



# International Journal of Health Sciences (Egypt)

Journal homepage: <https://ijhegy.journals.ekb.eg/>

## Original article

# Evaluating the Effectiveness, Patient Satisfaction, and Cosmetic Effects of a Multipurpose Healing Cream Powered by Microbiome Effect in Individuals with Inflammatory Skin Conditions

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## ARTICLE INFO

### Article history:

Received 24 December 2024

Received in revised form 5 January 2025

Accepted January 2025

### Keywords:

Dermocosmetic  
multipurpose healing cream  
inflammatory skin conditions  
skin microbiome  
thermal spring water.

## ABSTRACT

**Background:** The skin microbiome protects against pathogens and supports immunity. Dysbiosis can cause skin conditions; La Roche-Posay Thermal Spring Water, rich in prebiotics, help restore balance and reduce inflammation. This study evaluated the effectiveness, patient satisfaction, and cosmetic effects of a multipurpose healing cream with microbiome effect in inflammatory skin conditions. **Methods:** We conducted an observational survey of 212 Egyptian patients using dermocosmetic (DC) multipurpose healing cream as part of their standard care. Assessments occurred at initial and follow-up visits from 2-4 weeks. Data on clinical signs, symptoms, effectiveness, cosmetic features, and satisfaction were collected via expert-validated surveys. Statistical analysis was conducted using SPSS version 27. We performed descriptive and comparative analyses using different tests depending on the variable characteristics. **Results:** Participants (median age 28; 84.9% female) primarily had skin phototypes II to VI, with phototype III being most common (48.6%). Lesions were mostly 3-10 cm (46.2%) or larger than 10 cm (40.6%), primarily on the face (55.7%). Significant improvement was noted in erythema, desquamation, pigmentation, cracks, and edema (P-value = 0.0001). Symptoms like tightness, pain, burning, and tingling significantly improved. Additionally, 97.6% of patients reported satisfaction with the cream's soothing effects, and it was favorably rated for texture, application ease, and suitability across skin types. **Conclusions:** The DC multipurpose healing cream significantly improves clinical presentation, and cosmetic satisfaction in individuals with various skin conditions. Further research is recommended to validate these results and explore the effectiveness in combination with other treatments.

## Introduction

The skin contains a complex microbiome of diverse organisms, which enhances immunity and protects against pathogens.[1–3] Dysbiosis, or imbalance in this microbiota, can lead to various skin and systemic diseases.[2] La Roche-Posay Thermal Spring Water (TSW) sourced from rainwater filtered through selenium-rich rocks, is known for its anti-inflammatory and soothing properties. It is rich in prebiotics, helping to restore the skin microbiome. It can be used in skincare products within seven days of extraction.[4] Among these products the DC multipurpose healing cream, developed by La Roche-Posay, France (Cicaplast Baume B5+), a moisturizer containing 5% panthenol, madecassoside, and a copper-zinc-manganese complex, acclaimed for its effectiveness in soothing skin irritations across various areas with minimal side effects.[5] This formulation effectively addresses dermatological conditions like atopic dermatitis and xerosis, harnessing ingredients essential for inflammation reduction, skin barrier improvement, and wound healing.[6,7] In this study, we evaluated the therapeutic benefit, patient satisfaction and effect on quality of life of the DC multipurpose healing cream.

## Study design and duration

The study is a prospective survey evaluating the effectiveness and safety of using Cicaplast Baume B5+DC multipurpose healing cream for treating patients with irritative and inflammatory skin conditions. The B5+DC cream was not prescribed as part of the study; rather, its use was pre-existing among participants. Dermatologists assessed patients at two different times: initially during their first visit to a healthcare facility and then at a follow-up appointment either two weeks or one month after starting treatment, over a 100-day data collection period.

## Eligibility criteria

Eligible patients included adults and children of both sexes who were already using the B5+DC multipurpose healing cream as part of their standard care. The study did not involve prescribing the product but rather evaluated its use in patients who had previously incorporated it into their treatment regimen. Inclusion criteria encompassed patients requiring reparative skin care for superficial wounds, treatment for irritative dermatitis not requiring additional local medication, use of the product as an adjuvant to actinic keratosis topical

treatment, or post-procedure care. Eligible patients also had lesions that did not require other local medications, except for hygiene products or sun protection or needing a follow-up visit within two weeks to one month. They had received prior medical advice to use the B5+DC multipurpose healing cream. These lesions required follow-up within two weeks to one month.

