

Research Center



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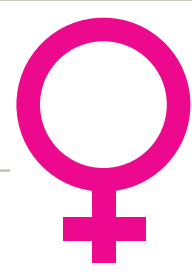
Research Center

Prevalence of Acne, Its Impact on Quality of Life, and Self-Treatment Practices among Medical Students



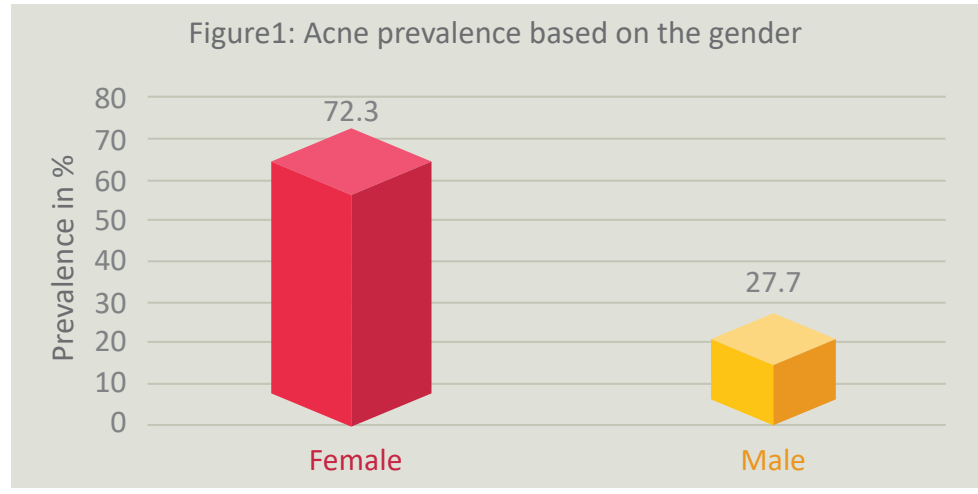
Acne vulgaris is a widespread skin disease causing significant distress, including low self-esteem and social withdrawal. This study aimed to assess acne prevalence and its impact on quality of life among medical students at An-Najah National University (ANU). It also evaluated self-treatment patterns. The study included all ANU medical students and hospital attendees, using a three-part questionnaire covering demographics, acne severity (via the acne severity scale and Cardiff Acne Disability Index), and self-treatment practices.

Key Findings



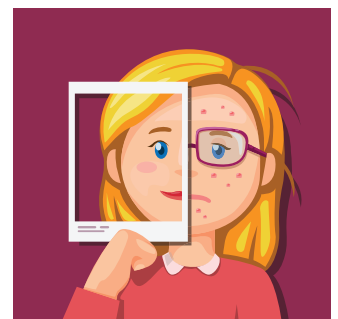
- The mean age was 21.3 ± 1.9 years, with 72.3% being female.

- Acne prevalence was **80.9%, with 36.6% practicing self-medication.**
- Acne was significantly associated with female sex as shown in Figure 1 and skin type ($p = 0.024$).



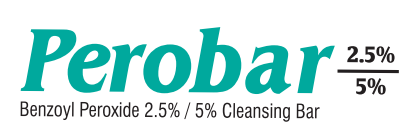
- Dietary factors like dairy ($p = 0.007$), sweets ($p < 0.001$), chocolate ($p < 0.001$), and oily food ($p = 0.006$) were linked to acne

- Skin type was significantly associated with acne severity ($p < 0.001$) and the Cardiff Acne Disability Index ($p = 0.016$). Gender also influenced the disability index ($p = 0.039$).
- There was a **significant correlation between acne severity and impaired quality of life.**
- The most common self-treatment topical agent was antibiotics (70.3%), while the most common oral agent was isotretinoin (9.4%). Herbal products were used by 2.7%, and home remedies by 47.7%.



Conclusion:
Acne is prevalent among medical students, often impairing daily life and leading to common self-medication practices. Increasing awareness of appropriate self-medication is essential.

References:
Dabash D, Salahat H, Awawdeh S, et al. Prevalence of acne and its impact on quality of life and practices regarding self-treatment among medical students. Sci Rep. 2024 Feb 22;14(1):4351.



A Novel Moisturizing Formula of Xylitol, Xylitylglucoside, and Anhydroxylitol that provides Superior Moisturizing Effect proven by study



An open-label, comparative, single-arm study that involved 15 healthy volunteers having dry skin were taken. This study aimed at evaluating hydration of skin, after application, of a moisturizing formula compared to a control (ordinary cream base) and to evaluate transepidermal water loss (TEWL) over the duration of 24 h. MoistureMeter- SC (MMSC) and VapoMeter were used to measure skin hydration and TEWL, respectively.

The moisturizing formula was a combination of xylitol, xylitylglucoside, and anhydroxylitol.

