

No long-term changes in psoriasis severity and quality of life following climate therapy

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This paper describes disease severity and quality of life of 286 patients who underwent climate therapy. The lowest disease severity and better life quality occurred 2 weeks after therapy. However, by 4 and 8 months after therapy, all measures had returned to approximately the same level as before treatment. (J Am Acad Dermatol 2005;52:699-701.)

Climate therapy is supplemental for patients who require hospitalization and frequent intensive outpatient care, and may also be part of a sequential or tailored regimen in many patients. A PubMed search showed citations on climate therapy dating back to 1968. Beneficial outcomes with regard to objective disease severity related to the treatment are described in the literature,¹ but few studies address patient perception of disease severity, health, and quality of life. A clinically important improvement in quality of life 2 weeks after climate therapy has been demonstrated in a cohort of 559 Norwegian patients with psoriasis.²

The climatic conditions in Norway are not suitable for sunbathing except for some sunny mid-summer days. Climate therapy abroad is, therefore, a common Norwegian treatment for psoriasis. The Norwegian health authority will pay for patients to participate in a 3-week treatment course in climate therapy in the Canary Islands. The treatment is organized in the Section for Treatment Abroad at Rikshospitalet University Hospital. Psoriasis severity assessed by the Psoriasis Area and Severity Index (PASI)³ determines treatment selection. A medical team consisting of a dermatologist, three nurses, and a sport and leisure leader supervise the 3-week treatment period. The 3-week treatment program consists of: (1) sun exposure; (2) sea bathing; (3) psychosocial and physical stimulation in a relaxing atmosphere; and

(4) education with emphasis on improving patients' coping abilities in relation to the disease, its treatment, and its consequences. Climate treatment abroad can occur from September to the middle of December and from middle of January to May or June. Emollient and sunscreen use was permitted, and systemic psoriasis treatment was continued during climate therapy. No restrictions were made for the treatment of psoriasis following climate therapy.

However, to our knowledge, there are no published studies on the long-term effects of climate therapy on quality of life—related issues. Therefore, the aim of the study described in this paper was to evaluate the pattern of change in perceived disease severity, health status, life quality, and self-acceptance of appearance throughout a period of 8 months following climate therapy.

METHODS

The study is based on a random sample of 286 Norwegian patients with psoriasis, of a total of 561, who underwent climate therapy in 2001. Men comprised 65% of the sample and had a mean age of 46 years (SD, 12.6 months; range, 18-83 years). The mean duration of psoriasis was 23 years (SD 12.9) with a range of 0-72 years. Psoriasis arthritis beset 51% of the sample. A majority of patients had experienced climate therapy (70%).

The present study has a one group prospective design with four repeated measures throughout a period of 9 months. Patients answered a questionnaire 1 week before climate therapy, and at 2 weeks, 4 months, and 8 months after climate therapy. Approval for the study was obtained from the Norwegian Social Science Data Service and from the Committee for Medical Research Ethics.

Measures are based on self-reported data. In addition to clinical and demographic information,

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Table I. Patient self-reports before and after climate therapy: Acceptance of appearance, life quality, and psoriasis index*

Self-report scale	Time			
	1 wk before	2 wks after	4 mo after	8 mo after
Acceptance of appearance	3.3 ^a (.94)	4.1 ^b (.79)	3.3 ^a (.96)	3.2 ^a (1.00)
Life quality	3.3 ^a (.94)	4.2 ^c (.79)	3.5 ^b (.91)	3.4 ^{a,b} (.94)
SAPASI	12.3 ^a (6.05)	3.5 ^b (5.00)	9.7 ^c (6.70)	10.9 ^c (7.13)

SAPASI, Self-Assessed Psoriasis Area and Severity Index.

*Estimated marginal means (standard deviations). Means with different superscript letters differ (Bonferroni $\alpha' = .05/6 = .0083$).

