QUALITY OF LIFE IN PATIENTS UNDERGOING COMBINED CLIMATOTHERAPY AND PHOTOTHERAPY

I. Bogdanov[1], K. Kircheva[2], L. Miteva[3], N. Tsankov[1]

[1]Tokuda Hospital, Sofia, Bulgaria

[2]Rehabilitation Hospital „Tuzlata", Balchik, Bulgaria

[3]Department of Dermatology, Medical Faculty, Sofia, Bulgaria

ABSTRACT

Background. Psoriasis impairs the quality of life (QoL) of patients as is in such severe diseases as cardiac failure or some malignant diseases. The aim of the study was to assess the QoL of Bulgarian psoriasis patients and its dynamics after different treatment approaches.

Matherial and methods. The study was conducted in 93 patients (55 men and 38 women), mean age 45 years. The patients were divided in 3 groups: group of patients with psoriasis placata and group of patients with psoriasis palmoplantaris, both undergoing combined climatotherapy and a control group of patients with psoriasis placata undergoing Narrow Band Ultraviolet B phototherapy (NB UVB). The combined climatotherapy was performed in the "Tuzlata" rehabilitation hospital, Balchik, Bulgaria and included thalassotherapy, peloidotherapy and balneotherapy. We used the Dermatology Quality of Life Index (DQLI) questionnaire to assess the QoL of the patients before and after the treatment.

Results. The improvement of the QoL in patients with psoriasis placata undergoing combined climatotherapy was statistically higher compared to the patients undergoing NB UVB phototherapy. The improvement in the QoL of the patients with psoriasis placata undergoing combined climatotherapy was statistically significant compared to the patients with psoriasis palmoplantaris undergoing the same treatment. There was no statistically significant difference in the improvement of the QoL between the patients with and without comorbidities.

Conclusion. Our results suggest that the combined climatotherapy has better beneficial effect on the QoL of the patients with psoriasis.

Key words: psoriasis, DQLI, combined climatotherapy, thalassotherapy, peloidotherapy

INTRODUCTION

Psoriasis affects so significantly the quality of life of patients that it might be compared to such severe diseases as myocardial infarction, hypertension, cardiac failure, type 2 diabetes, depression or some malignant diseases (6).

Depending on the localization or the form of the lesions the patients might suffer serious physical discomfort. The psoriasis patients have extremely low self confidence about their outlook which results in fear of rejection and serious communicational and psychosexual problems (4). The psychological discomfort in these patients might lead to social isolation.

The quality of life of psoriasis patients is measured by several scores but the one that is most widely used is the Dermatology Quality of Life Index (DQLI) (3). These scores provide information about the impact of the disease and its treatment on the life of the patients, their social contacts, work, education, daily activities and intimate life (1).

MATERIAL AND METHODS

The study was conducted on 93 patients (55 men and 38 women) mean age 45 years. The patients were separated in 3 groups:

Group A – 45 patients (25 men and 20 women) mean age 45 years (16 to 73) with *psoriasis placata* conducting combined climatotherapy in a Specialized Rehabilitation Clinic (SRC) "Tuzlata" situated on the seashore near the town of Balchik. This specific combined climatotherapy includes thalassotherapy (heliotherapy – maximum 5 hours

Adresa de corespondență:
I. Bogdanov, Tokuda Hospital, Sofia, Bulgaria

daily, sea baths – 5 times daily for 10 minutes), peloidotherapy (mud baths – 1 procedure daily for 20 minutes, liman lake water baths – twice daily for 5 minutes), balneotherapy (mineral water showers – twice daily for 10 minutes) and topical application of emollients (Xemose®, Lipikar®) for 14 days.

Group B – control group – 36 patients (28 men and 8 women) mean age 49 (16 to 70) with *psoriasis placata*, conducting phototherapy with Narrow Band UVB (average 15 procedures) in the Dermatology clinic of Alexandrovska hospital, Sofia and topical application of emollients (Xemose®, Lipikar®).

Group C – 12 patients (2 men and 10 women) mean age 42 (23 to 70) with psoriasis palmoplantaris conducting combined climatotherapy including thalassotherapy (heliotherapy – in the palmo-plantar areas – maximum 3 hours daily, sea baths – 5 times daily for 10 minutes), peloidotherapy (mud baths – once daily for 20 minutes, liman lake water baths – twice daily for 5 minutes), balneo-therapy (mineral water baths – twice daily for 10 minutes) and topical application of emollients for 14 days (Xemose®, Lipikar®).

The heliotherapy is conducted on the sea shore right next to the SRH "Tuzlata" using regimen of increasing exposure to sunlight from 9 a.m. to 12 a.m. and from 2 p.m. to 5 p.m.

Sea water baths are conducted on the sea shore simultaneously with the heliotherapy. Each day 4 to 6 baths are made and the duration of the bath is no longer than 10 minutes.