Exclusion criteria involved patients whose lesions showed signs and symptoms of infection or required any other topical medication dedicated to lesion care. These patients were excluded from the study to ensure the accuracy and reliability of the results pertaining to the effectiveness and safety of the B5+DC multipurpose healing cream.

## Study procedure and data collection

Data were meticulously recorded for each eligible patient at two measurement points. Quality control measures ensured data integrity and adherence to ethical guidelines. Comprehensive documentation provided reproducibility and transparency.

During the initial assessment at healthcare facilities, patients' history taking was compiled, including key demographic information such as age and sex. Details regarding the lesion, including phototype, size, and location, were documented. The indication for using B5+DC multipurpose healing cream was noted based on pre-existing usage, and supplementary measures such as sun protection and hygiene practices were recorded. Recommendations for product application frequency and duration were noted, and actual adherence to these regimens was recorded. The physician thoroughly evaluated clinical signs, including erythema, desquamation, pigmentation, and cracks. Simultaneously, subjective symptoms such as pain, burning sensation, tightness, and tingling were assessed through patient feedback. Additionally, surveys were administered to gauge patient satisfaction with the product's effectiveness and tolerability, focusing on their experience with the cream as part of their ongoing care.

## Questionnaire Validity

The satisfaction survey methodology was rigorously validated by a panel of dermatologists. A carefully selected group of dermatology professionals, who were experts in their field, was enlisted to ensure the surveys accurately assessed the product's effectiveness. Concurrently, a

cosmetic survey was also validated by experts in the cosmetic field. These experts were provided with the survey questions, response options, and supporting materials. They were asked to individually review the surveys for clarity, relevance, and comprehensiveness in assessing product effectiveness, soothing ability, and overall satisfaction within their respective specialties. The feedback received from both dermatologists and cosmetic experts was systematically analyzed and used to make necessary revisions to the surveys. The revised surveys were then presented for final review to ensure that the perspectives of both dermatologists and cosmetic experts were adequately represented and that the surveys demonstrated face validity. Detailed documentation of the feedback received, revisions made, and final approval was maintained to ensure transparency and accountability throughout the process. Once validated through these processes, the surveys could be implemented confidently for data collection from the target audience.

### Statistical analysis

The Statistical Package for the Social Sciences (SPSS) version 27 software for Windows was used for analysis, and a p-value of less than 0.05 was considered statistically significant. To provide a comprehensive overview, descriptive analyses were employed. Categorical variables were summarized using counts and percentages, while continuous variables were described using measures such as median and range. For comparative analysis before and after the intervention, the Chi-square test, Fisher's exact test, McNemar-Bowker's test, and Stuart-Maxwell's test were used based on their suitability for the selected variables. McNemar's test was applied to standard square grid variables, while Stuart-Maxwell's test was used for non-square variables.

## Results

### Demographics and Baseline Characteristics

The sample includes 212 patients with a median age of 28 years, ranging from 1 to 72 years, with 84.9% being female. Nearly half of the patients prescribed B5+DC multipurpose healing cream, 104 (49.1%), had superficial wounds, irritative dermatitis, or were using it as an adjunct to Actinic Keratosis medication. The prescribed usage frequency varied from once daily to as needed, with the most common frequencies being three times per day for 42% (89 patients) and twice per day for 41% (87 patients). The duration of use ranged from one

week to over two weeks or until recovery, with two weeks being the most commonly prescribed duration for 37.3% (79 patients). Sunscreen and sun avoidance were recommended for 67% (142 patients) and 67.5% (143 patients) of patients, respectively, while covering with clothes was advised for 32.5% (69 patients). Additionally, 57.1% (121 patients) were advised to modify their hygiene practices, Table 1.

The patients' lesions ranged from phototype II to phototype VI, with phototype III being the most prevalent at 48.6% (103 patients), followed by phototype IV at 26.9% (57 patients). There were no patients with phototype I. The most common lesion size was 3-10 cm, observed in 46.2% (98 patients), while lesions larger than 10 cm were found in 40.6% (86 patients). Lesions were primarily located on the face in 55.7% (118 patients) of the cases. In comparison, other locations each accounted for less than 10% of the sample, except for limbs, which accounted for 16.5% (35 patients), Figure 1.

