Greater levels of itch relief and skin clearance correlate with improved patient outcomes in atopic dermatitis – Real-world insights from TARGET-DERM AD

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**Introduction/Background:** Atopic dermatitis (AD) patients undergoing treatment may only experience partial improvements in their itch and skin lesions. However, partial improvement may not translate into optimal patient outcomes. There is limited evidence describing the impact of achieving higher efficacy measures in AD.

**Objectives:** To assess the independent and combined effects of itch and skin of improvement on patient-reported symptoms and quality-of-life outcomes.

**Methods:** The study included adult participants (age ≥18 years) with AD enrolled in TARGET-DERM AD, an observational, longitudinal study of >4,000 participants across 52 academic/community centers in the United States and Canada. Itch severity was assessed by the Patient-Reported Outcome Measurement Information System (PROMIS) Itch-Sever[3] item evaluating “itch at its worst” on a 0–10 numeric rating scale (NRS). A score of 0 or 1 indicated no/minimal itch (NRS-Itch 0/1). Skin severity was assessed by the validated Investigator Global Assessment of AD (vIGA-AD), with 0 or 1 representing clear/almost clear skin (vIGA-AD 0/1).

The association of itch and skin severity with scores representing an ideal state in AD symptoms and quality of life outcomes were assessed as follows: patient-reported clear/almost clear disease (Patient-Oriented Eczema Measure [POEM] 0–2), little or no impact of AD on quality of life (Dermatology Life Quality Index [DLQI] 0/1), little or no sleep impact (NRS-Sleep 0/1), and little or no pain (NRS-Pain 0/1). Associations were assessed using descriptive statistics and logistic regression models including main and interaction effects for itch and skin severity.

**Results:** Among adult participants (n=1920; mean age 45 years, 59% female; 55% Non-Hispanic White), data was available from participants at enrollment for the outcomes as follows: vIGA-AD (99%, 1,913), NRS-Itch (54%, 1,042), DLQI (50%, 967), POEM (51%, 974), NRS-Sleep (50%, 958), and NRS-Pain (50%, 965).

The proportion reporting ideal state scores was highest among those with NRS-Itch 0/1 (52% DLQI 0/1; 54% POEM 0–2; 57% NRS-Sleep 0/1; 83% NRS-Pain 0/1) and clear/almost clear skin (45% DLQI 0/1; 44% POEM 0–2; 45% NRS-Sleep 0/1; 74% NRS-Pain 0/1), with decreasing proportions generally observed at greater itch and skin severity levels. Among patients who had vIGA-AD 0/1, the proportion of participants with an ideal state score for all PROs increases substantially when patients also attain NRS itch 0/1: 69% DLQI 0/1, 78% POEM 0–2, 68% NRS-Sleep 0/1, and 92% NRS-Pain 0/1.

The adjusted odds ratio of reporting DLQI 0/1, POEM 0–2, NRS-Sleep 0/1, and NRS-Pain 0/1 was highest among those with both no/minimal itch and clear/almost clear skin (20.0, 41.6, 6.0, and 16.1, respectively), followed by no/minimal itch only (6.1, 6.7, 3.1, and 4.3, respectively), and clear/almost clear skin only (4.4, 5.0, 1.6, and 3.0, respectively).

**Conclusions:** Achieving complete or almost complete resolution of itch and skin lesions is associated with greater odds of achieving an ideal state in terms of
patient reported symptoms and quality of life (DLQI, POEM, NRS-Sleep, and NRS-Pain) with itch relief exhibiting a slightly higher impact than skin clearance. These results underscore the importance of assessing and documenting both itch severity and skin clearance to support shared decision-making. Moreover, simultaneous resolution of both itch and skin lesions should be considered when setting treatment goals in AD patients.

**Keywords:** Atopic dermatitis, itch, patient-reported outcomes, quality-of-life, real-world evidence

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