their illness and reducing the psychological burden of the disease [2, 17, 18].

CONCLUSIONS

Psoriasis vulgaris, and in particular the presence of skin lesions in exposed areas and a more advanced form of the disease, adversely affect the ways in which patients spend their holidays and engage in physical activity. The negative impact of psoriasis on these areas of patients' lives is a complex issue. It includes not only psychological aspects, resulting primarily from the reluctance to publicly display skin lesions, but also physical limitations related to the disease, such as itching or joint pain.

Spreading knowledge about psoriasis in society could make it much easier for patients to accept their appearance and reduce the stress associated with disclosing disease lesions. Patients should also be widely educated by recommending regular physical activity, especially in individuals with co-existing cardiovascular and metabolic diseases. Psoriasis therapy should be multifaceted, taking into account non-pharmacological aspects, including professional support in the fight against overweight and obesity, and promoting physical activity among patients [19, 20].

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