### Clinical signs evaluated by physicians and patients

From Visit 1 to Visit 2, there were significant improvements in clinical signs as evaluated by physicians and patients. Notably, 137 patients (64.6%) exhibited no signs of erythema by Visit 2, a substantial increase from 20 patients (9.4%) at Visit 1 ( $p = 0.0001$ ). Desquamation also decreased markedly, with 162 patients (76.4%) showing no signs by Visit 2, compared to 18 (38.2%) at Visit 1 ( $p = 0.0001$ ). Improvements in pigmentation were observed as well, with the number of patients without pigmentation rising from 84 (39.6%) at Visit 1 to 122 (57.5%) at Visit 2 ( $p = 0.0001$ ). The most significant improvement was seen in the reduction of cracks, with 180 patients (84.9%) having no cracks by Visit 2, up from 107 (50.5%) at Visit 1 ( $p = 0.0001$ ). Additionally, oedema was significantly reduced, with 191 patients (90.1%) showing no signs by Visit 2, an increase from 87 patients (41%) at Visit 1 ( $p = 0.0001$ ).

From the patient's perspective, there were also significant improvements in symptoms. Tightness decreased substantially, with 173 patients (81.6%) reporting no tightness at Visit 2 compared to 60 patients (28.3%) at Visit 1 ( $p = 0.0001$ ). Pain was significantly alleviated, with 181 patients (85.4%) experiencing no pain by Visit 2 compared to 28 patients (13.2%) at Visit 1 ( $p = 0.0001$ ). The burning sensation was reduced, with 172 patients

(81.1%) reporting no burning by Visit 2, up from 18 patients (8.5%) at Visit 1 ( $p = 0.0001$ ). Lastly, the tingling sensation improved, with 186 patients (87.7%) experiencing no tingling by Visit 2 compared to 85 patients (40.1%) at Visit 1 ( $p = 0.0001$ ). These results underscore the significant positive impact of the product on both clinical signs and patient-reported symptoms, Table 2.

#### Satisfaction survey

The B5+DC multipurpose healing cream received highly positive evaluations from respondents. Most patients were very satisfied or satisfied with its soothing effects (143 patients, 68.4%, and 61 patients, 29.2%, respectively), immediate calming effect (120 patients, 57.4%, and 88 patients, 42.1%), and speed of action to normalize skin (109 patients, 52.2%, and 89 patients, 42.6%). The overall comfort of use was highly rated, with 121 patients (57.9%) very satisfied and 84 patients (40.2%) satisfied. The product met the needs of 123 patients (59.4%) who totally agreed and 73 patients (35.3%) who agreed. Overall satisfaction was high, with 121 patients (57.9%) very satisfied, and 81 patients (38.8%) satisfied. Compared to previous wound healing experiences, 113 patients (54.1%) felt much better, and 62 patients (29.7%) felt better, Table 3.

#### Cosmetic survey

Regarding effectiveness, the B5+DC multipurpose healing cream received highly positive evaluations. Among the respondents, 87.9% (181 patients) agreed that it soothed their skin, 77.2% (159 patients) agreed their skin looked reinforced, 76.6% (37 patients) agreed it attenuated irritation, and 80.6% (166 patients) agreed it effectively moisturized their skin. Additionally, 75.2% (155 patients) agreed it improved overall skin appearance, 76.7% (158 patients) agreed it reduced redness, 65% (134 patients) agreed their skin felt more elastic, and 74.1% (152 patients) agreed it resulted in less irritation. All effectiveness items had  $p$ -values of 0.0001, indicating statistically significant results.

Regarding cosmetic attributes, the B5+DC multipurpose healing cream was highly rated for its pleasant texture; 149 patients (73.4%) agreed, 51 (25.1%) somewhat agreed, ease of application agreed by 171 patients (84.2%), and 156 agreed for its suitability for various skin types (76.8%). Furthermore, 136 respondents (67%) found the product lightweight, and 167 respondents (82.3%) found it gentle on the skin. Additionally, 134 respondents (66%) agreed that it was quickly absorbed. These positive responses, all with  $p$ -values of 0.0001, are summarized in Table 4.

