

**Titles:** Use of Systemic Therapy in Adults with Moderate-to-Severe Atopic Dermatitis: Analysis from the CorEvitas Atopic Dermatitis Registry

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**Background:** Despite recent advances in systemic treatment of atopic dermatitis (AD), many patients eligible for systemic therapy remain on topical treatments, often with inadequate disease control. We compared the demographics and disease characteristics of AD patients treated with a systemic or biologic therapy with systemic-eligible patients in the CorEvitas AD Registry.

**Objectives:** To identify differences in patient and clinical characteristics between systemic-eligible patients that initiate systemic therapy compared to those patients that do not initiate systemic therapy for AD at registry enrollment.

**Methods:** The CorEvitas Atopic Dermatitis Registry is a prospective, non-interventional registry for adult patients ( $\geq 18$  years of age) with AD under the care of a dermatologist or qualified dermatology practitioner in the US and Canada. Use of systemic therapy at registry enrollment was defined according to which of the following eligibility conditions was met at the time of enrollment: a) Has started taking a systemic AD medication within 12 months prior to the enrollment visit (“in use”), b) Is prescribed a new systemic AD medication at the enrollment visit (“newly prescribed”), or c) Is NOT being treated with, or initiated, an AD systemic treatment at the time of enrollment, but has an Eczema Area Severity Index (EASI) score  $\geq 12$  AND a vIGA-AD<sup>TM</sup>  $\geq 3$  (“not treated”). Cohen’s f (effect size for difference in means for continuous variables; 0.10=small, 0.25=moderate, 0.40=large effect) and Cohen’s phi (effect size for difference in proportions for categorical variables, 0.10=small, 0.30=moderate, 0.50=large effect) were used to compare demographic and disease characteristics between systemic therapy groups.

**Results:** At enrollment, most patients were using (n=659 [45%]) or newly prescribed (n=655 [44%]) systemic therapy; 158 (11%) were not treated with systemic therapy but were eligible. As expected, EASI scores were lower among patients who were already in use of a systemic therapy for up to 12 months (mean  $\pm$  standard deviation:  $5.3 \pm 8.4$ ) compared to patients who were newly prescribed ( $16.4 \pm 12.7$ , Cohen’s f: 0.52) or not treated with systemic therapy ( $19.8 \pm 9.0$ , Cohen’s f: 0.67). Likewise, the proportion of patients with AD classified as controlled according to Atopic Dermatitis Control Tool (ADCT) total score was higher among patients already in use of a systemic therapy (62%) compared to those newly prescribed (15%, Cohen’s phi: 0.48) or not treated with systemic therapy (25%, Cohen’s phi:

0.29). Surprisingly, no clinician- or patient-reported severity measures substantially differentiated between patients newly prescribed a systemic therapy compared to systemic-eligible patients who were not treated with systemic therapy (all effect sizes  $\leq 0.17$ ). Among sociodemographic characteristics, the largest between group differences observed were by geographic location of the clinic, with the proportion of patients in use/newly prescribed systemic therapy ranging from 77% (West) to 95% (Northeast and South) (Cohen's phi: 0.22). There were also small effects observed for differences by race, work status, and lesional involvement of palms, soles, and other body sites.

**Conclusions:** Demographics, disease characteristics and comorbidities were generally similar between adult patients who newly initiated systemic therapy compared to systemic-eligible patients not treated with systemic therapy. The most prominent differences, albeit small, were observed across geographic regions of North America, with less prominent differences for several patient characteristics. Further research is needed to identify why systemic treatment initiation may differ by geography and to further uncover factors influencing treatment decisions.