

Original Research Article

Evaluation of efficacy and in-use tolerability of a non-foaming cleanser (Venusia® cleanser) in adult men and women

Monil Gala*, Sheldon A. Creado, Snehal S. Muchhala, Gauri D. Dhanaki,
Arti P. Sanghavi, Bhavesh Kotak

Department of Medical Affairs, Dr. Reddy's Laboratories Ltd., Hyderabad, Telangana, India

Received: 25 April 2026

Revised: 02 June 2026

Accepted: 01 July 2026

*Correspondence:

Dr. Monil Gala,

E-mail: monil.yogesh@drreddys.com

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Background: Proper cleansing is essential for maintaining skin barrier integrity, hydration, and overall skin health. Harsh cleansers can disrupt the stratum corneum, increase transepidermal water loss (TEWL), and alter skin pH, particularly in sensitive or barrier-compromised skin. This study evaluated the efficacy and in-use tolerability of Venusia® cleanser, a non-foaming formulation, in adults with different skin types.

Methods: In this single-centre, single-arm, non-randomized interventional study, participants with all skin types used Venusia® cleanser for 15 days. Efficacy was assessed using TEWL (VapoMeter), skin pH (pH meter), and pore-cleansing (3D imaging) at baseline, immediately post-application (15–20 minutes), and on day 15. In-use tolerability was evaluated using the Draize scale for erythema and oedema, along with participant self-assessment questionnaires on day 15.

Results: During the study period, 77 healthy adults with a mean age of 35.64 years were enrolled, and 76 participants completed the study. Of these, 14.5% participants had sensitive skin. TEWL decreased significantly by 9.1% at 15–20 minutes and by 17.5% at day 15 ($p < 0.01$), indicating improved barrier function. Skin pH remained within the physiological acidic range (5.0–6.0), with a modest but significant increase of 5% at day 15 ($p < 0.01$). Pore depth showed no significant change. Self-assessments revealed high satisfaction: 100% of participants found the cleanser gentle and easy to use, 100% reported improved skin softness and smoothness, while 98.7% experienced effective cleansing without dryness, and 98.7% observed a healthy, radiant appearance of the skin after use. No participant experienced any skin intolerance or adverse events during the study period.

Conclusions: Venusia® cleanser is a well-tolerated and effective non-foaming cleanser suitable for all adult skin types, demonstrating efficacy and high user acceptability.

Keywords: Non-foaming cleanser, Skin barrier function, Transepidermal water loss, Skin pH, In-use tolerability

INTRODUCTION

The skin is the body's largest organ and plays an essential role in maintaining physiological homeostasis. Continuous exposure to diverse environmental stressors has driven the development of specialised mechanisms that preserve its structural integrity and functional capacity. Through its barrier function, the skin protects against physical, chemical, and mechanical insults, while regulating

hydration by limiting transepidermal water loss (TEWL) and preventing the depletion of vital macro- and micronutrients.^{1,2}

The stratum corneum, the epidermis' outermost layer, serves as the primary interface between the skin and the external environment. It forms a selectively permeable barrier, protects against ultraviolet radiation, provides the initial defence against pathogens, activates immune

responses, neutralizes free radicals, and sustains commensal microbiota. Preserving the integrity of the stratum corneum is essential for maintaining healthy skin function and appearance.^{3,4}

Proper skincare is essential for maintaining both the structure and function of the skin. The hydrolipid barrier—comprising free fatty acids, ceramides, phospholipids, cholesterol, natural moisturising factors (NMF), and structural proteins—serves as the first line of defence. Damage to this barrier manifests as redness, irritation, flaking, lesions, and subjective symptoms such as dryness, itching, and burning. Barrier disruption also accelerates skin aging by increasing TEWL, reducing elasticity, and promoting wrinkle formation, while impaired intercellular cohesion heightens susceptibility to infections and inflammatory dermatoses. Compensatory sebum overproduction can disturb the skin microbiota, leading to comedones and pustules. Skincare formulations containing ceramides, essential fatty acids, cholesterol, squalene, hyaluronic acid, and niacinamide help restore the lipid barrier, particularly in dry, sensitive, or compromised skin, and provide supportive benefits in normal or oily skin.¹

