



ATOPIC ECZEMA/DERMATITIS

NATURE-BASED SKIN CARE REGIMEN IMPROVES SKIN BARRIER FUNCTION AND OXIDATIVE DAMAGE SENSITIVE SKIN POPULATION EXPOSED TO HIGH POLLUTION

Hemali Gunt⁽¹⁾

Burt's Bees, Clinical Affairs, Durham, North Carolina, United States⁽¹⁾

Background: Various air pollutants such as ultraviolet radiation, particulate matter, ozone, polycyclic aromatic hydrocarbons, volatile organic compounds, and cigarette smoke affect the skin by inducing oxidative stress. Accumulating scientific evidence suggests that Asian women, exposed to high levels of air pollution, may develop inflammatory skin conditions such as atopic dermatitis, irritant dermatitis, and increased skin sensitivity.

Objective: The aim of this study was to determine whether a daily routine of a nature-based skin care regimen would reduce the sensorial symptoms of sensitive skin in Asian female subjects using lactic acid sting test.

Methods: 60 Asian, female subjects (aged 25-55 years) with sensitive skin confirmed via a positive stinging test were enrolled. A nature-based regimen (cleanser containing natural oils, beeswax and witch hazel and day & night creams containing natural oils, glycerin and botanical anti-inflammatories) was administered twice daily for 4 weeks to 40 subjects. The remaining 20 subjects continued to use their current synthetic skin care regimen. The following evaluations were made at baseline and Week 4: stinging test, clinical grading for erythema, dryness, and scaling; self-assessment of skin sensitivity; skin barrier function parameters including transepidermal water loss (TEWL) and stratum corneum hydration and elasticity. In addition, expression of carbonyl proteins and cytokines was analyzed by tape stripping.

Results: The nature-based skin care regimen significantly reduced the facial stinging test score. Self-assessment demonstrated a decrease in sensorial symptoms of skin sensitivity and skin reactivity. Skin barrier function was improved characterized by decreased TEWL. Carbonyl proteins and cytokines were significantly decreased at 4 weeks of treatment.

Conclusions: Nature-based skin care products were well-tolerated in Asian women with sensitive skin. The products reinforce the skin's epidermal barrier, decrease skin inflammation, and oxidative stress as indicated by reduced carbonyl proteins; and improve overall skin health.

