

# The role of itch resolution and skin clearance in patient-reported atopic dermatitis severity and quality of life: Real-world Insights from TARGET-DERM AD



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## Introduction

- Severity of atopic dermatitis (AD) itch and lesions is associated with poor quality of life.
- However, there is limited evidence describing the combined impact of itch and skin severity on patient outcomes in AD.

## Objective

- To assess the independent and combined effects of itch and skin severity on patient-reported symptoms and quality of life outcomes.

## Methods

- Inclusion Criteria**
  - Adult participants (age ≥ 18 years).
  - Enrolled in TARGET-DERM AD, an observational, longitudinal study of participants with AD across 43 academic/community centers in the United States and Canada (n=3,158 at the time this analysis was conducted).
- Assessments**
  - Patient-Reported Outcome Measurement Information System (PROMIS) Itch-Severity question evaluating "itch at its worst", (range 0–10). Responses of 0–1 were interpreted as no/minimal itch.
  - The validated Investigators Global Assessment of AD (vIGA-AD, range 0–4). Scores of 0 or 1 represented clear/almost clear skin (vIGA-AD 0/1).
  - Patient-Oriented Eczema Measure (POEM, range 0–28). Result values of 0–2 represented patient-reported clear/almost clear disease.
  - Dermatology Life Quality Index (DLQI, range 0–30). Values of 0–1 were interpreted as no impact on quality of life.
- Analyses**
  - Patient characteristics were summarized using descriptive statistics.
  - The proportion of patients reporting clear/almost clear disease (POEM 0–2) and no impact on quality of life (DLQI 0–1) were reported by categories of itch severity and vIGA-AD.
  - Clear/almost clear disease (POEM 0–2) and no impact on quality of life (DLQI 0–1) were modelled using logistic regression models and included main and interaction effects for no/minimal itch and clear/almost clear skin.

## Results

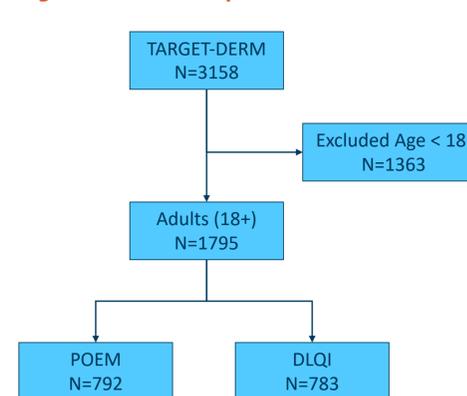
- Of 3,158 patients in TARGET-DERM AD, 1,795 were adults. Respectively, 792 and 783 had baseline POEM or DLQI scores (**Figure 1**).
- Patients generally exhibited moderate disease severity as shown by the median vIGA-AD, DLQI, POEM, and Worst itch scores (**Table 1**).
- The proportion reporting POEM 0–2 was highest among those with no/minimal worst itch (73%, **Figure 2**), and clear/almost clear skin (46%), with decreasing proportions observed at greater itch severity levels.
- The proportion reporting DLQI 0–1 was highest among those with no/minimal worst itch (72%, **Figure 3**), and clear/almost clear skin (45%), with decreasing proportions observed at greater skin severity levels.
- Among patients with clinician reported clear/almost clear skin, the proportion of patients reporting POEM 0–2 and DLQI 0–1 was especially high among those with no/minimal itch (87.5% and 82.6%, respectively; **Figures 4 & 5**).

