# Real-world burden of comorbidities of atopic dermatitis in the U.S. adult population

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## Introduction

- Previous studies focusing primarily on inpatient populations have found systemic comorbidities associated with atopic dermatitis (AD), an intensely pruritic, inflammatory skin disease.
- Limited data are available on the burden of comorbidities of AD in the real-world, U.S. adult population.
- Understanding the burden of associated diseases can provide important perspectives into the systemic nature of AD and help guide management of AD patients.

## Objective

- To assess the extent of comorbidities associated with adult AD using a real-world, national claims database.

## Methods

- We queried the MarketScan Commercial Claims database from January 1, 2017 to December 31, 2017 to identify U.S. patients between the ages of 18 to 64 years with diagnosis of AD and their sex- and age-matched controls, with at least 3 months of continuous enrollment during the study period.
- AD patients were required to have 2 or more medical/pharmacy claims for AD (ICD-10-CM: L20*).
- Comorbidities were selected using ICD-10-CM codes based on clinical relevance and adequate sample sizes.
- Multivariable logistic regressions were performed to calculate the odds ratios of various comorbidities in AD patients vs. age- and sex-matched controls.
- The threshold for statistical significance was set *a priori* at 0.001 to control for multiplicity.

| Participant Characteristic | Atopic Dermatitis | General population controls |
|---|---|---|
| **Total population, n** | 39,779 | 353,743 |
| **Age, years, mean (SD)** | 42.5 (13.7) | 41.9 (13.3) |
| **Male, n(%)** | 14,348 (36.1) | 168,074 (47.5) |
| **Region, n(%)** | | |
| Northeast | 8,896 (22.4) | 61,293 (17.3) |
| North Central | 5,484 (13.8) | 70,358 (19.9) |
| South | 19,067 (47.9) | 164,758 (46.6) |
| West | 6,242 (15.7) | 56,057 (15.9) |
| Unknown | 90 (0.23) | 1,277 (0.36) |

**Table 1.** Demographic characteristics including age at diagnosis, sex, geographic location within the U.S. for each group, prior to matching

## Results

- Demographics of the AD patient populations and the general population controls are shown in Table 1.
- Compared to their age- and sex- matched controls, adult AD patients had higher odds of various mental health disorders (e.g. obsessive-compulsive disorder, schizophrenia, anxiety, mood disorder, etc.), several types of infections (e.g. HIV, MRSA, Herpes, etc.), several autoimmune conditions (e.g. alopecia areata, vitiligo, dermatomyositis, etc.), several allergic conditions (e.g. food allergy, urticaria, allergic rhinitis, etc.), several types of malignancy (e.g. lymphoid/ hematopoietic malignancy, melanoma and non-melanoma skin cancer), and several types of systemic comorbidities (e.g. metabolic syndrome, atherosclerosis, COPD, etc.), as shown in Figure 1.

**Likelihood of comorbid conditions in adult patients with AD vs. age- and sex- matched controls**

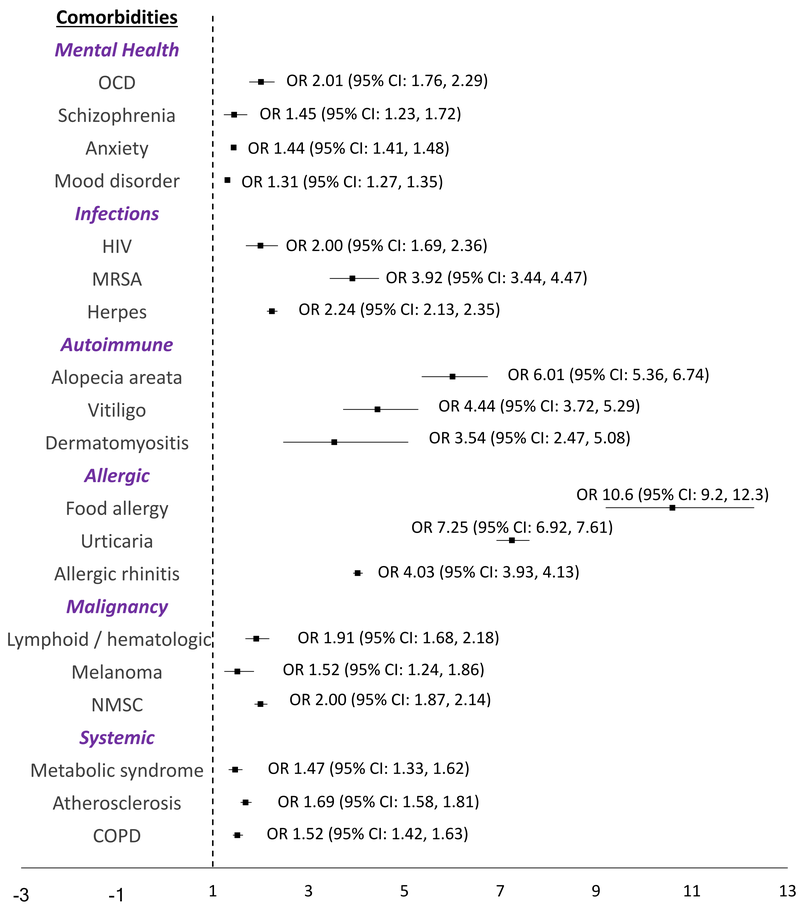


**Figure 1.** Odds Ratios and the 95% CI showing increased likelihood of various comorbidities in adult patients with AD vs. age- and sex-matched controls

## Conclusions

- Adult AD is associated with a wide range of psychiatric, immune, and extracutaneous comorbidities in real-world settings, reflecting the systemic nature of this disease.
- Increased awareness of the comorbidity burden and modifiable risk factors in AD can help guide the effective workup and management of these patients.