Skin cleansing is an important part of daily life, and it is well recognised that all skin types—from healthy to diseased and across all ages—require proper cleansing to support barrier function.^{5,6} However, harsh cleansers can reduce NMF and may cause issues for sensitive skin.⁵ The primary aim of cleansing is to remove impurities and manage odour without stripping protective stratum corneum proteins and lipids, disrupting the skin microbiota, or altering its pH.⁶

Thus, the purpose of this trial was to evaluate the cleansing efficacy and the ability of Venusia® cleanser to reduce TEWL by assessing pore-cleansing property, skin barrier benefits, and maintenance of skin pH, as well as to assess the in-use tolerability of the product.

METHODS

Setting and study design

This was a single-centre, single-arm, non-randomised interventional study conducted to assess the cleansing efficacy of Venusia® cleanser in men and/or women compared to the initial state, and its in-use tolerability. The study was conducted at C.L.A.I.M.S. Pvt. Ltd., Andheri, Mumbai, under the supervision of the principal investigator/co-investigator. The study was conducted from 28 August to 23 September 2025. The study protocol was approved by the independent ethics committee at C.L.A.I.M.S. Pvt. Ltd., Andheri, Mumbai. The trial was carried out in compliance with the protocol, ICMR and ICH E6 (R3) guidelines, and the principles of the Declaration of Helsinki. Potential risks and benefits were explained to the participants, and informed consent was obtained from all participants before screening for the study.

Study population

The study included men and/or women between 18 and 55 years of age who presented with healthy skin on test sites and were willing to comply with all study procedures throughout the study. All participants provided written voluntary informed consent after receiving a full explanation of the study procedures and objectives. Participants were excluded if they were pregnant, lactating, allergic to any cosmetic product, had any skin disorder that the investigator believed could interfere with the study, or had used topical or systemic medical treatments that might affect the study outcomes, including topical steroids within the past month.

Study procedure

The trial involved a single test product, Venusia® cleanser, with niacinamide, hydrosella, and oat extract as its key active ingredients. Participants of varying skin types (normal, dry, oily with visible pores, combination, and sensitive skin) were included.

On day 1, participants acclimatised under controlled conditions of temperature (20–22 °C) and relative humidity (40–60% RH). TEWL, skin pH, and pore cleansing efficacy were assessed using a VapoMeter, pH meter, and 3D imaging, respectively. The test product was dispensed, and participants received instructions on its use. Photographs of 10 participants (2 per skin type) were taken with a digital camera, and their identities were kept confidential. Participants then washed their face with the cleanser, gently massaged 2–3 ml of test product onto the skin, rinsed with water, and patted dry. After washing, participants were allowed to reacclimatize under the same controlled conditions, following which post-application assessments at 15–20 minutes, including 3D imaging, skin pH and TEWL measurements, were repeated, after which digital photographs were again obtained for the same subset of participants. Participants scheduled a follow-up visit on day 15.

On day 15 of the follow-up visit, participants were acclimatised under the same controlled temperature (20–22 °C) and relative humidity (40–60% RH). Skin pH, TEWL measurements, and 3D imaging were repeated. Photographs of 10 participants (2 per skin type) were taken with a digital camera, and their identities were kept confidential. Additionally, a consumer feedback questionnaire was administered to assess participants' perceptions of the test product's efficacy and tolerability. For safety evaluation of the test product, the Draize scale was used to assess erythema and oedema.

Outcomes

The primary outcome of the study was to evaluate the efficacy of the Venusia® cleanser in men and/or women relative to baseline, based on assessments of pore-cleansing efficacy, TEWL, and skin pH measurements.

The secondary outcome was to assess in-use tolerability through clinical evaluation of skin intolerance, including erythema and oedema. In addition, a consumer feedback questionnaire was used to evaluate participants' perceptions of the product efficacy and tolerability.