**Table 1.** Demographic and baseline characteristics.

N = 212	Count	%
Age, years (Median, [Min – Max])	28, [ 1 – 71]	
Gender (Female)	180	84.9
<b>Indications for DC multipurpose healing cream</b>		
i. Superficial wounds, irritative dermatitis, and adjunct to Actinic Keratosis medication	104	49.1
ii. Non-Invasive / Without dermabrasion	55	25.9
iii. Invasive / With dermabrasion (Q switched lasers, ablative CO2 laser, electrocoagulation, curettage, microneedling)	43	20.3
iv. Others	8	3.8
<b>Frequency of use</b>		
Once per day	5	2.4
Twice per day	87	41.0
Three times per day	89	42.0
More	29	13.7
Ad libitum	1	0.5
<b>Duration of use</b>		
One week	32	15.0

Two weeks	79	37.3
>2 weeks	25	11.8
Until recovery	75	35.4
<b>Sunscreen recommended (yes)</b>	142	67.0
<b>Sun avoidance (yes)</b>	143	67.5
<b>Coverage with clothes recommended (yes)</b>	69	32.5
<b>Change in hygiene measures recommended (yes)</b>	121	57.1

**Table 2.** Clinical signs evaluated by physicians and patients before and after DC multipurpose healing cream application.

	Signs		Absent	Light	Moderate	Severe	P-Value
Physicians' evaluation	Erythema	Visit 1	20 (9.4%)	34 (16.5%)	96 (45.3%)	59 (27.8%)	.0001 <sup>a</sup>
		Visit 2	137 (64.6%)	48 (22.6%)	18 (8.5%)	7 (3.3%)	
	Desquamation	Visit 1	81 (38.2%)	35 (16.5%)	61 (28.8%)	33 (15.6%)	.0001 <sup>a</sup>
		Visit 2	162 (76.4%)	38 (17.1%)	9 (4.2%)	1 (0.5%)	
	Pigmentation	Visit 1	84 (39.6%)	33 (15.6%)	69 (32.5%)	24 (11.3%)	.0001 <sup>a</sup>
		Visit 2	122 (57.5%)	64 (30.2%)	23 (10.8%)	1 (0.5%)	
	Cracks	Visit 1	107 (50.5%)	35 (16.5%)	45 (21.2%)	23 (10.8%)	.0001 <sup>a</sup>
		Visit 2	180 (84.9%)	21 (9.9%)	8 (3.8%)	1 (0.5%)	
	Oedema	Visit 1	87 (41%)	50 (23.6%)	48 (22.6%)	25 (11.8%)	.0001 <sup>b</sup>
		Visit 2	191 (90.1%)	12 (5.7%)	7 (3.3%)	0 (0%)	
Patient's perspective	Tightness	Visit 1	60 (28.3%)	36 (17%)	86 (40.6)	29 (13.7%)	.0001 <sup>a</sup>
		Visit 2	173 (81.6%)	31 (14.6%)	6 (2.8%)	0 (0%)	
	Pain	Visit 1	28 (13.2%)	49 (23.1%)	94 (44.3%)	40 (18.9%)	.0001 <sup>a</sup>
		Visit 2	181 (85.4%)	21 (9.9%)	8 (3.8%)	0 (0%)	
	Burning Sensation	Visit 1	18 (8.5%)	34 (16%)	106 (50%)	53 (25%)	.0001 <sup>b</sup>
		Visit 2	172 (81.1%)	23 (10.8%)	6 (2.8%)	9 (4.2%)	
	Tingling	Visit 1	85 (40.1%)	40 (18.9%)	65 (30.7%)	21 (9.9%)	.0001 <sup>b</sup>
		Visit 2	186 (87.7%)	20 (9.4%)	3 (1.4%)	1 (0.5%)	
<sup>a</sup> p-value from significance testing using Stuart-Maxwell's test							
<sup>b</sup> p-value from significance testing using McNemar-Bowker's test							

**Table 3.** Patient satisfaction survey for applying DC multipurpose healing cream usage.

Item		Number of patients (%)	
1) What is your opinion on the interest of the product on soothing?			
	Very Unsatisfied	4 (1.9%)	
	Unsatisfied	1 (0.5%)	
	Satisfied	61 (29.2%)	
	Very satisfied	143 (68.4%)	
2) How can you evaluate the immediate calming effect?			
	Very Unsatisfied	0 (0%)	
	Unsatisfied	1 (0.5%)	
	Satisfied	88 (42.1%)	
	Very satisfied	120 (57.4%)	
3) How can you evaluate the speed of action to obtain normal skin?			
	Very Unsatisfied	1 (0.5%)	
	Unsatisfied	10 (4.8%)	
	Satisfied	89 (42.6%)	

