Moisturizer Efficacy and Patient Preference in Atopic Dermatitis

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Objective – Bridging the gap between skin hydration and patient preference while selecting the moisturizer for atopic dermatitis patients

Takeaway message- Objective assessment of hydration while selecting moisturizer can improve treatment outcome in Atopic Dermatitis

No conflict of interest

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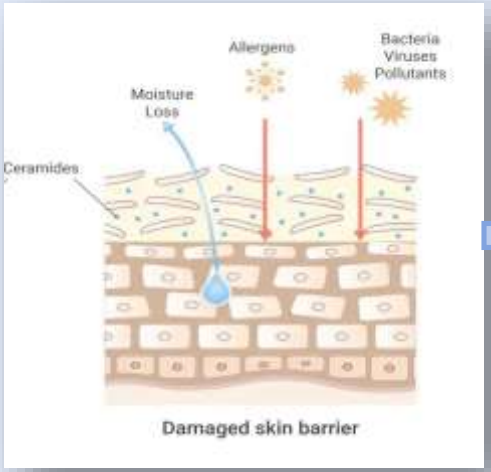
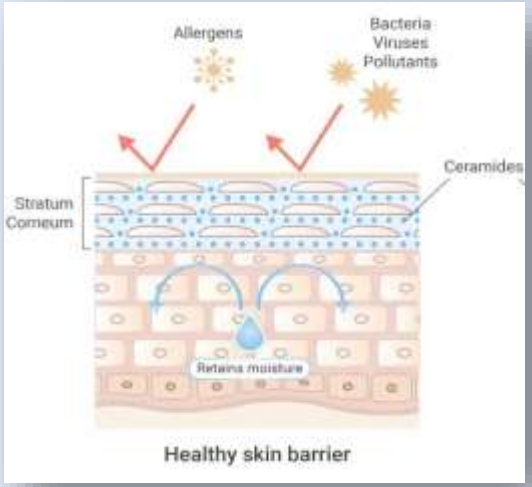
BACKGROUND





Damaged skin barrier leading to increased allergen and microbe penetration, creating an inflammatory milieu and chronic relapsing pruritus. Thus moisturizers form the cornerstone in treatment of AD. Taking subjective preference as well objective assessment of hydration in account while selecting moisturizer can improve treatment outcome and compliance.

OBJECTIVE

1. Compare hydration efficacy of 5 different types of moisturizers
2. Assess alignment between objective hydration and subjective preference
3. Assessment of itch relieve using Visual Analogue Scale
4. Comparison of improvement in VAS score for each type of moisturizer

RATIONALE OF STUDY

• Moisturizers in management of AD are prescribed based on patient preference

• This study investigate if patient preference actually correlate with moisturizing efficacy and provide head-on comparison between various classes of moisturizers

• This will help clinician use moisturizer not only based on subjective preference but based also on objective hydration improvement, improving treatment outcome and patient compliance.

METHODOLOGY

INCLUSION CRITERIA

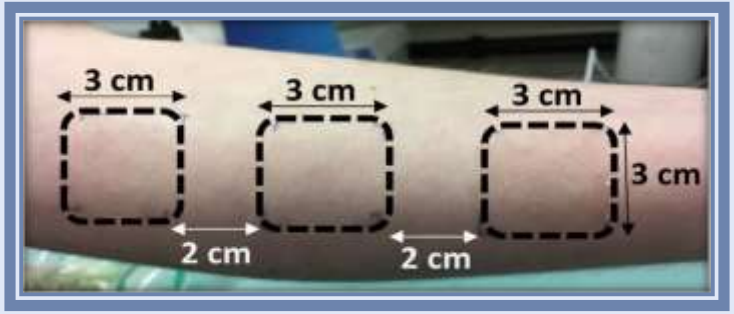
- Stable disease with no systemic drug in last four weeks
- No known allergy to the ingredients in the test product

38 patients coming to outpatient department of AIIMS, Bhopal were recruited and written informed consent taken

EXCLUSION CRITERIA

- Presence of active infection at testing site
- Patients in acute flare needing systemic therapy

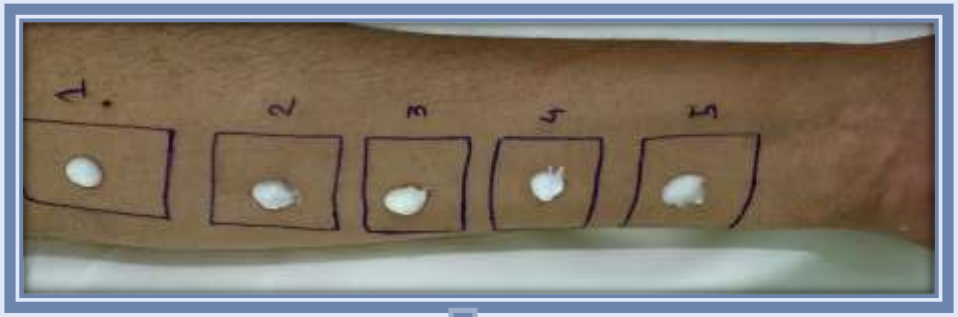
Demographic profile, clinical characteristics were noted



5 boxes of 3cm*3cm were drawn on flexor of forearm and labeled from 1-5

Baseline skin hydration was recorded in each box.

