

# Medical Skin Care significantly improves Quality of Life in Subjects with mild Acne Vulgaris

Scherdin U<sup>1</sup>, Treder-Conrad C<sup>1</sup>, Berger B<sup>2</sup>, Micic S<sup>2</sup>, Rippke F<sup>1</sup>  
<sup>1</sup>Beierdorf AG, Hamburg, Germany; <sup>2</sup>Beiersdorf Ges mbH, Vienna, Austria

## Abstract

68 subjects (48 females, 20 males; mean age: 21.5 years) with mild forms of acne vulgaris were enrolled in this open, dermatologically controlled clinical study. For skin cleansing the subjects were supplied with Impure Skin Cleansing Gel and Facial Tonic, for purposes of special face care Impure Skin Cream Gel was used. Efficacy of medical skin care, product tolerability and quality of life, determined by the Acne Disability Index (ADI), were evaluated. According to the physicians' assessment 88.2% of the patients demonstrated normalized or improved skin conditions after the 6 week study period. Tolerability of the products was predominantly assessed to be "very good" or "good" regardless of whether or not concomitant acne medication was used. In cases of mild acne vulgaris the exclusive use of Impure Skin products not only proved to reduce comedones and inflammatory lesions but also significantly increased quality of life. Determination of the ADI demonstrated a 45% increase of the patients' well-being. As a result, patient's satisfaction with the products was extremely high and the further use of the products was recommended by their dermatologist in more than 95% of cases. Our data clearly demonstrate that medical skin care has marked beneficial effects for acne sufferers also in terms of quality of life. We conclude that this Impure Skin product range is a valuable tool in the management of patients with mild acne vulgaris.

## Introduction

Acne vulgaris is one of the most common dermatoses in Western countries. Although most frequently seen in adolescents, acne is not restricted to this period of life (1). In the United States acne affects 8% of all Americans between 25 and 34 years and 3% of those 35 to 44 years of age (2). In Germany approx. 11% of the female population aged 20-29 suffer from acne vulgaris (3). Over the last years the number of affected adults has clearly increased (4).

Topical treatment with benzoyl peroxide, tretinoin and salicylic acid especially in sensitive skin can lead to irritation and dry skin problems (5). This is even more pronounced in elderly subjects since skin ageing is physiologically correlated with a decrease in skin moisture (6). Lactic acid, an alpha-hydroxy acid, is well known for its keratolytic properties and its high water-binding capacity (7). Furthermore, antibacterial properties have been described (8). Therefore, lactic acid seems perfectly suited for therapy related application even in combination with skin irritating sebosuppressive preparations.

It was demonstrated that psychosocial effects of acne are more influenced by the patients' self-perception than by the objective severity of the disease (9, 10). Lasek et al. (11) reported that, regardless of its severity, the impact of acne on quality of life is higher in older patients than in adolescents. Thus, besides assessing objective clinical parameters of improvement, measuring quality of patients' life is of profound importance in assessing the outcomes of acne treatment. We performed a clinical study to evaluate the efficacy of lactic acid preparations in mild forms of acne and its effect on the quality of life of acne sufferers.

## Materials and Methods

### Study objective

Gaining further experience regarding tolerability, efficacy, and effects on quality of life of Eucerin® Impure Skin cleansing and care products (Beiersdorf AG, Hamburg, Germany) in subjects with acne vulgaris and in patients in need of acne medication.

### Subjects

68 patients of all ages (average of 21.5 ± 8.6 years) with mild or treatment requiring acne vulgaris were eligible for analysis.

### Preparations and application

1. Eucerin® Impure Skin Cleansing Gel
2. Eucerin® Impure Skin Facial Tonic
3. Eucerin® Impure Skin Cream Gel

The dermatologists recommended which of the above preparations should be used. Test products were applied onto the face and affected areas of the body. Concomitant pharmacological acne medication was permitted if necessary and documented.

### Evaluation criteria

Efficacy of treatment of the cleansed facial skin was assessed with respect to eight different solicited symptoms (open and closed comedones, papules, pustules, seborrhea, erythema, tension, and itch/burning). The severity of symptoms was evaluated by symptom scores (0 = no lesions/none, 1 = <10 lesions/slight, 2 = 10-15 lesions/moderate, and 3 = >15 lesions/severe). Skin compatibility of the products was assessed according to a 4 point scale (very good, good, moderate, poor). All parameters were taken at baseline, after 2 and after 6 weeks of treatment. The assessment of disability due to acne was measured by a standardized patients' questionnaire (Acne Disability Index (ADI), Table 1). The response to each question was scored from 0 to 3 and the ADI (min. 0, max. 15) was calculated at baseline and after 6 weeks of treatment. At the end of the study selected product characteristics were assessed with the help of a standardized patient questionnaire.