Findings

The application of the moisturizing formula led to following benefits –

1. A significant **increase in skin hydration** from baseline after 4 h (Figure 2) as shown by **increase in mean MMSC** reading (22.86 vs. 9.36; $P < 0.05$).
2. The **skin remained hydrated throughout 24 h** which was statistically significant ($P < 0.05$) as shown by a higher mean MMSC reading at 8, 12, and 24 h.
3. As **compared to the control**, there was statistically **significant increase in skin hydration with moisturizing formula at 4 h** as seen by the **significantly higher mean MMSC readings** (10.12 vs. 22.86, $P < 0.05$).
4. As seen in Figure 3, **TEWL was significantly decreased** compared to baseline seen 4 hours **after application of moisturizing formula** evident by the decrease in mean VapoMeter readings (9.22 vs. 5.99, $P < 0.05$).
5. TEWL was maintained below baseline value evident by lower mean VapoMeter readings at 8, 12, and 24 h. **In comparison to the control, the moisturizing formula was associated with statistically significant decrease in transepidermal water loss** after 4 h evident by lower mean VapoMeter readings (6.93 vs. 5.99, $P < 0.05$).

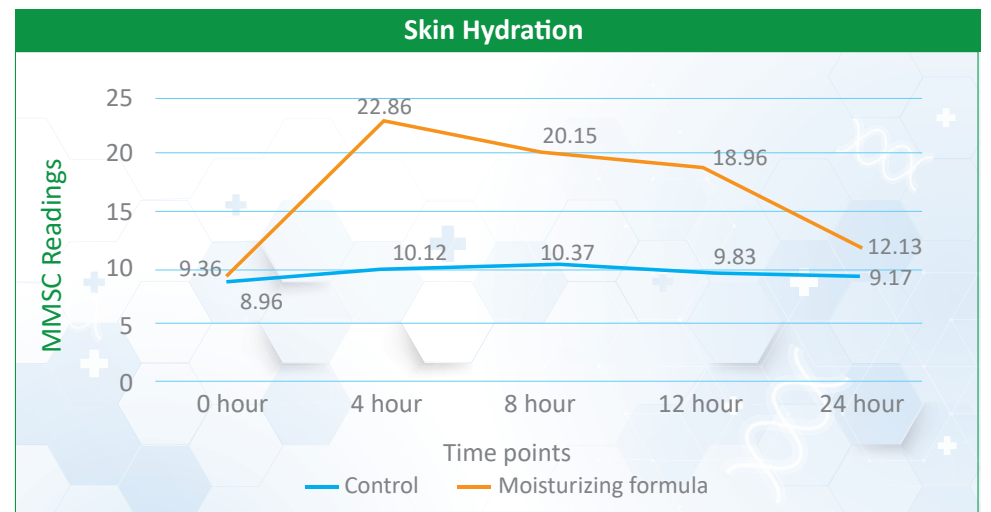


Figure 2: Average of MMSC readings over 24 hrs.

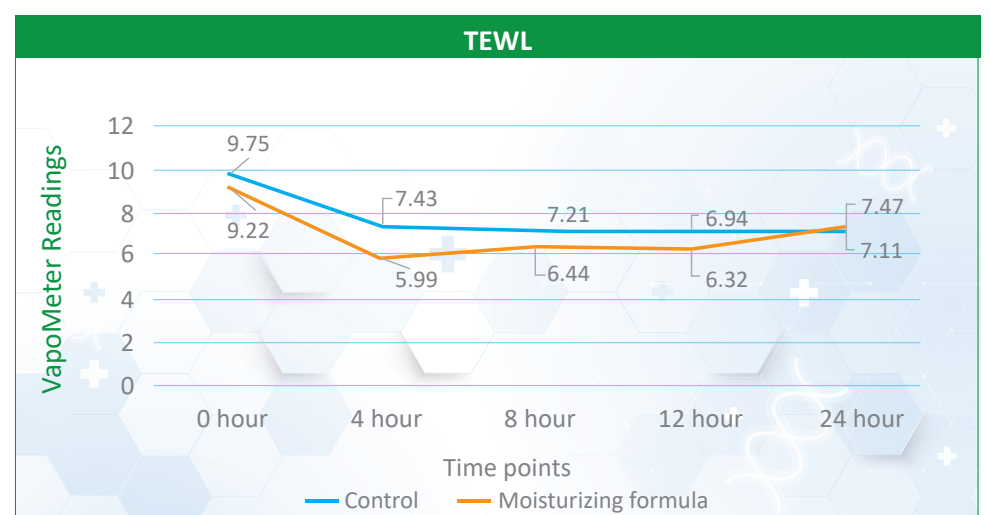


Figure 3: Average of TEWL over 24 hrs.



Xylitol benefits Skin Hydration and improves Barrier Function of the Skin

Moisturizing products contain polyols like glycerol. Xylitol, a polyol, is used as humectant and moisturizer. Some studies have shown that xylitol was found to improve collagen formation, profoundly suppress sodium lauryl sulfate-induced TEWL, exert anti-irritant actions, and increase filaggrin expression and hence increase skin hydration. A study has showed the beneficial effect of xylitol-containing cream on atopic dry skin. In another clinical trial the moisturizing formula of xylitol, xylitylglucoside, and anhydroxylitol was found to produce most intense hydration level of the skin surface compared with a gel having herbal extract and gel with natural moisturizing factors (NMF). It has been found that xylitylglucoside (derivative of xylitol and glucose) stimulated production of proteins, enzymes and ceramides that are essential to the function of the skin barrier. Not only that, xylitol leads to an increased protein expression of filaggrin, a source of NMF.