Peloidotherapy is conducted by the so called "Egyptian method" in the open air mud therapy area, and by the "application method" in the spa area of the clinic in bad weather conditions. The "Egyptian method" involves application of mud on the body. After the mud dries out it changes its color form black to light grey and it is washed away by liman-lake, mineral or sea water. The "application method" uses mud under occlusion on the entire body or separate areas of the body. After 20 minutes the skin is washed with mineral water. The mud is taken from the liman lake, it has average sulfide concentration (0,6 g/kg), it is highly mineralized (65,8 g/kg liquid phase) and has neutral active reaction. The liquid phase contains the highest registered concentration of sulfate ions for thera-peutic mud in Bulgaria (8,3 g/kg) and has calcium ions (3,6 g/kg), sodium ions (18 g/kg) and bromides (92 mg/kg).

The control group was treated with *Waldmann Full Body UV Therapy System UV 5040* with 40 *Philips TL01* 100 W lamps with main emission in the 310-315 nm and maximum in 311 nm.

The DQLI scores in the 3 groups (Group A, B and C) were measured at the beginning and in the end of the climatotherapy and the phototherapy. The results from the questionnaire might be interpreted by the following criteria proposed by its authors (3):

0-1 = no effect at all on patient's life
2-5 = 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 reductions of DQLI in percents might be distributed into several groups depending on the improvement of the quality of life. The reduction between 0 to 30% is described as poor improvement of quality of life, the reduction between 30 to 50% is described as moderate improvement, reduction with 50 to 75% is described as good improvement, reduction with 75 to 90% is described as very good improvement and the reduction with 90 to 100% is described as full recovery of the quality of life.

We used Student T test and Mann-Whitney test to compare the three groups.

RESULTS

Mean results of DQLI obtained before the climatotherapy in the patients with psoriasis placata (Group A) were 10,69 which corresponds to very large effect on patient's life and at the end of the therapy it was 2,2 which corresponds to small effect on patients life. The improvement in the quality of life is demonstrated by the mean reduction of the DQLI in percents which is 79,41 % (Fig. 1).

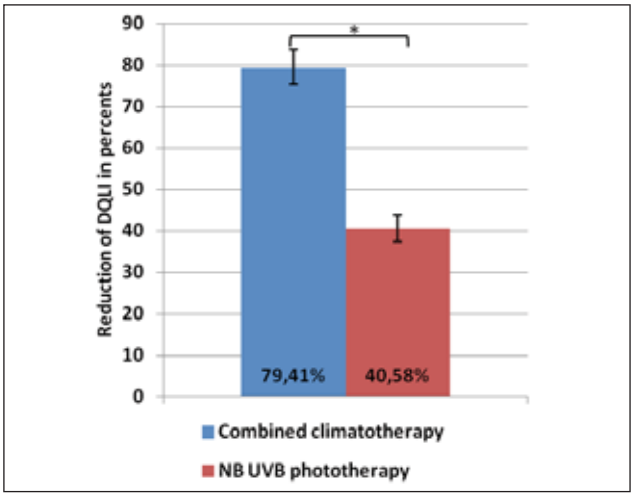

FIGURE 1. *Mean reduction of DLQI in percents in Group A and control group B (mean +/- standard error of mean) *(p < 0,001)*

In the psoriasis patients from the control group B, conducting NB UVB phototherapy the mean

score of DQLI before starting the treatment was 11,28, which corresponds to very large effect on patient's life. At the end of the treatment the mean score was 6,38 which corresponds to moderate effect on patient's life. The mean reduction of DQLI in percents was 40,58 % (Fig. 1)

There is statistically significant difference in the quality of life improvement between patients from group A and patients from group B, represented by the statistically significant difference of the mean reduction of DQLI in percents (Fig. 1).

Patients with psoriasis palmoplantaris from group C had mean DQLI score of 8,75 before starting the combined climatotherapy which corresponds to moderate effect on patient's life and at the end of the treatment the mean DQLI score was 3,33 which corresponds to small effect on patient's life. The quality of life improvement is represented by the reduction of DQLI in percents - 61,05% (Fig. 2).

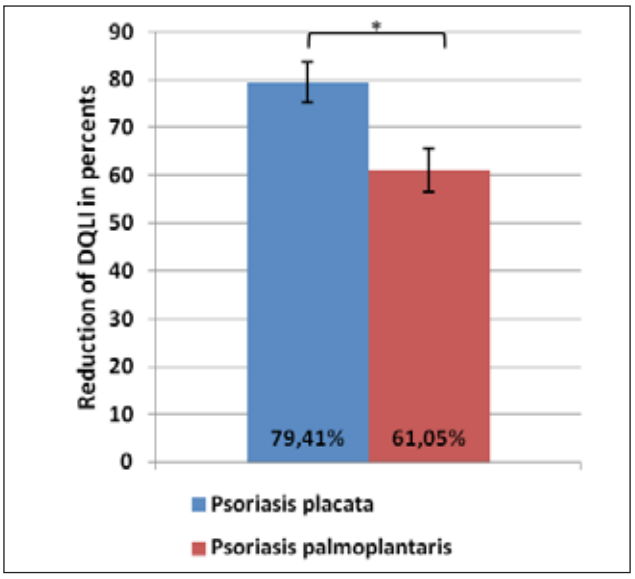

FIGURE 2. *Mean reduction of DQLI in percents in patients with psoriasis placata (Group A) and in patients with psoriasis palmoplantaris (Group C), both conducting combined climatotherapy (mean +/- standard error of mean) *(p < 0,01)*

The statistical analysis shows statistically significant difference in the mean reduction of the DQLI in percents between the patients of group A with psoriasis placata and the patients from group C with psoriasis palmoplantaris, both groups conducting combined climatotherapy (Fig. 2)

DISCUSSION

The patients conducting combined climatotherapy had very good improvement in the quality of life and the patients from the control group had moderate improvement of the quality of life. These results showed that the combined climatotherapy leads to much better improvement of the quality of life compared to the phototherapy.