Table II. Patient self-reports before and after climate therapy: SF-36 subscales*

Self-report scale	Time			
	1 wk before	2 wks after	4 mo after	8 mo after
Mental health	73.2 ^a (15.80)	81.4 ^b (15.36)	73.3 ^a (16.47)	73.0 ^a (16.83)
Vitality	45.8 ^a (19.87)	64.8 ^c (19.20)	49.6 ^b (21.29)	48.5 ^{a,b} (22.49)
Bodily pain	56.6 ^a (24.42)	72.4 ^b (24.92)	58.5 ^a (25.82)	58.2 ^a (26.68)
General health	52.6 ^a (22.52)	60.5 ^b (21.59)	54.0 ^a (22.06)	54.2 ^a (23.24)
Social functioning	75.0 ^a (23.64)	87.1 ^b (20.07)	76.9 ^a (21.47)	76.4 ^a (23.47)
Physical functioning	77.1 ^a (21.03)	80.9 ^b (21.18)	78.4 ^a (20.58)	77.4 ^a (21.65)
Role physical	54.4 ^a (41.33)	76.5 ^b (36.74)	58.9 ^a (42.15)	55.8 ^a (42.50)
Role emotional	64.1 ^a (41.73)	81.1 ^b (34.59)	65.1 ^a (40.85)	64.8 ^a (42.00)

*Estimated marginal means (standard deviations). Means with different superscripted letters differ (Bonferroni $\alpha' = .05/6 = .0083$).

the following questionnaires were used: (1) The Self-Administered Psoriasis Area and Severity Index (SAPASI)⁴⁻⁶; (2) the Medical Outcome Survey Short Form (SF-36)⁷⁻⁹; (3) a single item on quality of life; and (4) a single item on self-acceptance of appearance.

One-way repeated measures analysis was conducted via linear mixed models (SPSS v 11.5. sub-program mixed; SPSS Inc, Chicago, Ill) to examine the 6 possible pairwise differences among each of the measures obtained at the 4 assessments.¹⁰ An “unstructured” covariance matrix was specified for each analysis. Results are reported for each family of pairwise comparisons using Bonferroni-adjusted alphas-per-comparison ($\alpha' = .05/6 = .0083$; two-tailed).

RESULTS

The results were strikingly similar for each measure. Patients reported greater self-acceptance of appearance 2 weeks after treatment, compared to 1 week prior to treatment. In addition, scores 2 weeks after treatment were better than at 4 and 8 months following treatment. Life quality scores 2 weeks after therapy were higher than those at all of the other times, and scores at 4 months were also marginally higher than those 1 week prior to therapy. All

pairwise contrasts of SAPASI scores differed except those at 4 and 8 months (Table I).

Similar analyses were carried out for the 8 subscales of the SF-36, and the results for all but one SF-36 subscale were identical to those for self-acceptance of appearance. Patients reported greater health on all scales 2 weeks after climate therapy, compared to the week prior to therapy and to their reports at 4 and 8 months after therapy. Scores from 1 week prior to therapy and those at 4 and 8 months after therapy did not differ. Only for SF-36 vitality was any other difference noted: self-reports at 4 months also differed from self-reports 1 week prior to therapy (Table II). An inverse correlation was seen between SAPASI and the subscales of SF-36, self-acceptance of appearance, and life quality.

DISCUSSION

To our knowledge, this is the first study that focuses on psoriasis patients' self-reported disease severity and quality of life in a long-term prospective study of the changes related to climate therapy. Remission time studies in psoriasis following various treatment modalities are difficult to assess because “remission” and “relapse” have never been commonly defined or standardized. Consequently, remission time after climate therapy varies in the literature. Studies have reported that 41% to 45% of psoriasis patients relapse

1 month following climate therapy, and 83% relapse at 6 months.^{11,12} Snellman et al¹ report that psoriasis severity had returned to its original value in 49% of patients 6 months after climate therapy. On the other hand, other authors have reported relapses 5½ months to 7 months after climate therapy at the Dead Sea.¹³⁻¹⁵ In this study, we cannot demonstrate that the beneficial effect on psoriasis morbidity is sustained. The duration of improvement demonstrated in this study also appears to result in shorter remission times than office-based ultraviolet B light therapy.^{16,17}

The present study has some design limitations. The study has no control group. Therefore, it is difficult to draw conclusions on the cause of the improvement in quality of life. The improvement of psoriasis in climate therapy may also be influenced by psychological factors, such as psychic relaxation connected with being far from daily job duties and other commitments, as well as the possible excitement and mental activation from travelling. On the other hand, treatment modalities that predictably and statistically enhance quality of life in psoriasis have previously been considered to be of clinical significance, independent of the duration of the improvement.¹⁸ Another limitation is that the SF-36 is not a disease specific scale and the use of a more sensitive instrument might have revealed some persistent improvement after climate therapy.

In conclusion, we have demonstrated significant, immediate improvement in self-assessed psoriasis severity and quality of life following climate therapy, but not the long-term maintenance of treatment effects.

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