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LABORATOIRE A-DERMA

From complementary pruritogenic pathway modulation to clinical improvement: multidimensional evaluation of an emollient containing Rhealba oat and Helichrysum g. in adult atopic dermatitis

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Introduction & Objectives

Atopic dermatitis (AD) is a chronic inflammatory skin disorder characterized by erythema, xerosis and intense pruritus, which often worsens at night and disrupts sleep. Its pathophysiology involves barrier impairment closely linked to type 2 inflammation and pruritogenic mediators. Emollients are a cornerstone of AD management, aiming to repair skin barrier and reduce itch. This study was designed to assess effectiveness of a cream containing Rhealba® Oat and Helichrysum gymnocephalum in adults with AD using a multidimensional approach that combined clinical assessments of AD severity, objective, device-based monitoring of nocturnal scratching through a wearable device, and patient-reported outcomes capturing pruritus intensity, its impact on quality of life, and sleep quality. In parallel, anti-inflammatory properties of both extracts were investigated in vitro.

Materials & Methods

A monocentric, open-label study was conducted comprising a 7-day run-in period without application of the product, followed by 28 days of once-daily application of the emollient containing Rhealba® oat and Helichrysum g.

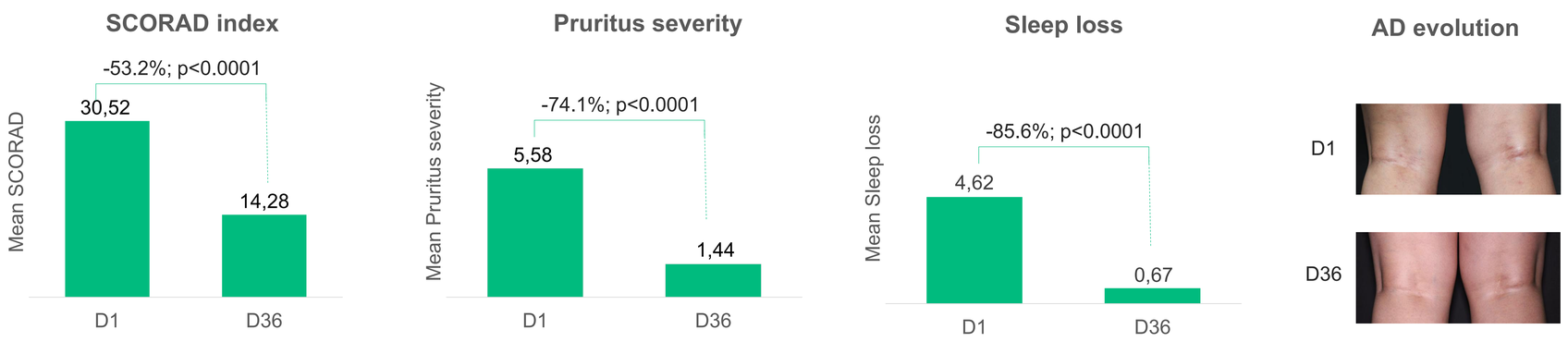
A multidimensional assessment strategy was implemented:

1. AD severity was evaluated using SCORAD.
2. Patients were equipped with wrist-worn wearable devices to provide objective, continuous monitoring of nocturnal scratching, capturing frequency and duration of scratching episodes.
3. Patient-reported outcomes were collected to document pruritus intensity and its impact on quality of life through a validated questionnaire, the Chronic Itch Burden Scale, as well as perceived sleep quality and sleep disturbances.
4. In vitro, anti-inflammatory properties of the extracts were investigated using complementary models, including inhibition of IL-8 and TSLP release and STAT phosphorylation assay in Th2-stimulated normal human epidermal keratinocytes (NHEKs). A sensory neuron–keratinocyte co-culture model was also used to examine nerve growth and Brain Natriuretic Peptide (BNP) both associated with pruritic context of the pathophysiology.

Results

After 4 weeks of night cream application compared to D1, SCORAD score decreased significantly with notable reductions in pruritus and sleep disturbances.

In addition, mean target SCORAD scores decreased similarly over time for both left and right limbs, with significant differences on D36 vs. D1: -44.0% (p = 0.0013) for left limbs and -43.4% (p = 0.0024) for right limb (not shown).

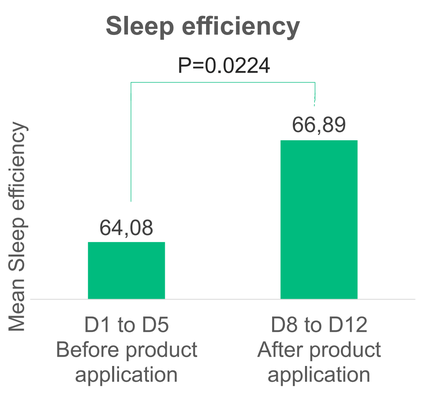


Conclusion

This complementary approach, combining clinical evaluation, objective wearable data and patients' own experience, demonstrates that a Rhealba® oat and Helichrysum g. night cream **effectively reduces AD severity, nocturnal scratching and sleep impairment and improves quality of life**.