1. As a result of having acne, during the last month have you been aggressive, frustrated or embarrassed? a) very much indeed b) a lot c) a little d) not at all
2. Do you think that having acne during the last month interfered with your daily social life, social events or relationships with members of the opposite sex? a) severely, affecting all activities b) moderately, in most activities c) occasionally or in only some activities d) not at all
3. During the last month have you avoided public changing facilities or wearing swimming suits because of acne? a) all of the time b) most of the time c) occasionally d) not at all
4. How would you describe your feeling about the appearance of your skin over the last month? a) very depressed and miserable b) usually concerned c) occasionally concerned d) not bothered
5. Please indicate how bad you think your acne is now: a) the worst it could possibly be b) a major problem c) a minor problem d) not a problem

Table 1: The Acne Disability Questionnaire according to Motley and Finley [12]

## Results

### Assessment at baseline

The study population was predominantly female (70.6%). 58.8% of the subjects were younger than 21 years; 26.5% were between 21 and 30 years of age. 34 patients received pharmacological acne medication at baseline; benzoyl peroxide (in 14.7% of the cases), erythromycin (13.2%), minocyclin (13.2%) and adapalene (8.8%) were the drugs used most frequently. Due to the severity of the disease 44.1% of the patients had to use acne medication continuously during the study period.

### Efficacy of products

Acne-related symptoms markedly decreased during the study period (Fig. 1). These changes were highly significant for all symptoms (p<0.0001; two-sided t-test) except for itch/burning. After 6 weeks of treatment 83.4% of patients using Eucerin® Impure Skin in addition to pharmacological medication presented with normalized or improved skin conditions (Fig. 2). Improvement of the skin conditions observed in patients using the skin care regimen only were also convincing (92.1%).

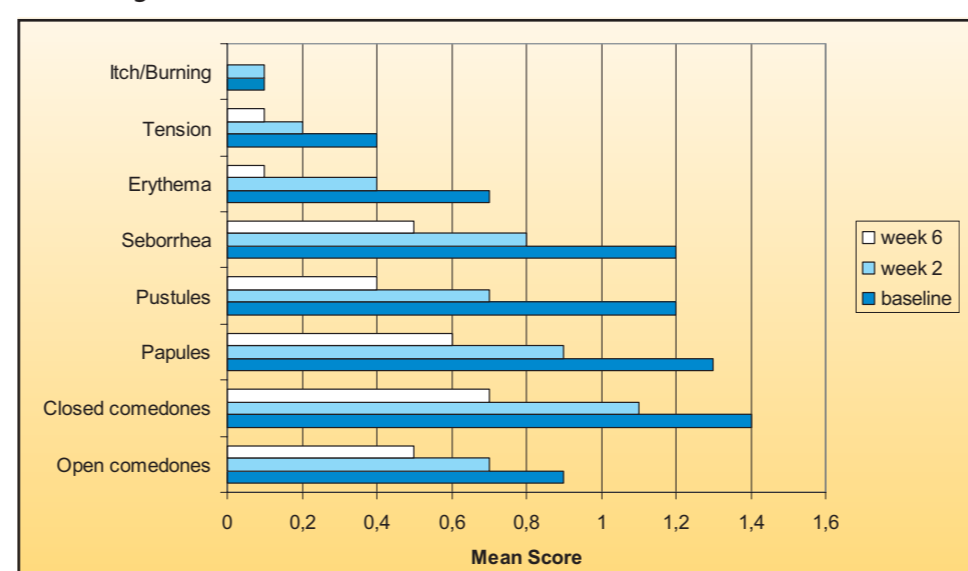


Figure 1: Improvement of acne symptoms (physicians' assessment)