	Very satisfied	109 (52.2%)	
<b>4) What is the overall comfort of use?</b>			
	Very Unsatisfied	0 (0%)	
	Unsatisfied	4 (1.9%)	
	Satisfied	84 (40.2%)	
	Very satisfied	121 (57.9%)	
<b>5) The product meets my needs</b>			
	Disagree	0 (0%)	
	Quite agree	11 (5.3%)	
	Agree	73 (35.3%)	
	Totally agree	123 (59.4%)	
<b>6) Overall, in your opinion, this product is</b>			
	Not satisfactory at all	0 (0%)	
	Not very satisfactory	7 (3.3%)	
	Satisfactory	81 (38.8%)	
	Very satisfactory	121 (57.9%)	
<b>7) Compared to previous wound-healing skin, how is your satisfaction?</b>			
	Worst	2 (1%)	
	Same	9 (4.3%)	
	Better	62 (29.7%)	
	Much better	113 (54.1%)	
	I've never had a procedure before	23 (11%)	

**Table 4.** Cosmetic questionnaire results of patients' perspectives for DC multipurpose healing cream

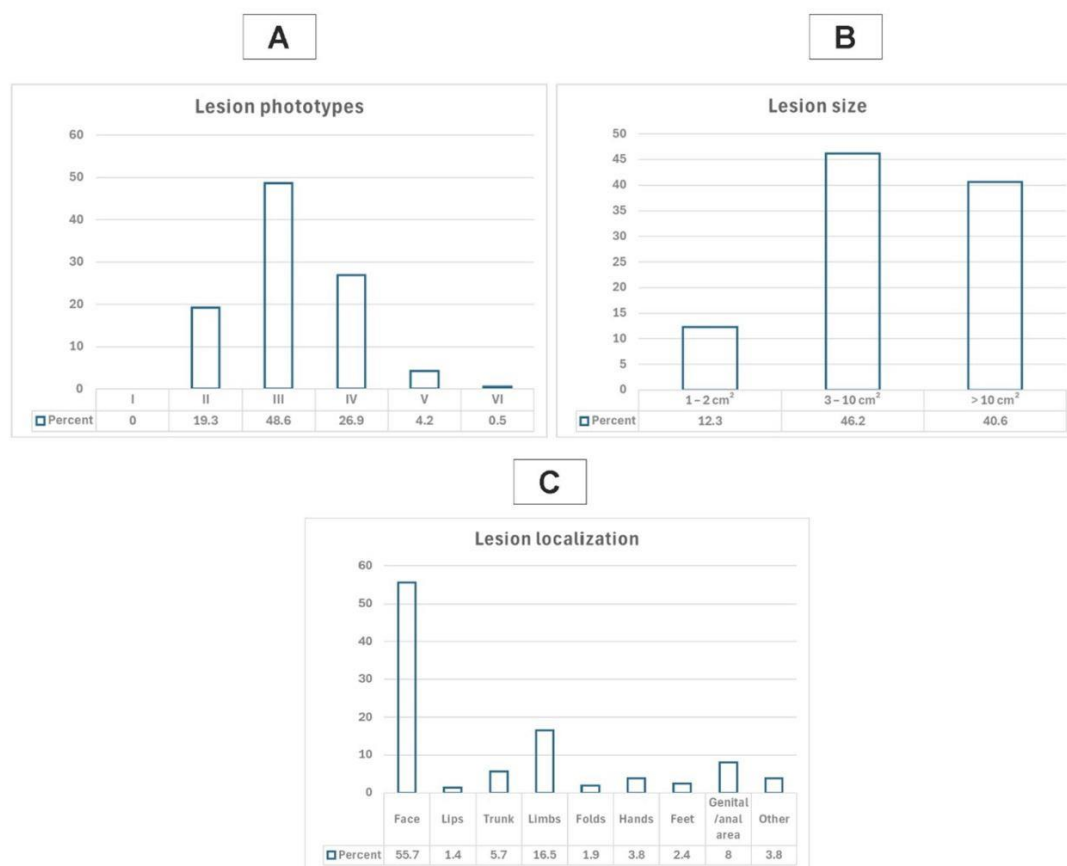
usage.