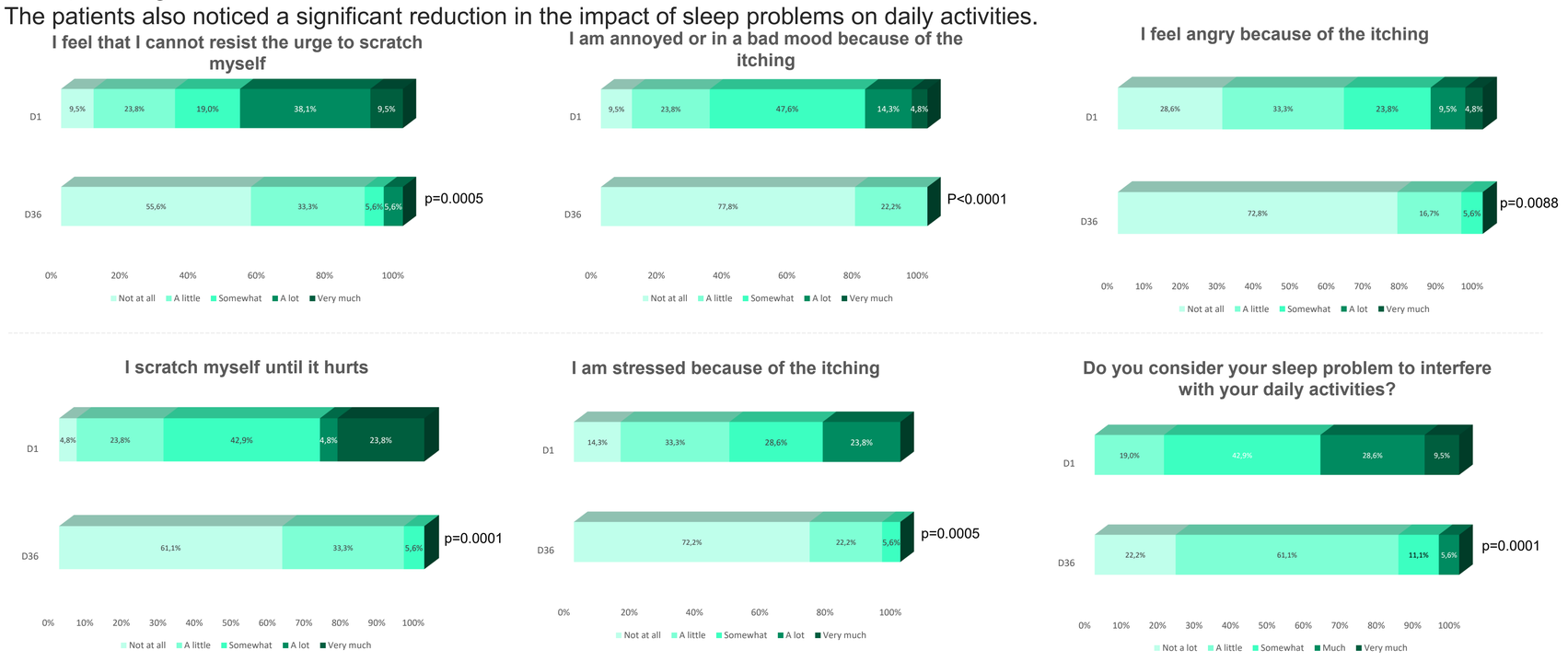
Consistent in vitro evidence on inflammatory and pruritogenic pathways further supports its use as a target in atopic dermatitis.

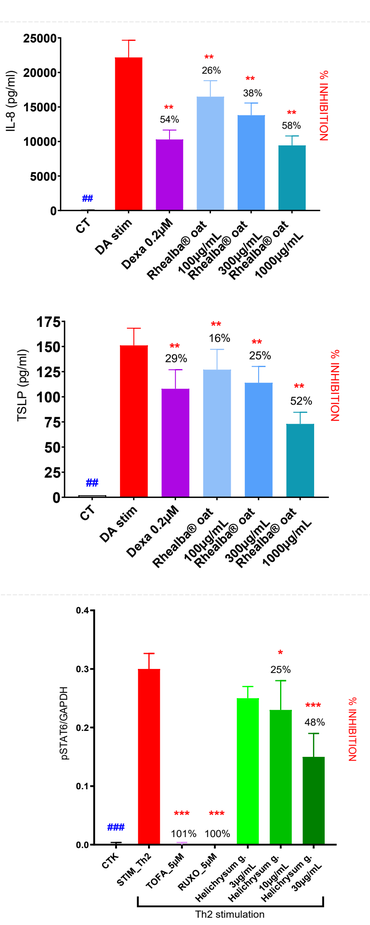
Wearable device measurements showed a significant decrease
in nocturnal scratching and duration of scratching episodes,
along with improved sleep efficiency.