Different type of moisturizer was applied in each box and hydration re measured in each box at 1 hour and 24 hours after 8 hourly application of moisturizer



1 – Occlusive; 2- Ceramide; 3-Emmolient;
4 – Humectants; 5 – Avenanthramide

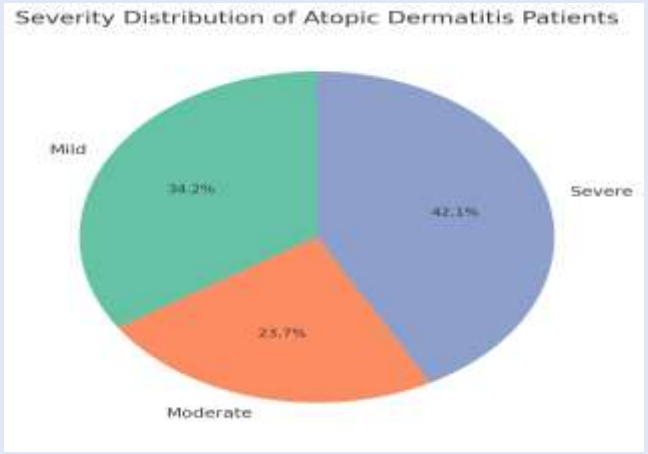
Patient related skin sensation VAS is recorded at baseline and improvement in VAS with each moisturizer type at 1 hour and 24 hours was noted

DEMOGRAPHIC ANALYSIS

Mean age

25.03 ± 10.01 years

SEVERITY



GENDER DISTRIBUTION

71% - Females
28.9% - Males

CHANGE IN HYDRATION AFTER MOISTURIZER APPLICATION

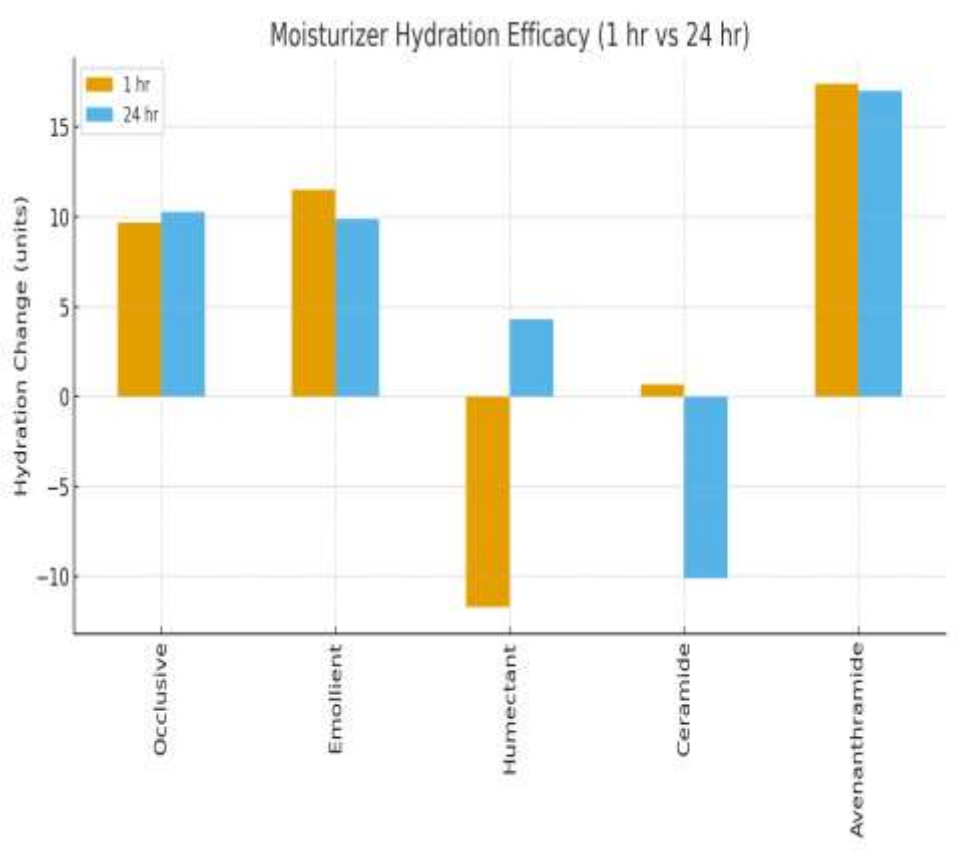
✓Occlusive – Consistent and significant improvement.

✓ Emollients – Rapid and significant improvement in hydration.