**Table 1. Patient characteristics at enrollment**

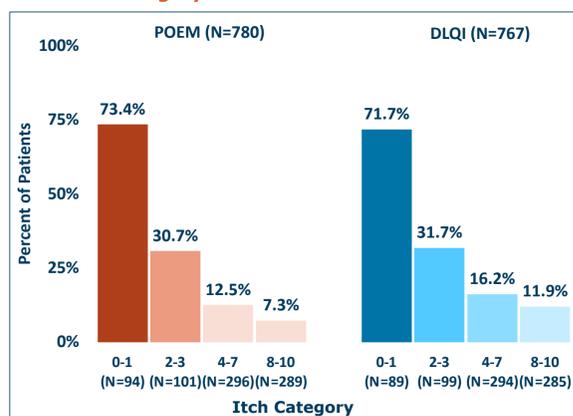
Patient characteristic	(N=1795)	Patient characteristic	(N=1795)
Age at enrollment		vIGA-AD	
Mean (SD)	44.5 (19.6)	Mean (SD)	2.2 (1.33)
Median (n)	43.0 (1795)	Median (n)	3 (1702)
Q1–Q3 (IQR)	27.0 - 59.0 (32.0)	DLQI	
Sex, n (%)		Mean (SD)	6.4 (6.11)
Female	1059 (59.0%)	Median (n)	5 (783)
Male	736 (41.0%)	POEM	
Race-Ethnicity, n (%)		Mean (SD)	9.2 (7.1)
NH White	1078 (60.1%)	Median (n)	8.0 (792)
NH Black	190 (10.6%)	Q1–Q3 (IQR)	3.0 - 14.0 (11.0)
NH Asian	201 (11.2%)	Worst itch	
Hispanic/Latino	124 (6.9%)	Mean (SD)	5.9 (3.11)
Other/Not Reported	202 (11.3%)	Median (n)	7 (782)

SD=standard deviation; IQR=interquartile range; NH=Non-Hispanic; vIGA-AD validated Investigator's Global Assessment of Atopic Dermatitis; DLQI=Dermatology Life Quality Index; POEM=Patient-Oriented Eczema Measure

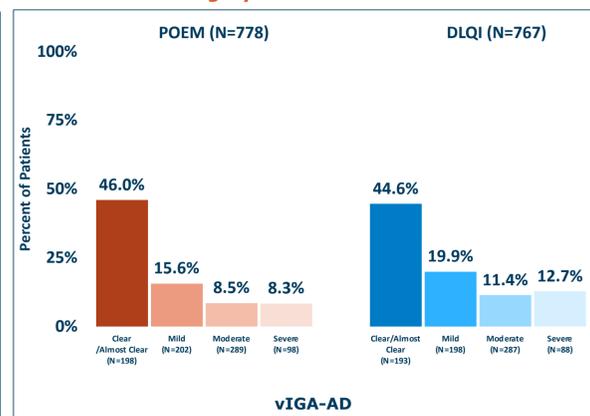
**Figure 1. Patient disposition**



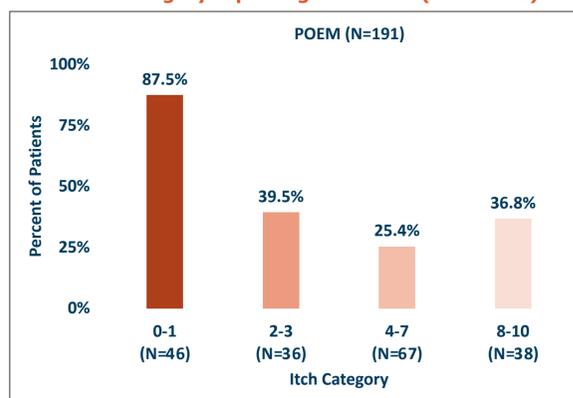
**Figure 2. Among all respondents in each PRO category (POEM and DLQI), the percentage of patients within each itch category**



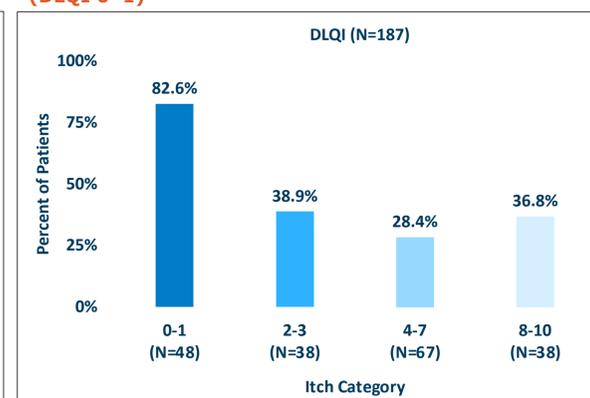
**Figure 3. Among all respondents in each PRO category (POEM and DLQI), the percentage of patients within each vIGA-AD category**