Statistical methods

No formal sample size calculation was done. Statistical analysis was carried out for instrumental readings, using statistical software statistical package for the social sciences (SPSS) version 30.0.. Descriptive statistics were used to summarise the continuous variables, including the number of observations, mean and standard deviation, or median with minimum–maximum ranges, as appropriate. Charts were also incorporated to aid data interpretation. Student's t-tests were employed to evaluate whether the efficacy outcomes of the test product demonstrated statistically significant changes over the study period.

RESULTS

Baseline demographic characteristics

During the study period, 77 participants who met the inclusion criteria were included, out of which 76 participants completed the study and 1 participant dropped out. Participants ranged in age from 18 to 53 years, with a mean age of 35.64 years. The study population included 3 males and 73 females. Of the total participants, 12 had normal skin, 11 had dry skin, 11 had combination (mixed) skin, 11 had sensitive skin, and 31 had oily skin with visible pores.

Efficacy analysis of the test product: pore depth (3D imaging), transepidermal water loss (VapoMeter), and skin PH assessments

The mean maximum depth of pores in oily skin (visible pores) was 0.038 mm at baseline, 0.034 mm at 15–20 minutes post-application, and 0.034 mm after 15 days of product use (Figure 2). No significant changes were

observed, indicating no significant pore cleansing effect. The baseline mean TEWL reading was 14.36; 15–20 minutes after application, it showed a significant decrease of 9.1%, and after 15 days, a significant decrease of 17.5%, indicating a consistent reduction in TEWL. The baseline mean skin pH reading was 5.36, with no significant change observed 15–20 minutes after product application, whereas a significant 5.0% increase was noted after 15 days of application. Throughout the study, skin pH was maintained between 5.0 and 6.0.

Self-assessment questionnaires evaluating efficacy and tolerability of test product

After 15 days of test product application, all participants agreed or strongly agreed that the product was easy to use and gentle on the skin, with no neutral or negative responses reported. 98.7% agreed or strongly agreed that the product effectively cleansed the skin without causing dryness. All participants agreed or strongly agreed that their skin felt soft and smooth after applying the product. Additionally, 98.7% of participants agreed or strongly agreed that their skin appeared to have a healthy glow after product application. No pricking, tingling, itching, burning sensations, or eye irritation were reported during the study period.

Table 1: Participant demographics.

Parameters		Values
Number of participants (n)=76		
Age (years)	Mean	35.64
	SD	9.86
	Range	18.00–53.00
Gender, N (%)	Males	3 (3.9)
	Females	73 (96.1)
Skin type, N (%)	Normal skin	12 (15.8)
	Dry skin	11 (14.5)
	Oily skin (visible pores)	31 (40.8)
	Mixed skin	11 (14.5)
	Sensitive skin	11 (14.5)

Table 2: Evaluation of the test product through changes in pore depth, TEWL, and skin pH over the study period.

Duration	Mean maximum depth of pores [mm] ($\bar{x} \pm \text{SD}$) (n=31)	Mean TEWL ($\bar{x} \pm \text{SD}$) (n=76)	Mean skin pH ($\bar{x} \pm \text{SD}$) (n=76)
Baseline	0.038 $\pm$ 0.021	14.36 $\pm$ 3.53	5.36 $\pm$ 0.31
After application (15-20 minutes)	0.034 $\pm$ 0.007	13.05 $\pm$ 3.64	5.50 $\pm$ 0.68
Day 15	0.034 $\pm$ 0.008	11.84 $\pm$ 3.31	5.62 $\pm$ 0.23
Mean difference (baseline – after application 15-20 minutes)	-0.004 $\pm$ 0.020	*-1.31 $\pm$ 1.37	0.14 $\pm$ 0.72
P value	0.274 (NS)	0.001	0.094 (NS)
Mean difference (baseline – day 15)	-0.004 $\pm$ 0.018	*-2.52 $\pm$ 1.92	*0.27 $\pm$ 0.37
P value	0.225 (NS)	0.001	0.001

P values calculated using student 't' test; NS=not significant, *significant

Continued.