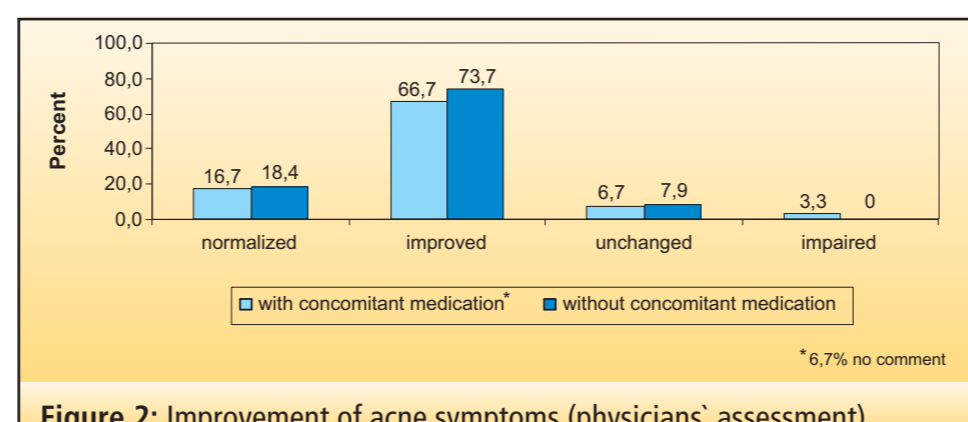


Figure 2: Improvement of acne symptoms (physicians' assessment)

### Skin compatibility

Skin tolerability of Eucerin® Impure Skin products was predominantly rated to be "good" or better, irrespective of whether concomitant acne medication was used or not (Tab. 2). Only 10.3% of patients, reported some kind of slight side effects; mainly burning and tension were reported. 2 patients - both receiving concomitant acne medication - discontinued the study prematurely; one missed the final examination due to being on vacation, a second patient terminated the study after the second visit due to exacerbations with confluencing pustules which could not be controlled despite high dosed antibiotics.

Evaluation by	without acne medication %		with acne medication %	
	physician	patient	physician	patient
<b>Cleansing Gel</b>				
very good	80,0	85,7	76,9	65,4
good	20,0	14,3	23,1	34,6
moderate	0	0	0	0
<b>Facial Tonic</b>				
very good	82,9	88,6	62,5	66,7
good	14,3	8,6	33,3	20,8
moderate	2,9	2,9	4,2	12,5
<b>Cream Gel</b>				
very good	81,1	81,1	60,9	56,5
good	18,9	18,9	39,1	30,4
moderate	0	0	0	8,7

Table 2: Assessment of skin compatibility after 6 weeks

Recommendation	Sex					
	male		female		total	
	N	%	N	%	N	%
yes	20	100	45	93,8	65	95,6
no	0	0	1	2,1	1	1,5
missing	0	0	2	4,2	2	2,9
total	20	100,0	48	100,0	68	100,0

Wish of further use	Product					
	Cleansing Gel		Facial Tonic		Cream Gel	
	N	%	N	%	N	%
yes	62	95,4	56	88,9	53	84,1
no	1	1,5	2	3,2	8	12,7
missing	2	3,1	5	7,9	2	3,2
total	65	100,0	63	100,0	63	100,0

Table 3: Intention of recommendation by physicians (A) and further use by patients (B)

### Quality of Life

Life quality clearly improved during the study period. At baseline the Acne Disability Index (ADI) was 3.8 for patients applying medical skin care products only and 6.0 for patients receiving pharmaceutical acne medication. Reduction of the Acne Disability Index was 45% in subjects without drug treatment and 17% in patients receiving concomitant acne medication (relative change, Fig. 3). These results were reflected by differences in relative improvement rates which were approx. twice as high for patients without acne medication (Fig. 4).

### Overall assessment

Patients' satisfaction with the performance of the products was very high. Most of the patients were in favour of using these products after finishing the study. In 95.6% of all cases the dermatologists decided to recommend the products.

