



REVIEW ARTICLE

GENTLE NEEM FACE WASH: A CLINICAL REVIEW

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Abstract: Natural remedies are more acceptable in the belief that they are safer with fewer side effects than the synthetic ones. Herbal formulations have a growing demand in the global market. The present study deals with the evaluation of efficacy and safety of the Gentle Neem Face Wash extract of *Azadirachta indica*, *Citrus medica*, *Citrullus lanatus* and *Vetiveria zizanioides*. The plants have been reported in the literature having good antimicrobial, anti-oxidant and anti-inflammatory activity. This is an open phase clinical study to evaluate the dermal safety and efficacy of the herbal formulation. Ten healthy volunteers enrolled to use the herbal formulation for 15 days, no skin irritation was observed or reported. There was remarkable reduction in oiliness of the facial skin and associated minimization of acne recurrence. Few subjects noticed improvement in skin complexion also.

Key Words: Gentle Neem Face Wash, Acne, Dermal Safety

INTRODUCTION

Acne, or acne vulgaris, is a skin problem that starts when oil and dead skin cells clog skin pores. It is also blackheads, blemishes, whiteheads, pimples, or zits. Severe acne can mean pimple that cover the face, neck, chest, and back. Or it can be bigger, solid, red lumps that are painful (cysts). Acne occurs most commonly during adolescence, affecting an estimated 80–90% of teenagers.¹⁻³ Lower rates is reported in some rural societies.^{3,4} It usually gets better after the teen years. Some women who never had acne growing up will have it as an adult, often right before their menstrual periods. About 4% continue to have difficulties into their forties.

Acne is commonly classified by severity as mild, moderate, or severe. This type of categorization can be an important factor in determining the appropriate treatment regimen.² Mild acne is classically defined as open (blackheads) and closed comedones (whiteheads) limited to the face with occasional inflammatory lesions.² Acne may be considered to be of moderate severity when a higher number of inflammatory papules and pustules occur on the face compared to mild cases of acne and acne lesions also occur on the trunk of the body.² Lastly, severe acne is said to occur when nodules and cysts are the characteristic facial lesions and involvement of the trunk is extensive.² Typical features of acne include increased oil secretion, microcomedones, comedones, papules, pustules, nodules (large papules), and possibly scarring.^{6,7} The appearance of acne varies with skin color.

Acne develops as a result of blockages in the skin's follicles. These blockages are thought to occur as a result of the following four abnormal processes: a higher than normal amount of sebum production (influenced by androgens); excessive keratin deposition leading to comedone formation; colonization of the follicle by *Propionibacterium acnes* bacteria; and the local release of pro-inflammatory chemicals in the skin.⁸

The earliest pathologic changes are the excessive deposition of the protein keratin and oily sebum in the hair follicle resulting in the formation of a plug.⁹ During adrenarche, a higher level of the androgen (DHEA-S) results in the enlargement of the sebaceous glands and increases sebum production. A microcomedo may enlarge to form an open comedo (blackhead) or closed comedo. The dark color of a blackhead occurs due to oxidation of the skin pigment melanin.²

Comedones result from the clogging of sebaceous glands with sebum, naturally occurring oil, and dead skin cells.⁹ In these conditions, the naturally occurring largely commensal bacterium *Propionibacterium acnes* can cause inflammation within and around the follicle, leading to inflammatory lesions (papules, infected pustules, or nodules) in the dermis around the microcomedo or comedone, which results in redness and may result in scarring or hyperpigmentation.⁹⁻¹¹ Severe acne is inflammatory, but acne can also be noninflammatory.¹²

Commonly used medical treatments include topical therapies such as retinoids, antibiotics, and benzoyl peroxide and systemic therapies including oral retinoids, antibiotics, and hormonal agents.^{2,13} Procedures such as light therapy and laser therapy are not considered to be first-line treatments and typically have an adjunctive role due to their high cost and limited evidence of efficacy.¹³

Herbal Medicines have been extensively used in recent years for chronic and lifestyle related disorders. Gentle Neem Face Wash is an herbal formulation designed to minimize the acne and reduce the oiliness of face on regular usage.

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Present study is aimed to evaluate the effectiveness of Gentle Neem Face Wash in minimizing acne and reducing oiliness of face.

MATERIALS AND METHODS

Ten healthy volunteers of age between 18-50 years were enrolled in the clinical trial, upon completing complete physical examination. The volunteers were advised to use the Gentle Neem Face Wash twice daily for 15 days. The volunteers were followed up on 7th day and on completion of the study.

Primary outcome:

Dermal safety

Secondary outcome:

Reduction in oiliness of facial skin, and minimizing acne

RESULTS

This study was conducted to evaluate dermal safety and post-application feel of Gentle Neem Face Wash in 10 volunteers. Volunteers were instructed to apply Gentle Neem Face Wash on the face twice a day for a period of 2 weeks. The volunteers were reviewed at initial baseline, 1 week, and 2 weeks post application to evaluate the dermal safety parameters, which included signs and symptoms such as erythema, edema, pain, pruritus and urticaria. Post-application effect of the product was evaluated using parameters like reduction in oiliness of the facial skin, reduction in acne recurrence, and improvement in skin complexion. The dermal safety and after-application feel of the product is summarized in Tables 1 and 2.