	Disagree	Somewhat disagree	Neither agree/ neither disagree	Somewhat agree	Agree	P-value
<b>Effectiveness Items</b>						
<b>1) Skin feels soothed</b>	0 (0%)	0 (0%)	0 (0%)	25 (12.1%)	181 (87.9%)	0.0001
<b>2) Skin looks reinforced</b>	0 (0%)	3 (1.5%)	5 (2.4%)	39 (18.9%)	159 (77.2%)	0.0001
<b>3) Irritation looks attenuated</b>	3 (1.5%)	3 (1.5%)	5 (2.4%)	37 (18%)	157 (76.6%)	0.0001
<b>4) Skin seems moisturized</b>	0 (0%)	1 (0.5%)	5 (2.4%)	34 (16.5%)	166 (80.6%)	0.0001
<b>5) Skin looks repaired/restored</b>	1 (0.5%)	1 (0.5%)	4 (1.9%)	36 (17.5%)	164 (79.6%)	0.0001
<b>6) Overall skin appearance looks improved</b>	0 (0%)	3 (1.5%)	2 (1%)	46 (22.3%)	155 (75.2%)	0.0001
<b>7) Redness seems reduced</b>	0 (0%)	1 (0.5%)	6 (2.9%)	41 (19.9%)	158 (76.7%)	0.0001
<b>8) Skin feels more elastic/supple</b>	0 (0%)	1 (0.5%)	15 (7.3%)	56 (27.2%)	134 (65%)	0.0001
<b>9) Skin feels less irritated</b>	3 (1.5%)	2 (1%)	4 (2%)	44 (21.5%)	152 (74.1%)	0.0001
<b>10) Heat sensation feels attenuated</b>	3 (1.5%)	1 (0.5%)	15 (7.3%)	44 (21.5%)	142 (69.3%)	0.0001
<b>11) Skin feels light</b>	3 (1.5%)	0 (0%)	13 (6.3%)	60 (29.3%)	129 (62.9%)	0.0001
<b>12) Skin feels less of a tingling sensation</b>	3 (1.5%)	2 (1%)	17 (8.3%)	40 (18.9%)	143 (69.8%)	0.0001
<b>13) Skin feels protected from external aggression (cold, wind, pollution, etc.)</b>	1 (0.5%)	2 (1%)	39 (19%)	42 (20.5%)	121 (59%)	0.0001
<b>14) Discomfort sensation seems reduced</b>	2 (1%)	2 (1%)	5 (2.4%)	39 (19%)	157 (76.6%)	0.0001

15) The dry areas appear less rough	0 (0%)	2 (1%)	3 (1.5%)	46 (22.4%)	154 (75.1%)	0.0001
16) Skin looks healthier	2 (1%)	2 (1%)	10 (4.9%)	34 (16.6%)	157 (76.6%)	0.0001
<b>Cosmetic items</b>						
17) The product has a pleasant texture	0 (0%)	0 (0%)	3 (1.5%)	51 (25.1%)	149 (73.4%)	0.0001
18) The product is suitable for my skin type	2 (1%)	1 (0.5%)	5 (2.5%)	39 (19.2%)	156 (76.8%)	0.0001
19) The product is easy to apply	0 (0%)	0 (0%)	1 (0.5%)	31 (15.3%)	171 (84.2%)	0.0001
20) The product is lightweight on my skin	5 (2.5%)	4 (2%)	4 (2%)	54 (26.6%)	136 (67%)	0.0001
21) The product is gentle on the skin	0 (0%)	1 (0.5%)	1 (0.5%)	34 (16.7%)	167 (82.3%)	0.0001
22) The product is quickly absorbed	6 (3%)	5 (2.5%)	6 (3%)	52 (25.6%)	134 (66%)	0.0001
<b>Significance testing using single sample chi-square test or Fischer's Exact Test</b>						

### FIGURES

**Figure 1.** Baseline characteristics of the treated lesion. The figure shows the distribution of patients' lesions according to (a) phototype, (b) size, and (c) site.