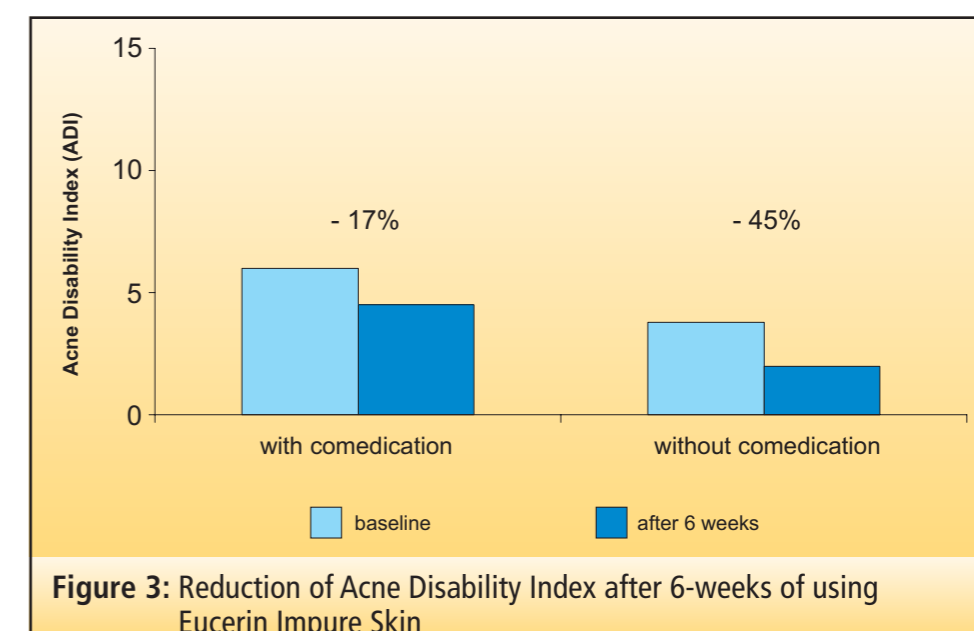


Figure 3: Reduction of Acne Disability Index after 6-weeks of using Eucerin Impure Skin

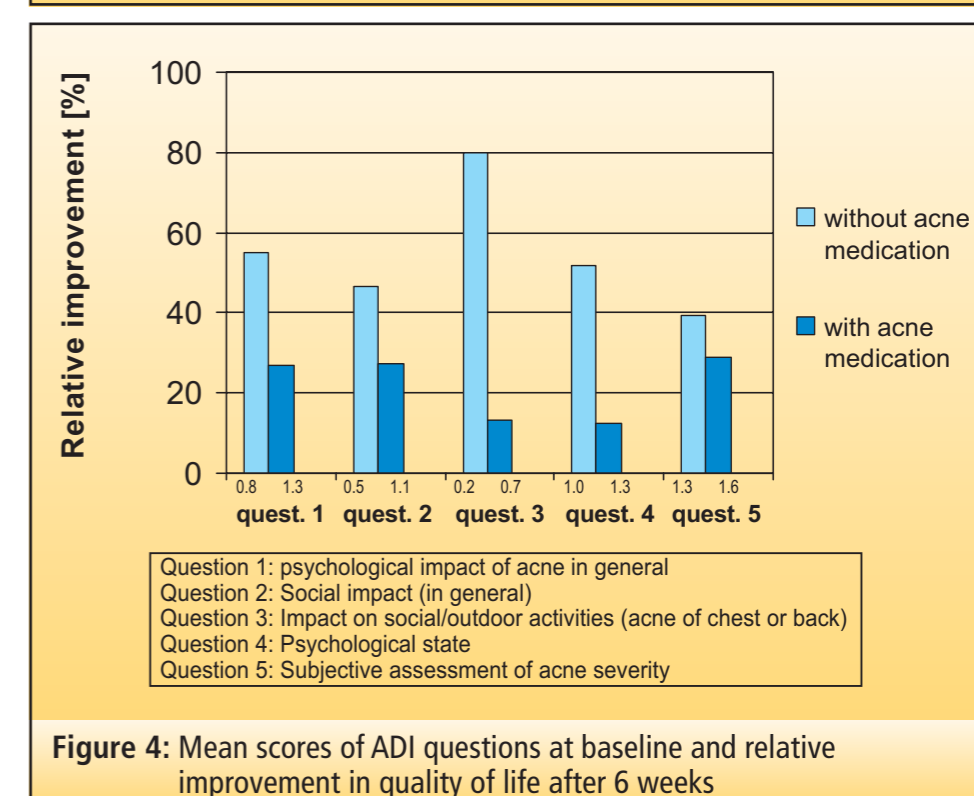


Figure 4: Mean scores of ADI questions at baseline and relative improvement in quality of life after 6 weeks

## Discussion and Conclusion

Acne vulgaris has a considerable impact on the quality of life of patients regardless of its severity (12, 13, 14). However, although this disease has a profound effect on patient's emotional well-being, non-compliance with acne treatment is quite frequent (15). It has been found that besides the physicians' interpersonal skills (16) appropriate skin care may enhance patients compliance (17, 18). We published recently that treatment of patients suffering from mild acne with medical skin care products (Eucerin® Impure Skin) resulted in a profound reduction of the Acne Disability Index (12) which correlates with an increase in life quality (19). These results were substantiated by the current investigation as a significant improvement in quality of life of acne sufferers was demonstrated by using Eucerin® Impure Skin products. Gain in quality of life also correlated with a marked improvement of the clinical acne skin status. The products proved to be highly effective in subjects with mild acne vulgaris even without pharmaceutical acne medication. 92.1% of the patients presented with a normalized or improved skin condition after using the products for 6 weeks. This observation underlines the importance of not only treating acne patients effectively with drugs but also taking into account their emotional needs of using appropriate and effective skin care products.

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