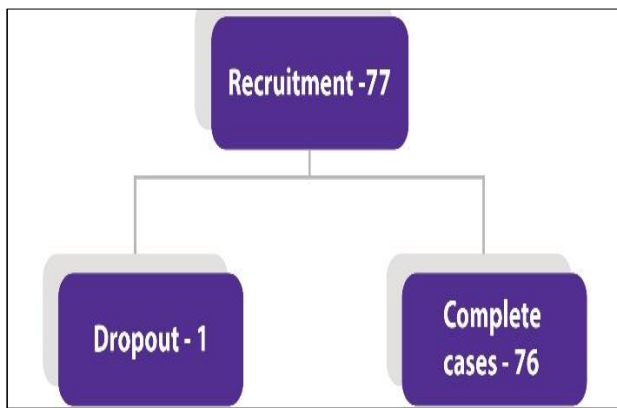


Figure 1: Study population flow.

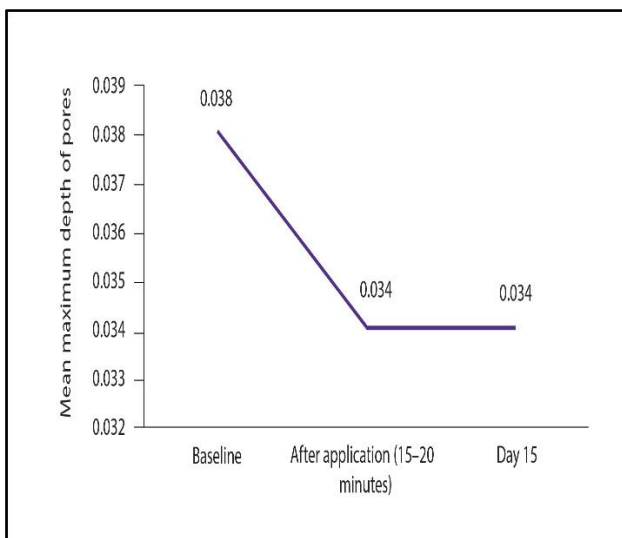


Figure 2: Change in mean maximum pore depth at baseline, 15-20 minutes post-application, and after 15 days of regular use.

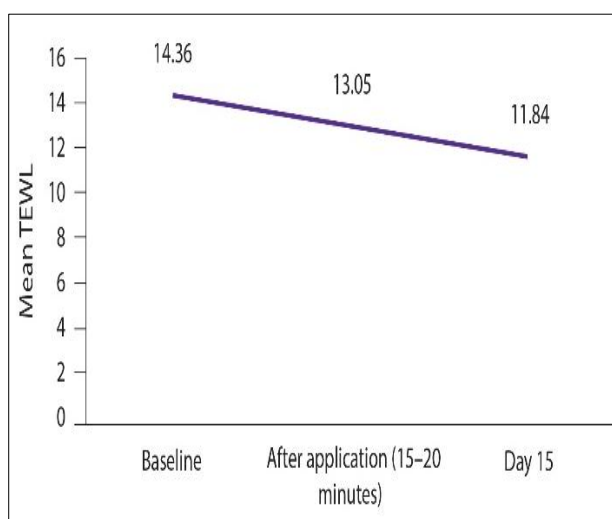


Figure 3: Change in mean TEWL measured by VapoMeter at baseline, 15-20 minutes post-application, and at day 15.

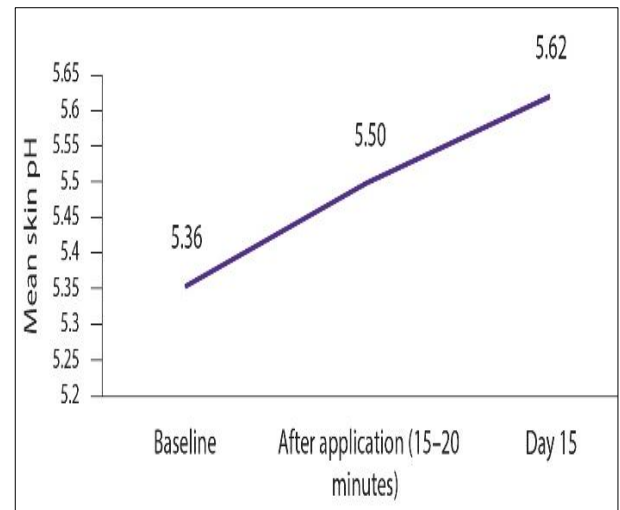


Figure 4: Change in mean skin surface pH at baseline, 15-20 minutes after application, and following 15 days of product use.