Table 1: Dermal Safety Evaluation of Gentle Neem Face Wash (n= 10)

Signs and Symptoms	Days of application		
	Initial	Day 7	Day 15
Erythema	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00
Edema	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00
Pain	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00
Pruritus and Urticaria	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00

Table 2: After Application Gentle Neem Face Wash (n= 10)

Parameter	Product Evaluation/Rating	Response (%)
Reduction in oiliness of facial Skin	Improvement	100
	No Improvement	0
Reduction in Acne Recurrence	Yes	100
	No	0
Improvement in Skin Complexion	Improvement	85
	No Improvement	15

The Gentle Neem Face Wash application helped in reduction of oiliness of facial skin in all the volunteers. Similarly, it also reduced acne recurrence on the skin. Volunteers also reported that they found a remarkable improvement in skin complexion. It is observed that Gentle Neem Face Wash is completely safe with excellent compliance.

DISCUSSION

This study was initiated to evaluate the efficacy and safety of Gentle Neem Face Wash. Results of this study indicate that Gentle Neem Face Wash is very safe and efficacious in reduction in oiliness of facial skin and minimizing the recurrence of acne. Skin participates in many of the physiological and pathological events and processes. The cutaneous expression of internal disease in frequent, varied and often specific. Various studies have documented anti-inflammatory and antimicrobial effect of *Azadirachta indica*⁴⁻¹⁵, one of the ingredients of this face wash. *Citrus medica*¹⁶ and *Citrullus lanatus*¹⁷ have skin brightening effect, and *Vetiveria zizanioides*¹⁸ is widely used in skin disorders. It is possible that the beneficial effects seen by this face wash is an additive effect of all the ingredients.

CONCLUSION

This study indicates that the Gentle Neem Face Wash is quite safe and efficacious. It corrects common dermatological problems in like reduction in oiliness of facial skin and minimizing the recurrence of acne. It has not produced any adverse effect.

REFERENCES

1. Taylor, Marisa; Gonzalez, Maria; Porter, Rebecca. "Pathways to inflammation: acne pathophysiology". *European Journal of Dermatology* 21.3 2011: 323-33.
2. Dawson AL, Dellavalle RP. "Acne vulgaris". *BMJ* 346.5 (2011): 2634.
3. Berlin, David J. Goldberg, Alexander L. "Acne and Rosacea Epidemiology, Diagnosis and Treatment". *London: Manson Pub.* p. 8.

4. Spencer EH, Ferdowsian, Barnard ND. "Diet and acne: a review of the evidence." *International Journal of Dermatology* 48.4(April 2009): 339–47.
5. Bhate, K; Williams, HC. "Epidemiology of acne vulgaris." *The British journal of dermatology* 168.3 (2013): 474–85.
6. Adityan B, Kumari R, Thappa DM. "Scoring systems in acne vulgaris". *Indian Journal of Dermatology, Venereology and Leprology* 75.3 (2009): 323–6.
7. Zhao YE, Hu L, Wu LP, Ma JX. "A meta-analysis of association between acne vulgaris and Demodex infestation". *Journal of Zhejiang University. Science. B* 13.3 (2012): 192–202.
8. Simonart T. "Immunotherapy for acne vulgaris: current status and future directions". *American journal of clinical dermatology* 14.6 (2013): 429–35.
9. Benner N, Sammons D. "Overview of the treatment of acne vulgaris". *Osteopathic Family Physician* 5.5 (2013): 185–90.
10. Sieber, MA; Hegel, JK x. "Azelaic acid: Properties and mode of action". *Skin pharmacology and physiology* 27 (Supplement 1) (2013): 9–17.
11. Simpson, Nicholas B.; Cunliffe, William J. (2004). "Disorders of the sebaceous glands". In Burns, Tony; Breathnach, Stephen; Cox, Neil; Griffiths, Christopher. *Rook's textbook of dermatology* (7th ed.). Malden, Mass.: Blackwell Science. pp. 43.1–75.
12. Holzmann R, Shakery K. "Postadolescent acne in females". *Skin pharmacology and physiology* 27 (Supplement 1) (2013): 3–8.
13. Simonart T. "Newer approaches to the treatment of acne vulgaris". *America Journal of Clinical Dermatology* 13.6 (2012): 357–64.
14. K. Yamini and T. Onesimus "Preparation and Evaluation of Herbal Anti-Acne Gel". *Int J Pharm Bio Sci*; 4.2 (2013): 956 – 960.
15. "Development and Evaluation of Herbal Anti-Acne Formulation". *Research Journal of Pharmaceutical, Biological and Chemical Sciences* 3.3: 334-339
16. Shinkafi, S.A and Ndanusa, H. "Antibacterial Activity of Citrus Limonon Acne vulgaris (Pimples)". *International Journal of Science inventions Today*, 2.5 (2013): 397-409
17. E.O. Erhirhie and NE. Ekene "Medicinal Values on Citrulluslanatus (Watermelon): Pharmacological Review". *International Journal of Research in Pharmaceutical and Biomedical Sciences*.4.4 (2013): 1305-1312
18. "An Overview on Vetiveria Zizanioides". *Research Journal of Pharmaceutical, Biological and Chemical Sciences*. 4.3 (2013): 777-783.

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