**Figure 4. Among those with clinician-reported clear skin (vIGA-AD 0/1), the percent of patients within each itch category reporting clear skin (POEM 0-2)**



**Figure 5. Among those with clinician-reported clear skin (vIGA-AD 0/1), the percent of patients within each itch category reporting no quality of life impact (DLQI 0-1)**



- Logistic regression results suggest that no/minimal itch and clear/almost clear skin are significantly associated with POEM 0–2 and DLQI 0–1, though the interaction effect was not statistically significant in all models assessed (**Table 2**).

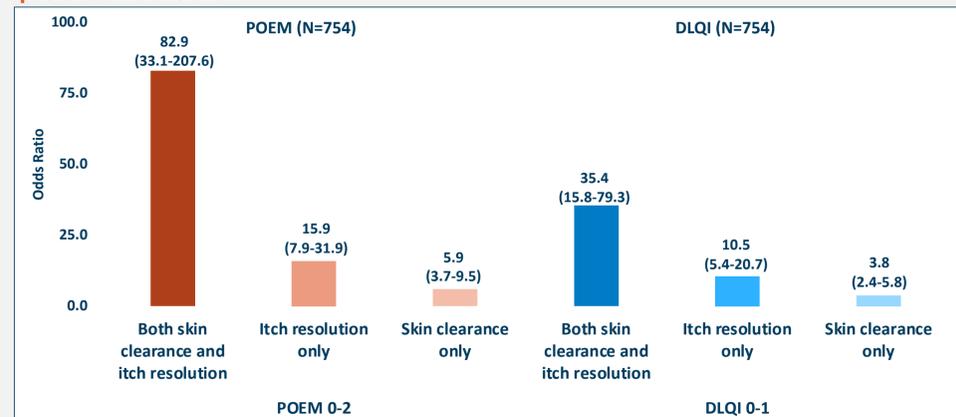
**Table 2. Regression results, the log odds for each model parameter statistically associated with improved patient-reported outcomes (POEM 0-2 or DLQI 0-1).**

Effects description	POEM			DLQI		
	Coefficient	SE	p-value	Coefficient	SE	p-value
Clear/Almost Clear Skin (vIGA-AD 0/1)	1.33	0.22	<.01	1.77	0.24	<.01
No/Minimal Itch (Worst Itch 0–1)	2.35	0.34	<.01	2.77	0.36	<.01
Clear/Almost Clear Skin * No/Minimal Itch	-0.11	0.55	<b>0.84</b>	-0.12	0.59	<b>0.84</b>

SE=Standard Error; P-value=Probability Value

- Compared to those who had neither no/minimal itch nor clear/almost clear skin, the odds ratio of reporting POEM 0–2 or DLQI 0–1 was highest among those with both no/minimal itch and clear/almost clear skin, followed by no/minimal itch only, and clear/almost clear skin only (**Figure 6**).

**FIGURE 6. The adjusted odds ratios (95% confidence interval) of achieving improved PROs (POEM 0–2 or DLQI 0–1) based on skin clearance and itch resolution status compared to patients with neither.**



Skin clearance (clear/almost clear skin); itch resolution (no / minimal itch); Data in parentheses represent the 95% confidence interval

## Conclusion

- Complete or almost complete relief of itch and skin lesions is associated with greater odds of achieving ideal states in PROs (POEM and DLQI) with itch relief exhibiting a relatively 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 and setting treatment goals.
- Future research should include analyzing discrepant data (e.g. patients with no/minimal itch, but some skin lesions) to more precisely identify which aspect drives the patient-reported outcomes.

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