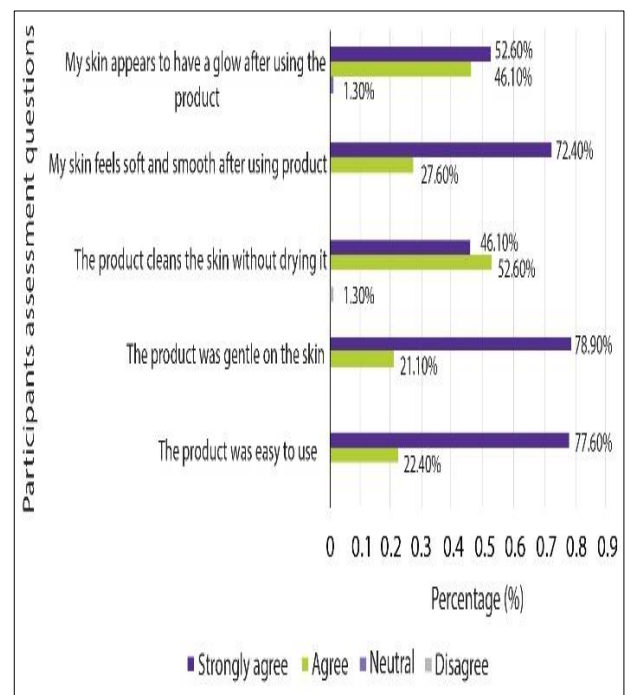


Figure 5: Evaluation of self-assessment questionnaires for the efficacy of the test product.

Clinical evaluation of in-use tolerability of the test product

No participant showed erythema, oedema, or any signs of skin intolerance on clinical evaluation throughout the study duration.

Adverse events

No adverse events related to the test product were reported during the study period.

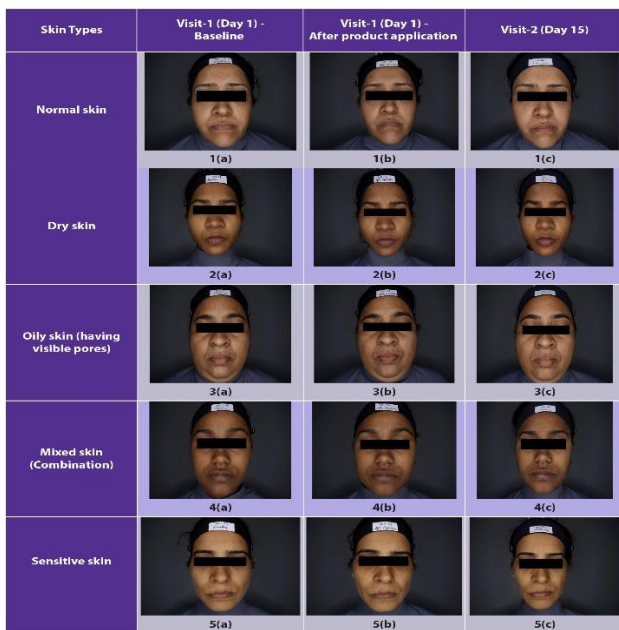


Figure 6: Representative photographs of test product application based on skin types at baseline (day 1), after 15–20 minutes of product application (day 1), and after 15 days of product use.

DISCUSSION

Cleansing is a foundational step in skincare, yet inappropriate cleanser selection can compromise the stratum corneum, disrupt skin pH, and increase TEWL.^{7,8} The present single-arm interventional study evaluated the efficacy and in-use tolerability of a non-foaming cleanser (Venusia® cleanser) across diverse adult skin types, with an emphasis on barrier preservation, hydration status, and consumer acceptability.