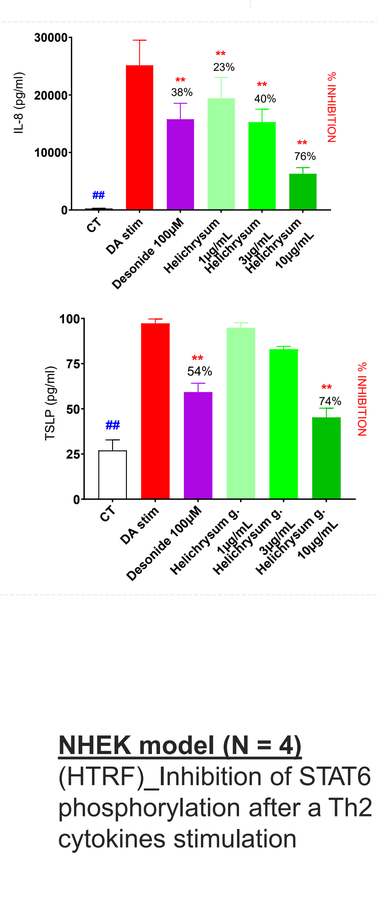


This significant improvement in pruritus was confirmed by the patients who also noted a significant improvement in their quality of life. Specifically, scores decreased for the urge to scratch, scratch-related pain, the negative impact of itch on mental health, such as bad mood, stress, and anger.

The patients also noticed a significant reduction in the impact of sleep problems on daily activities.

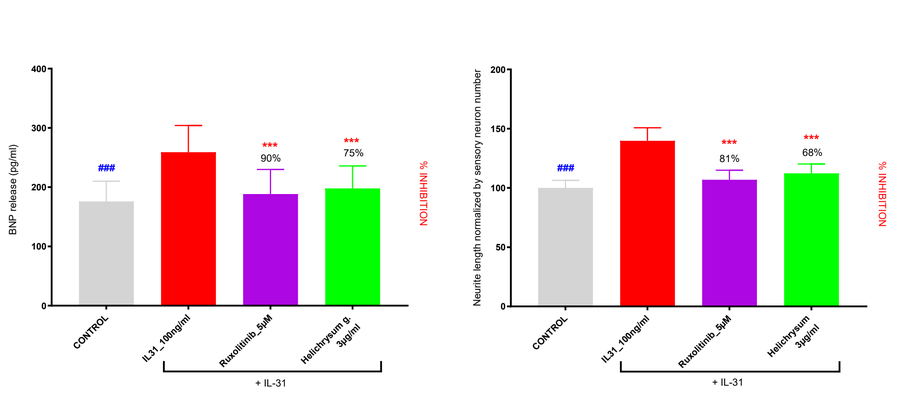




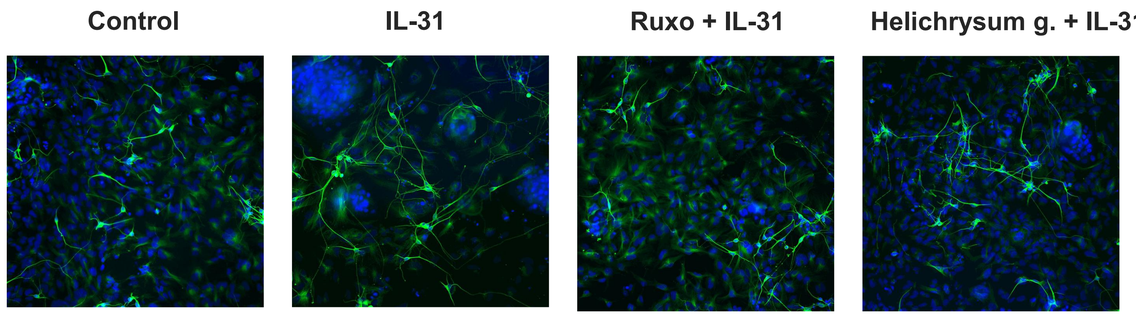


NHEK model (N = 3)
(EIA)_Inhibition of IL-8 and TSLP release following stimulation with Poly(I:C)+PamC3+IL-4+I-13

NHEK model (N = 4)
(HTRF)_Inhibition of STAT6 phosphorylation after a Th2 cytokines stimulation



Human sensory neuron/keratinocyte coculture (N = 4)
(EIA and IHC)_ Inhibition of IL-31-stimulated release of BNP and nerve sprouting



(TOFA : Tofacitinib ; Ruxo : Ruxolitinib ; Dexa : Dexamethasone)
(## p<0.01, ### p<0.001 vs NT or Normal ; * p<0.05; ** p<0.01, *** p<0.001 vs STIM ; 1wANOVA test followed by a multiple comparisons p

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