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## Asian American Patients With Allergic Diseases: Considerations for Research and Clinical Care

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The Asian American population includes Asian people who have immigrated to the United States as well as those born in the United States with Asian ancestry. Comprising nearly 24 million people, the Asian American population is one of the fastest growing racial and ethnic populations in the United States<sup>1</sup> and is highly heterogeneous: Asian American individuals self-identify from more than 20 ethnic and cultural backgrounds.<sup>2</sup> Although there is growing interest in this population, few studies focusing on allergic diseases have addressed the heterogeneity of this population, and the prevalence and characteristics of specific allergic diseases (eg, eczema and food allergy) among the Asian American population, as well as among Asian American subgroups (eg, Vietnamese, Chinese, and Filipino), are largely unknown. Moreover, the specific social determinants of health pertaining to Asian American patients with allergic diseases have been largely overlooked. We propose that research characterizing allergic diseases among the Asian American population, as well as attention to sociocultural dimensions of caring for Asian American patients, may improve allergists' care of this population.

The prevalence of certain allergic conditions (eg, atopic dermatitis, food allergy, and asthma) has been noted to be higher and possibly increasing at a faster rate in certain racial/ethnic populations (eg, non-Hispanic Black) compared with the non-Hispanic White (NHW)

population in the United States.<sup>3</sup> However, little is known regarding the prevalence of allergic diseases (apart from asthma) among Asian American individuals living in the United States, with recent data summarized in Table I. One study using National Health Interview Survey data found that Asian American children have a higher risk of self-reported eczema, food allergy, and asthma compared with NHW children after controlling for age, sex, income, and nativity.<sup>5</sup> In addition, significant differences were determined among Asian American subgroups in this study; for instance, Filipino children had higher odds of self-reported asthma compared with non-Asian children. Although the overall prevalence of asthma across all ages has been noted to be lower for Non-Hispanic Asian individuals compared with NHW individuals,<sup>7</sup> a previous study found heterogeneity in the prevalence of lifetime asthma diagnosis among Asian subgroups, ranging from 10.9% for Korean American children to 23.8% for Filipino American children.<sup>4</sup> Beyond these studies and one study on Asian Indian immigrants in the United States,<sup>6</sup> the prevalence and characteristics of allergic diseases among Asian American patients are largely unknown.

Studying allergic diseases in a diverse Asian American population may uncover novel insights. In fact, lessons can be gleaned from previous studies focusing on the heterogeneity of asthma risk in other ethnic populations. For instance, previous findings showed increased risk of asthma among children with Puerto Rican ancestry and decreased risk of asthma among children with Mexican ancestry,<sup>8</sup> and these findings led to further investigation into the differential impact of genetic and environmental risks on asthma.<sup>9</sup> Further work studying allergic diseases among Asian American patients may also provide unique perspectives on environmental risk factors for allergic diseases, especially as nativity and/or acculturation patterns may significantly alter risk.<sup>5</sup> Although some differences in allergic diseases between Asian and American populations have been described (eg, rates of shellfish allergy and atopic dermatitis phenotypes<sup>10,11</sup>), allergy data from Asia may not be generalizable to the Asian American population, who differ in their environment and food consumption patterns. For instance, among children of Asian descent, the prevalence rates of food allergy and early-onset atopic dermatitis were higher in Australia than in Singapore,<sup>12</sup> and migration from Asia to Australia after the early infant period was protective against the development of nut allergy.<sup>13</sup> It is not known whether Asian American children develop allergic patterns similar to non-Asian US children, even in the same environment. To better understand and care for Asian American patients with allergic diseases, further data are needed on patterns of allergic diseases in this population.

Understanding the sociocultural context of Asian American patients is also important to improving clinical management and enhancing doctor-patient relationships. Specific factors may be considered to optimize care for these patients (Table II). For example, some Asian American individuals have limited English proficiency, and the lack of trained medical interpreters, especially for regional dialects, may impede our ability to educate patients about allergic diseases (eg, the differences between sensitization and allergy; definitions of tolerance and desensitization), which adversely affects patient adherence to management plans. Asian American patients may also need to reconcile differences between culture-based expectations and their allergists' framework for understanding allergic diseases. For example, family members unfamiliar with the dangers of food allergy, possibly due to differing rates of food allergy in specific communities, may question

allergists' recommendation for food avoidance measures, especially for traditional foods with medicinal properties (eg, *hu tao ren* or walnut), or for foods that may be integral components of cultural celebrations (eg, peanut, which may be considered auspicious to eat during Chinese New Year). Given that Asian American patients encompass a wide spectrum of cultures with different belief systems and acculturation levels, allergists caring for such patients need to avoid making specific assumptions about belief systems and food consumption patterns. Instead, allergists should delve into their patients' cognitive frameworks involving allergies and help patients to navigate the allergists' recommendations in their specific cultural context (eg, addressing cultural diets and taking a detailed history of Eastern/traditional medication use). Far from a monolith, the Asian American population has relatively high levels of within-group socioeconomic inequality<sup>14</sup>; as such, allergists may need to understand each patient's unique situation with regard to socioeconomic status, health care access, and medical literacy. Provider self-awareness of unconscious and implicit biases (eg, model minority myth and perpetual foreigner) is essential for allergists caring for Asian American patients.