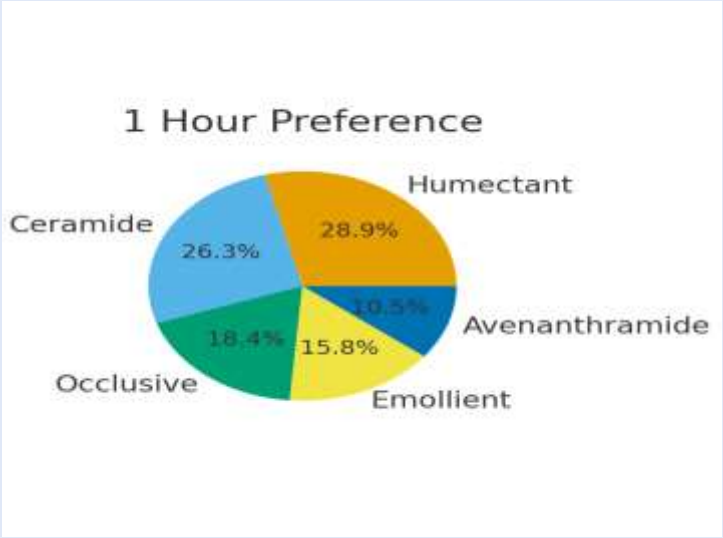
✓ Humectants - Initial deterioration followed by slow delayed improvement over 24 hours, indicating a phasic response

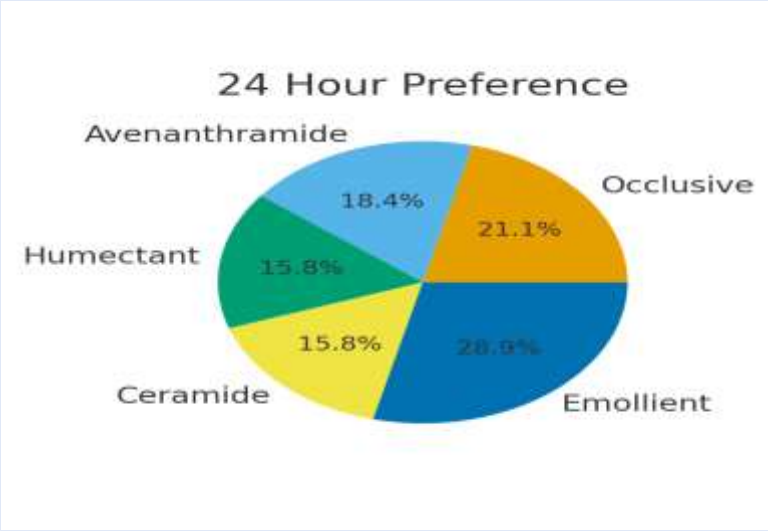
✓ Ceramide - Initially neutral but performed worse by 24 hours, showing a statistically significant decline in hydration

✓ Avenanthramide - Highest and most rapid increase in hydration, with effects that were both statistically significant and sustained 24 hours



PATIENT PREFERENCE AND VAS ANALYSIS





Among the 38 patients only 7 (18.4%) had alignment in their subjective choice of moisturizer and the objective moisture-meter based assessment. This suggest that patient-reported effectiveness may be influenced by additional sensory or experiential factors beyond hydration improvement.

DISCUSSION

• Moisture are the established cornerstone in management of atopic dermatitis
• In our study efficacy of different classes of moisturizers varied significantly.
• Occlusives and emollients confirmed their established barrier-restoring roles, while avenanthramide (anti-inflammatory) formulations outperformed others, emphasizing their therapeutic value beyond hydration.
•Conversely, ceramide creams, though theoretically optimal for barrier repair, paradoxically worsened hydration by 24 hours—possibly due to formulation instability, patient irritation, or impaired uptake in AD skin.
•Humectants demonstrated a biphasic effect, initially drawing water out of already compromised skin but later normalizing.
•Interestingly, patient preferences diverged from hydration data. Early subjective preferences favoured humectants and ceramide products despite their poorer objective results. This discrepancy highlights the influence of cosmetic elegance, spreadability, and sensory perception on compliance, underlining the need for clinicians to balance scientific efficacy with patient-reported acceptability.

CONCLUSION

• Patient-reported preferences were often inconsistent with objective hydration outcomes, with only 18.4% alignment.

• This indicates patient preference can be influenced by sensory or experiential attributes.

• Clinicians should integrate both objective efficacy and subjective acceptability in moisturizer selection to optimize treatment outcome and patient compliance.

REFERENCES –

✓ *Lynde CW. Moisturizers: what they are and how they work. Skin Therapy Lett. 2001;6:3–5.*
✓ Rawlings AV, Canestrari DA, Dobkowski B. Moisturizer technology versus clinical performance. Dermatol Ther. 2004;17(Suppl 1):49–56. doi: 10.1111/j.1396-0296.2004.04s1006.x.
✓ Holden C, English J, Hoare C, et al. Advised best practice for the use of emollients in eczema and other dry skin conditions. J Dermatol Treat 2002;13:103-6.
✓ Sarkar R, Narang I. Childhood atopic dermatitis-An Indian perspective. Pediatr Dermatol. 2018;35:e330–1. doi: 10.1111/pde.13551