In our study, a significant reduction in TEWL was observed immediately after test product application and was further enhanced after 15 days of continuous use. TEWL decreased by 9.1% within 15–20 minutes of application and by 17.5% at day 15 compared with baseline, indicating a sustained improvement in skin barrier function. These findings are consistent with the observations of Xia et al, where reduced TEWL was associated with improved barrier function.⁹ In contrast, conventional foaming cleansers, particularly those containing strong surfactants, have been shown to increase TEWL by removing essential epidermal lipids and NMF.⁸

Maintenance of an acidic skin pH is essential for inhibiting pathogenic bacterial growth, supporting commensal microbiota, and promoting epidermal barrier recovery.¹⁰ In the present study, skin pH remained within the normal physiological acidic range (5.0–6.0) throughout the study period. This suggests that the cleanser does not alkalinize the skin or compromise the acid mantle, a well-recognised limitation of conventional soaps.⁶

Participant satisfaction is a key indicator of product acceptability and adherence to skincare regimens.¹¹ In the present study, subjective self-assessment outcomes revealed a high degree of participant satisfaction with the test product. Nearly all participants reported effective cleansing without dryness, and all perceived the product as gentle and easy to use, with improvements noted in skin softness, smoothness, and overall healthy appearance. Importantly, no participant reported any discomfort, including burning, stinging, itching, or eye irritation. These favourable self-reported outcomes were consistent with the instrumental findings.

From a safety and in-use tolerability perspective, Venusia® cleanser demonstrated an excellent profile. No erythema, oedema, or signs of intolerance were observed on clinical evaluation using the Draize scale, and no adverse events were reported. These findings align with the observations of Draelos et al.¹² Niacinamide helps to strengthen the skin's lipid barrier by supporting ceramide and fatty acid content, thereby reducing TEWL and maintaining hydration and resilience.¹ Hydrosella helps to moisturize the skin and improve smoothness.¹³ Oat extract helps to soothe irritated skin, supports anti-inflammatory activity, delivers hydration, and reinforces the skin's natural barrier. Together, these active ingredients contribute to the cleanser's favourable safety and tolerability profile.^{14,15} Hence, the good tolerability may be attributed to the presence of barrier-supportive and soothing ingredients, including niacinamide, hydrosella, and oat extract.

Overall, Venusia® cleanser effectively cleanses while preserving skin barrier function in real-world use. The significant and sustained reduction in TEWL reflects improved barrier integrity and moisture retention, while maintenance of physiological acidic pH confirms preservation of the acid mantle and microbiome balance. High participant satisfaction and absence of irritation further support its excellent tolerability across diverse adult skin types.

The presence of niacinamide, hydrosella, and oat extract likely contributes to enhanced softness, smoothness, and overall skin appearance. In routine practice, Venusia® cleanser can be incorporated into daily skincare regimens, particularly for individuals with sensitive or barrier-compromised skin. With long-term use, consumers are likely to benefit from sustained hydration, improved barrier resilience, reduced irritation from harsh cleansing practices, and overall healthier-looking skin. In everyday use, this may translate into skin that feels comfortable and well-hydrated after cleansing, without the tightness or dryness commonly associated with conventional foaming cleansers. The improvement in barrier function observed in this study may also help the skin better withstand environmental stressors such as pollution, temperature changes, and frequent washing, which are common in daily life. Over time, consistent hydration and barrier support may contribute to visibly smoother and softer skin.

texture, along with a more balanced and refreshed appearance. Additionally, the gentle formulation may encourage regular and consistent use, which is essential for maintaining long-term skin health and improving overall consumer satisfaction with daily skincare routines.

Limitations

The study is limited by a relatively small sample size and a short duration of 15 days. Although the findings indicate favourable effects on skin barrier function and in-use tolerability, the sample size may limit the generalisability of the results. In addition, the short study period may not adequately reflect the long-term effects of continued cleanser use on skin barrier integrity and pore characteristics.

