

## ABSTRACT

**Background:** Atopic dermatitis (AD) is associated with eczematous lesions, chronic pruritus, skin pain, sleep disturbance, all of which may negatively impact mental health and lead to depression. However, little is known about the predictors and longitudinal course of depressive symptoms in patients with AD over time.

**Objective:** To determine the predictors of and longitudinal course of depressive symptoms in adult patients with AD.

**Methods:** A prospective, dermatology practice-based study was performed (n=695). AD severity (EASI) and Patient Health Questionnaire (PHQ)-9 were assessed at baseline and follow-up visits approximately every 6 months.

**Results:** At baseline, 454 (65.32%) had minimal, 139 (20.00%) mild, 57 (8.20%) moderate, 27 (3.88%) moderately severe, and 8 (2.59%) had severe depression. Overall, the majority of patients had fluctuating levels of depressive symptoms. The depressive symptoms found to be more persistent than fluctuating over time were feeling bad, thoughts of self-harm, difficulty concentrating, and slow movement. Patients with severe AD were significantly more likely to experience depression over time. Predictors of depression over time included moderate and severe facial erythema (adjusted  $\beta$  [95%]: 0.583 [0.337--0.830], 1.011 [0.703-1.318] respectively); mild, moderate and severe pain (adjusted  $\beta$  [95%]: 1.092 [0.718-1.466], 2.826 [2.462-3.190], 4.107 [3.768-4.446] respectively); mild and moderate nipple eczema (adjusted  $\beta$  [95%]: 2.317 [1.773-2.861], -3.863 [-5.287- -2.440]); moderate and severe itch (adjusted  $\beta$  [95%]: 0.938 [0.603-1.273], 3.902 [3.545-4.260]); mild pityriasis (adjusted  $\beta$  [95%CI]: (2.317 [1.774-2.860])); age of 65+ years ( $\beta$  [95%CI]: 0.330 [0.082-0.579]); Hispanic, African American, and other non-white race ( $\beta$  [95%CI]: 0.312 [0.171-0.454]), (1.739 [1.591-1.887]), (-1.184 [-1.277--1.091], respectively); male gender ( $\beta$  [95%CI]: 0.838 [0.659-1.017]); and patients with Medicaid, Medicare, and Uninsured/self-pay ( $\beta$  [95%CI]: 3.880 [3.539-4.221], 1.226 [0.901-1.550], (-1.005 [-1.440--1.091], respectively).

**Conclusion:** Overall, patients with AD had fluctuating levels of depression. However, a subset of depressive symptoms were found to persist over time. Severity of AD signs and symptoms had strong associations with poor mental health and depressive symptoms over time.