### Discussion

The DC multipurpose healing cream Cicaplast Baume B5+ multipurpose healing cream

from La Roche-Posay contains TSW sourced from rainwater filtered through selenium-rich rocks, renowned for its anti-inflammatory, probiotic,

healing, and soothing properties.[8] This moisturizer, which includes 5% panthenol, madecassoside, and a copper-zinc-manganese complex, effectively soothes skin irritations and addresses conditions like atopic dermatitis and xerosis by reducing inflammation, enhancing the skin barrier, and promoting wound healing.[6,7] La Roche-Posay's TSW has benefits for psoriasis due to its keratolytic, anti-inflammatory, and antiseptic effects, which provide significant relief for inflammatory disorders.[9]

This study provides significant insights into the effectiveness, patient satisfaction, and cosmetic outcomes of B5+DC multipurpose healing cream for individuals with inflammatory skin conditions. Notable improvements were observed in both clinical signs and patient-reported symptoms, indicating the product's effectiveness in alleviating skin irritations and discomfort. Physicians noted substantial reductions in erythema, desquamation, pigmentation, cracks, and edema, while patients reported decreased tightness, pain, burning sensations, and tingling. The dual perspective approach of evaluating both clinical and patient-reported outcomes enhances the comprehensiveness of these findings, highlighting the multifaceted benefits of B5+DC multipurpose healing cream in addressing the complex nature of inflammatory skin conditions.

Comparing these findings with existing research, similar studies evaluating the effectiveness of skincare products containing thermal water have reported consistently positive outcomes. For instance, a review found that patients with chronic inflammatory skin disorders using a similar product experienced significant improvement in both clinical signs and patient-reported symptoms, mirroring our results.[10] These consistent findings across different studies underscore the robust therapeutic effects of La Roche-Posay thermal water skincare products in managing inflammatory skin conditions.[11]

Furthermore, patient satisfaction is crucial in dermatological care, as highlighted in this study. A satisfaction rate of 96.7% was reported, with over half noting improvements in wound healing. This aligns with a recent study of dermatology clinics in Saudi Arabia, which found an 85.03% satisfaction rate with overall treatments. In the Saudi study, females reported higher satisfaction levels with visits, examinations, and services than males, which may explain the high satisfaction rate in our study, as most participants were female. The effectiveness of wound healing was also a contributing factor.[12]

Regarding cosmetic features, respondents acknowledged the B5+DC multipurpose healing cream's effectiveness in soothing their skin, enhancing its appearance, reducing irritation, and providing effective moisturization. The product was also highly rated for its pleasant texture, ease of application, and suitability for various skin types. These positive findings align with the effectiveness outcomes, indicating that B5+DC multipurpose healing cream improves clinical symptoms and enhances the overall cosmetic appearance and user experience. Similar studies have emphasized the importance of patient-centered outcomes in evaluating the effectiveness of skincare interventions, underscoring the need to prioritize patient satisfaction alongside clinical efficacy.[13–15]

### **Study Strength Points and Limitations**

One of the key strengths of this study is the robust data collection and analysis methodology. The use of validated satisfaction and cosmetic surveys, developed with input from dermatology and cosmetic experts, ensures that the assessment tools are both reliable and relevant. The diverse sample, encompassing a wide range of ages and phototypes, further enhances the generalizability of the study. However, despite the promising results, this study has several limitations that warrant consideration. The short follow-up period may not adequately capture long-term outcomes or potential recurrences of symptoms, limiting the understanding of the product's sustained effectiveness. The lack of a control group makes it challenging to attribute improvements solely to B5+DC multipurpose healing cream, as placebo effects or other external factors might have influenced the results. Future research should address these limitations by conducting randomized controlled trials with longer follow-up periods and including control groups to provide more robust evidence of the product's effectiveness and safety.

### **Conclusion**

This study underscores the therapeutic benefits of B5+DC multipurpose healing cream in managing various irritative and inflammatory skin conditions. Further research is essential to fully establish its clinical benefits and address existing limitations. Building on these findings and exploring the underlying mechanisms of action can contribute to optimizing treatment protocols and improving patient outcomes in dermatological care.

### **Funding:**

No funding was received for conducting this study.



**Competing Interests:**

The authors have no relevant financial or non-financial interests to disclose

**Keywords:**

inflammatory skin conditions; skin microbiome; thermal spring water; patient satisfaction; multipurpose healing cream; Cicaplast Baume B5+

**Acknowledgments:**

The authors are grateful to *Anchor for Clinical Research Solutions* for providing statistical analysis and manuscript writing assistance during the preparation of this article.

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