Similar results were obtained by I. Grozdev et al. in patients with psoriasis conducting thalassotherapy (5). Another research also showed similar results in patients conducting balneotherapy (7, 8).

Several factors are responsible for the improvement of the quality of life in patients with psoriasis placata conducting combined phototherapy:

The clinical improvement is of great importance for the positive impact on the quality of life. The combined climatotherapy treatment leads to more significant reduction or even disappearing of the symptoms like the skin lesions, itching and pain compared to the patients conducting phototherapy.

Conducting combined climatotherapy of patients with similar skin problems helps the fallout of the social barriers related to the stigma of the patient's outlook. They don't feel uncomfortable in the company of other patients with similar appearance and they don't need to choose special clothing to cover the plaques. They discuss without concern their condition with the doctor or the other patients. Therefore we consider those groups to play a role of support groups where the doctor plays moderator.

The combined climatotherapy consists of pleasant procedures which are not uncomfortable for the patients. The sun baths, the different water baths and the application of therapeutic mud bring pleasure to the patients and we can say that we achieve very good compliance.

The relaxation in the beautiful nature is extremely beneficial for the central nervous system. Considering the importance of the stress factor for the appearance and the exacerbation of the disease, we can claim that this non-stress environment has a considerable therapeutic effect.

The patients with psoriasis palmoplantaris have serious disturbances in the quality of life in some cases corresponding to severe forms of psoriasis placata although the affected surface is much smaller (2). The palmoplantar psoriasis affects visible parts of the body and can cause problems with the social contacts when there is a hand-shake or other form of skin contact. There are substantial disturbances in cases of manual labor, especially with frequent use of water and different chemical substances. The application of some topical treatments may also cause discomfort related to the difficulties of using hands immediately after the application.

When the soles are affected this may create disturbances and impossibility to fulfill some

professional and family obligations, mostly due to the pain and the itching in this area. Sports and physical activities also may be seriously impaired.

During the combined climatotherapy disappears the stress resulting from some professional and family failures. Among patients with similar complaints disappears also the fear of rejection. This explains the significant improvement of the quality of life despite the slight clinical improvement.

Studying the comorbidity history of the patients conducting combined climatotherapy, it was established that more than a half of the patients had one or more comorbidities. In about 2/3 of these patients there were one or more diseases assigned to the so called metabolic syndrome (type 2 diabetes, hypertension and hyperlipidemia).

In patients with comorbidities the mean decrease of DQLI is 75,47 %, while in patients without comorbidities it is 75,62%. There is no statistically significant difference in the improvement of the quality of life between the two groups (p = 0,984). (Fig. 3)

We can conclude that the effect of the therapy is not influenced by the presence or the absence of comorbidities. This data also demonstrate that the impaired quality of life is due to the psoriasis and not to the comorbidities as well as that the comorbidities are not related to the improvement of the quality of life of the patients after combined climatotherapy.

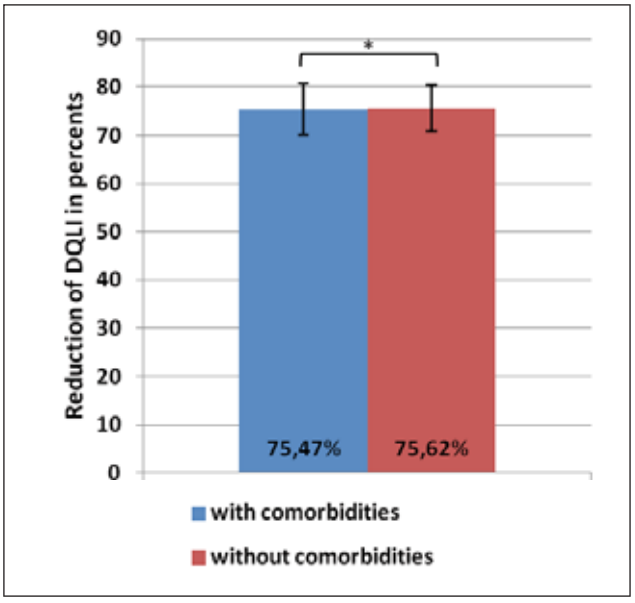

FIGURE 3. *Mean reduction of DQLI in percents in patients with comorbidities and without comorbidities (mean +/- standard error of mean) *(p = 0,984)*

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