

# Frugal Dermatology: Repurposing Insulin Syringes for Acne Scar Treatment

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## Introduction

- ❖ Micro-needling is a well-established treatment for acne scars
- ❖ But its cost and accessibility can be a barrier in low-resource setups.
- ❖ This pilot study explores the innovative use of insulin syringes as a low-cost alternative for manual micro-needling.

## Methods

- ❖ Patients >18 years with atrophic facial scars were included.
- ❖ Participants underwent manual needling using sterile insulin syringes once monthly for 3 months.
- ❖ Needling was performed in a grid-like fashion across the scarred areas, using a 31-G insulin needle.
- ❖ Goodman & Baron qualitative scar grading, Dermatology Life Quality Index (DLQI), pre- and post-photographs, and Visual Analog Scale (VAS) were recorded before each session.
- ❖ The results were then evaluated by two independent dermatologists with the help of pre- and post-photographs.

## References

Mohamed SH, Omar GAE, Hamdy AES. Microneedling with topical insulin versus microneedling with non-cross-linked hyaluronic acid for atrophic post-acne scars: a split-face study. Dermatol Pract Concept. 2024;14(3):e2024183.

## Results



20 patients (M:F-12:8) completed 3 sessions of microneedling.

- ❑ 15 (75%) -mild improvement, while 5 (25%) demonstrated moderate improvement.
- ❑ Mean DLQI score ↓ from  $9.2 \pm 1.8$  to  $5.4 \pm 1.2$  → mild-moderate improvement.
- ❑ Mean VAS score ↑ from  $3.1 \pm 0.9$  to  $6.5 \pm 1.3$  (patients reported smoother skin texture and reduction in scar depth)
- ❑ Adverse Effects: Transient erythema lasting 24–48 hours seen in all.
  - 2 (10%) developed mild post-inflammatory hyperpigmentation. (subsided with topical depigmenting agents)

## Conclusion

No conflict of interest

- ❖ Insulin syringe-assisted microneedling may offer a cost-effective alternative for acne scar treatment in resource-constrained environments.
- ❖ Larger controlled trials are warranted to validate these findings