The Asian American population is a heterogeneous population for whom data on allergic diseases are limited. Further work is needed to characterize allergic diseases among the Asian American population and to understand the social determinants of health affecting allergy care for this rapidly growing population.

### Conflicts of interest:

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**TABLE I.**  
Recent studies investigating allergic diseases among the Asian American population

Study	Year published	Type of study	Population	Allergic disease	Main findings
Davis, et al <sup>4</sup>	2006	Cross-sectional	Hispanic and Asian American children living in California	Asthma	Lifetime asthma diagnosis for Asian American Pacific Islander (AAPI) children was 16.7% (95% CI, 16.2–17.2) Subgroup analysis within AAPI children demonstrated that the lifetime asthma diagnosis ranged from 10.9% (95% CI, 10.0–11.8) for Korean American children to 23.8% (95% CI, 22.7–24.9) for Filipino American children
Dunlop, et al <sup>5</sup>	2019	Cross-sectional	Asian and Asian American children 17 y and younger living in the United States	Food allergy Eczema Asthma	Asian American children with increased odds of self-reported food allergy (OR, 1.22; 95% CI, 1.05–1.42), eczema (OR, 1.47; 95% CI, 1.31–1.64), and asthma (OR, 1.15; 95% CI, 1.00–1.32) as compared with NHW children Subpopulation analysis demonstrated that Filipino American children with increased odds of food allergy (OR, 1.57; 95% CI, 1.25–1.98), eczema (OR, 1.51; 95% CI, 1.25–1.82), and asthma (OR, 1.38; 95% CI, 1.13–1.69) as compared with non-Asian children
Jiang et al <sup>6</sup>	2020	Cross-sectional	Indian American individuals living in the United States	Food allergy	549 participants (out of 986 household survey) found to have a food allergy Tree nuts (cashew, walnut, and pistachio) were the most common food allergen (51%; 95% CI, 46.8–55.2) followed by peanut (33.9%; 95% CI, 30.0–38.0), egg (21.9%; 95% CI, 18.6–25.5), milk/dairy (21.5%; 95% CI, 18.2–25.1)

OR, Odds ratio.

**TABLE II.**

Considerations in providing allergy/immunology care to Asian American patients

Social determinants of health	Strategies/considerations
Language	<ul style="list-style-type: none"> <li>• Availability of medical interpreter</li> <li>• Adequate/additional time if interpreter services are needed</li> </ul>
Ethnic self-identification rather than “Asian”	<ul style="list-style-type: none"> <li>• Allow patients to self-identify their ethnic background</li> </ul>
Cultural beliefs about health (eg, drinking cold water may be harmful to the body)	<ul style="list-style-type: none"> <li>• Ask patients their ideas about what causes allergies</li> <li>• Ask patients about expectations for treatment</li> <li>• Ask patients for any concerns regarding medications</li> </ul>
Housing	<ul style="list-style-type: none"> <li>• Housing conditions, exposure to pollutants</li> </ul>
Health care access and quality	<ul style="list-style-type: none"> <li>• Insurance access, coverage for medications (eg, mAb therapies)</li> <li>• Access to transportation for in-person appointments/or technology for video visits</li> </ul>
Economic stability	<ul style="list-style-type: none"> <li>• Out-of-pocket medical costs</li> <li>• Food insecurity</li> </ul>
Educational attainment	<ul style="list-style-type: none"> <li>• Health and medical literacy</li> </ul>
Legal status in the United States	<ul style="list-style-type: none"> <li>• Legal status may limit access to resources</li> </ul>
Unconscious bias of providers (eg, illusion of the “model minority” or seeing the Asian American population as a monolithic population)	<ul style="list-style-type: none"> <li>• Understand unconscious/implicit biases, specifically for Asian subgroups</li> </ul>
Lack of Asian American representation in allergy/immunology research	<ul style="list-style-type: none"> <li>• Conduct research in Asian American population and subgroups</li> <li>• Dedicate research funding for studying allergy/immunology in Asian subgroups</li> <li>• Promote importance of research participation in Asian American communities</li> </ul>