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Title

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Journal

Dermatology Online Journal, 22(9)

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Publication Date

2016

DOI

10.5070/D3229032537

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Peer reviewed

Abstract

Differences in incidence and persistence of atopic dermatitis by race/ethnicity

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Dermatology Online Journal 22 (9)

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Background

Most studies on racial disparities in childhood atopic dermatitis (AD) did not consider persistent AD or account for differences in vitamin D status.

Methods

Among 1418 children recruited from a Massachusetts HMO into the pre-birth Project Viva cohort, we examined associations of child's race/ethnicity with maternal report of child's AD diagnosis by annual questionnaires. We used multivariable logistic regression adjusted for socio-demographics (maternal education, household income, smoking exposure, parental atopy, breastfeeding duration, child sex) and cord blood 25-hydroxyvitamin D, to estimate odds ratios (OR) of incident AD by early childhood (median age 3.3 years), and, among young children with AD, OR of persistence through mid-childhood (median age 7.7 years).

Results

68% of children were non-Hispanic white, 13% were black, and 19% were other race/ethnicities. By early childhood, 497/1418 (35%) had incident AD. Among those with both AD and follow-up to mid-childhood, 58/389 (15%) had persistent AD. Black children were more likely than white children to have incident AD (OR 2.21; 95% CI 1.60, 3.04), even after adjustment for socio-demographics (2.64; 1.79, 3.89) and vitamin D levels (1.93; 1.07, 3.48). Black children also had higher odds of persistent AD (3.21; 1.63, 6.32; fully adjusted 4.60; 1.24, 17.13). Children with other race/ethnicities had non-significantly higher risk for AD incidence and persistence than white children.

Conclusion

In this cohort, compared with white children, black children and children with other race/ethnicities were at higher risk for incident and persistent AD, even after accounting for differences in socio-demographic characteristics and vitamin D levels.