

Title: Disease burden and impact on quality of life among adult Hispanics and non-Hispanics with Atopic Dermatitis: a population based cross-sectional study in the United States

Introduction: Atopic dermatitis (AD) is a chronic, inflammatory skin disease often associated with increased health burden including higher rates of atopic and non-atopic comorbidities. Though several studies have examined the prevalence of comorbidities in patients with AD, these have focused primarily on populations of European descent and have not examined differences in the prevalence of these diseases among other groups including Hispanics.

Methods: Using data obtained from the Atopic Dermatitis in America survey, we conducted a cross sectional study to compare AD severity and comorbidities in Non-Hispanic (NH) and Hispanic (H) populations. Descriptive statistics were used to summarize variables of interest. Comparisons between categorical and continuous variables were examined using the Chi-square test and the rank sum test respectively. Logistic regression was used to examine the association between self-reported ethnicity (Hispanic versus Non-Hispanic) in subjects with AD and self-reported comorbidities.

Results: The study population included 602 adult (≥ 18 y/o) subjects who met the UK Working group criteria including age of onset < 2 for AD. Five hundred twenty-five (87.21%) of the subjects were NH and 77 (12.79%) were H. The average age of patients at time of study was 51.61 (SD 15.7) for NH and 46.87 (SD 15.75) for H. There was a slightly higher number of female participants compared to males (57.97% vs 42.03%, respectively). Based on the Patient Oriented Eczema Measure (POEM), the majority of subjects were classified as having clear or mild disease (NH: 60.2% clear or mild, 28.8% moderate and 11% severe vs H: 59.74% clear or mild, 29.9% moderate and 10.4% severe). The most common atopic comorbidities observed were asthma (47.43% NH, 39% H) and hay fever (88.38% NH, 88.31% H). Non-atopic comorbidities included anxiety/depression (36% NH, 42.86% H), autoimmune conditions (17.9% NH, 14.29% H), diabetes (16.19% NH, 15.58% H), food allergies (12.76% NH, 20.78% H), heart disease (10.48% NH, 12.99% H) and hypertension (38.1% NH, 31.17% H). Based on the Hospital Anxiety and Depression Scale (HADS), Hispanics and Non-Hispanics had similar scores (mean [standard deviation]) for depression (H=5.72 [5.95] versus NH=5.95 [3.81]), but Hispanics had slightly higher scores for anxiety compared to Non-Hispanics (H=8.14 [4.58] versus NH= 7.04 [4.75]). Both Hispanic and Non-Hispanic groups had similar scores on the Dermatology Life Quality Index (DLQI) (H= 4.84 [7.01] versus NH=4.08 [5.55]). The results of the unadjusted logistic regression analysis for the various comorbidities were asthma ([odds ratio] OR= 1.14, [95% confidence interval] CI= 0.71-1.83), hay fever (OR=0.99, CI= 0.47-2.09), anxiety/depression (OR=0.75, CI= .46-1.2), autoimmune conditions (OR= 1.31, CI= .67-2.57), diabetes ($p=0.893$, OR=1.05, CI= 0.54-2.02), food allergies (OR=0.56, CI= 0.30-1.02), heart disease (OR=0.78, CI=0.38-1.61) and hypertension (OR= 1.36, CI=0.81-2.27).

Conclusion: Understanding the prevalence of comorbid diseases in different populations of patients with AD is critical to developing tailored treatment plans and improving patient outcomes.