Food allergy (FA) is increasing in all race and ethnicities. Racial and ethnic disparities in FA have not been well defined. The etiology of these disparities are multifactorial and could involve the role of GAS medications altering the mucosal integrity and microbial diversity, associated conditions such as atopic dermatitis, allergic rhinitis and asthma may signal an increase likelihood specific food allergen and GERD.

Methods

- This prospective study is recruiting a target sample size of 400 W and 400 B children, 12 years old and younger, with physician-diagnosed food allergy from four urban tertiary centers.
- Participants complete in-person yearly visits and quarterly at home electronic surveys.
- We analyzed the intake questionnaire to evaluate the potential links between race, GERD, and specific types of FA.
- Chi-square tests of independence were used to determine associations between categorical variables.

Results

Table 1. This table shows the age and gender distribution of children recruited in the FORWARD study. The percentage of males recruited are significantly higher in both races than females. There were no difference between the two racial groups in terms of demographics.

Table 2. This table shows the % of White and African American children that have reported GERD in relation to each food allergen. (*) Among whites, children with milk and egg allergy had higher likelihood of having reported GERD and less likely to have GERD with tree nuts. (#) In AA children, those with shellfish allergy had higher likelihood of having reported GERD.

Food Related GERD by Race

Table 3. This table shows that treatment of gastroesophageal reflux disease (GERD) with gastric acid suppression (GAS) is associated with FA in children.

Demographics

Table 4. This table shows the % of White and African American children with GERD by age and gender.

Discussion

- Our study suggests that racial factors play a role in the relationship between specific food allergens and GERD.
- GERD in White children is higher with age than in Black children.
- The etiology of these disparities are multifactorial and could involve the role of GAS medications altering the mucosal integrity and microbial diversity.
- Associated conditions such as atopic dermatitis, allergic rhinitis and asthma may signal an increase likelihood specific food allergen and GERD.

Acknowledgements

This project was supported by R01 AI130348 (National Institute of Allergy and Infectious Diseases).

Special thanks to all members to the extended FORWARD study team at Ann & Robert H. Lurie Children’s Hospital of Chicago, Children’s National Health Systems, Cincinnati Children’s Hospital Medical Center, and Children’s National Hospital in Washington D.C.