Conclusion

The novel moisturizing formula combining xylitol, xylitylglucoside, and anhydroxylitol, was found to be beneficial in producing profound, quick, and enduring moisturizing effect.

References:

Deshmukh et al. Moisturizing Kinetics of Maxrich, a Novel Moisturizing Formula Comprising of Xylitol and Xylitol-based Sugars such as Xylitylglucoside and Anhydroxylitol. Int J Sci Stud 2018;6(9):91-95.

Acne Treatment Challenges - Recommendations of Latin American Expert Consensus

Acne is a chronic inflammatory disorder of the pilosebaceous unit, negatively impacting quality of life by causing anxiety, depression, and poor self-esteem. Treating acne is complex and presents new challenges. To provide recommendations for dermatologists in managing acne patients in daily practice, a group of eight acne experts conducted a literature review. Findings were discussed in a kick-off meeting, followed by two e-surveys using the Delphi methodology and an interim webinar. The expert panel reached a consensus on key statements to support dermatologists in challenging areas such as Generation Z characteristics and the maintenance phase of adult acne treatment. **This article offers current recommendations for acne management, backed by a high level of expert agreement and the latest evidence.**



Takeaway points

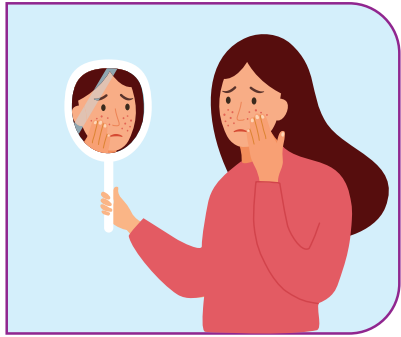


Early Treatment and Prevention	Initiate treatment in all acne cases, even mild ones, to prevent scarring. Topical retinoids are effective due to their anti-inflammatory properties.
Dermatologic Procedures	Various medical procedures like intense pulsed light, microdermabrasion, peels, intralesional corticosteroids, cryotherapy, and comedone extraction can be used as adjunct treatments. Their true benefits are undetermined due to limited evidence, so they should not be routine but considered on a case-by-case basis.
Light Therapies	Light therapies, including laser and photodynamic therapy, show promise but lack sufficient evidence for routine use. No established guidelines exist for optimal dose, device, timing, and frequency.
Consensus-Based Practice	Dermatologists should consider cultural and regional specifics in their practice.
Psychological Impact and Patient Communication	Develop tools to evaluate and quantify the psychological impact of acne on patients. Increase dermatologist presence in various communication channels to provide quality information and support decision-making.
Research and Evidence	More research tailored to local characteristics and challenges is needed.
Individualized Patient Care	Customize treatment plans based on individual patient needs, considering the course of the disorder and the latest available evidence.
Safety in Medication	Be cautious with the co-administration of diuretics and tetracyclines, as it may lead to decreased renal function. Monitor renal function with laboratory tests when using these medications together.
Financial Considerations	Dermatologic procedures may significantly increase costs for patients and should be weighed against their potential benefits.
Continuous Education	Stay updated with emerging topics and evidence to support the best therapeutic choices, including the influence of social media, the characteristics of Generation Z, and the specific needs of transgender male patients.

References:
Rocha M, Barnes F, Calderón J, et al. Acne treatment challenges - Recommendations of Latin American expert consensus. An Bras Dermatol. 2024 May-Jun;99(3):414-424.



Case Quiz



A 22-year-old female experiencing moderate acne since her teenage years and gets increased acne flare-ups during exams & periods.



She had oily skin but would experience skin tightness after cleansing and irritation after using current acne treatment that included topical benzoyl peroxide, salicylic acid, and oral antibiotics.



Give your diagnosis and treatment plan*

Answer - *detailed treatment plan and follow-up in next issue 2

Take home

Acne vulgaris is a chronic inflammatory skin condition characterized by comedones, papules, pustules, and nodules. Recent research highlights additional pathogenic factors, such as altered sebum lipid quality, steroidogenesis regulation, neuropeptidase interaction, androgen activity, and nutrition.

Acne treatments include systemic and topical retinoids, antibacterials, antibiotics, and benzoyl peroxide. These medications can cause skin irritation and dryness, leading to non-adherence and treatment failure. Moisturizers, especially those containing ceramides, can alleviate these side-effects, improve skin condition, and enhance adherence to acne therapies. Using ceramide-containing moisturizers as adjunctive therapy reduces irritation and inflammation, potentially accelerating acne improvement and treatment adherence.

References:

Lynde CW, Andriessen A, Barankin B, et al. Moisturizers and Ceramide-containing Moisturizers May Offer Concomitant Therapy with Benefits. J Clin Aesthet Dermatol. 2014 Mar;7(3):18-26.



Enhances Acne Treatment Journey Experience

In Acne induced Post-inflammatory Hyperpigmentation & Melasma



In the Treatment of Truncal Acne



Gentle Daily Cleanser for Oily and Sensitive Skin



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