CONCLUSION

This study shows that Venusia® cleanser is an effective and well-tolerated non-foaming cleanser for daily use across all adult skin types. It maintained physiological skin pH and significantly reduced TEWL, indicating preservation of skin barrier function. Majority of the participants reported effective, gentle cleansing without dryness, along with improved skin softness, smoothness, and appearance. No irritation, erythema, oedema, or adverse events were observed, confirming excellent in-use tolerability.

Funding: The study was funded by Dr. Reddy's Laboratories Ltd., Hyderabad, Telangana, India

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. Załęcki P, Jezusek J, Nowicka D. Topical niacinamide in daily skincare: a 3-week real-world cosmetic study. *Appl Sci*. 2025;15(17):9729.
2. Cui L, Jia Y, Cheng ZW, Gao Y, Zhang GL, Li JY, et al. Advancements in the maintenance of skin barrier/skin lipid composition and the involvement of metabolic enzymes. *J Cosmet Dermatol*. 2016;15(4):549-58.
3. Baker P, Huang C, Radi R, Moll SB, Jules E, Arbiser JL. Skin barrier function: the interplay of physical, chemical, and immunologic properties. *Cells*. 2023;12(23):2745.
4. Tharakan M, Lonczak L. Supporting skin structure and its barrier functions with evidence-based skin care ingredients. *J Cosmet Dermatol Sci Appl*. 2024;14:200-10.
5. Lee J, Sekhon N, Shen H. 32763 Cleansing efficacy of mild facial cleansers for sensitive skin. *J Am Acad Dermatol*. 2022;87(3):AB30.
6. Mijaljica D, Spada F, Harrison IP. Skin cleansing without or with compromise: soaps and syndets. *Molecules*. 2022;27(6):2010.
7. Ananthapadmanabhan KP, Moore DJ, Subramanyan K, Misra M, Meyer F. Cleansing without compromise: the impact of cleansers on the skin barrier and the technology of mild cleansing. *Dermatol Ther*. 2004;17(1):16-25.
8. Voegeli D. The effect of washing and drying practices on skin barrier function. *J Wound Ostomy Continence Nurs*. 2008;35(1):84-90.
9. Xia Y, Lyu Y, Yang J, He X, Yi Y, Liu J, et al. Effects of a ceramide-containing glycinate-based cleanser on the condition of oily skin and skin post-IPL treatments. *J Cosmet Dermatol*. 2025;24(7):e70350.
10. Brooks SG, Mahmoud RH, Lin RR, Fluhr JW, Yosipovitch G. The skin acid mantle: an update on skin pH. *J Invest Dermatol*. 2025;145(3):509-21.
11. Oliveira R, Almeida IF. Patient-centric design of topical dermatological medicines. *Pharmaceutics*. 2023;16(4):617.
12. Draelos Z, Hornby S, Walters RM, Appa Y. Hydrophobically modified polymers can minimize skin irritation potential caused by surfactant-based cleansers. *J Cosmet Dermatol*. 2013;12(4):314-21.
13. Kurnia F, Suyono T, Nasuyion A, Ferdinan S. Formulation and testing of the effectiveness of the ethanol extract lotion of rosella flower (*Hibiscus Sabdariffa* L.) as a skin moisturizer. *Int J Health Pharm*. 2022;2:633-43.
14. Paudel D, Dhungana B, Caffè M, Krishnan P. A review of health-beneficial properties of oats. *Foods*. 2021;10(11):2591.
15. Diluvio L, Dattola A, Cannizzaro MV, Franceschini C, Bianchi L. Clinical and confocal evaluation of avenanthramides-based daily cleansing and emollient cream in pediatric population affected by atopic dermatitis and xerosis. *G Ital Dermatol Venereol*. 2019;154(1):32-6.

Cite this article as: Gala M, Creado SA, Muchhala SS, Dhanaki GD, Sanghavi AP, Kotak B. Evaluation of efficacy and in-use tolerability of a non-foaming cleanser (Venusia® cleanser) in adult men and women. *Int J Res Dermatol* 2026;12:417-22.