

Rationale

- Food allergy (FA) is increasing in all race and ethnicities.
- Racial and ethnic disparities in FA have not been well defined.
- Prior studies suggest treatment of gastrointestinal reflux disease (GERD) with gastric acid suppression (GAS) is associated with FA in children.
- We evaluated parent reported history of GERD and treatment with GAS in Black (B) and White (W) children with food allergy (FA).

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 study 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.

References

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Results

- To date, 641 participants have enrolled into the study and completed the intake survey: 234 (36.5%) AA and 407 (63.5%) White children.
- GERD was reported by 19.1 % of parents overall.
- 115 patients reported GERD at intake (35 AA, 80 white) and 85 of those (73.9%) had any treatment (20 were AA and 65 were white.)

Demographics

Characteristics	% of White Children	% of Black Children
Gender		
Male	61.0	66.1
Female	39.0	33.9
Age		
0 to 3 Years	19.2	9.2
3 to 6 Years	32.2	23.1
6 to 9 Years	22.3	28.4
9 to 12 Years	26.3	39.3

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.

Food Related GERD By Race

Food Allergy	% of Whites w/ GERD	% of whites w/o GERD	P Value	% of AA w/ GERD	% of AA w/o GERD	P Value
Peanut	21.90%	18.30%	0.39	15.70%	17.50%	0.727
Tree Nuts	15.30%	26.30%	0.007*	12.60%	21.00%	0.097
Fin Fish	16.60%	20.90%	0.57	18.30%	15.70%	0.665
Shell fish	20.00%	20.60%	0.93	24.60%	12.70%	0.031#
Milk	36.00%	15.40%	<0.0001*	20.40%	15.20%	0.409
Egg	25.90%	16.60%	0.026*	18.40%	15.20%	0.544
Soy	36.30%	19.60%	0.06	18.10%	16.10%	0.807
Wheat	27.70%	20.20%	0.44	25.90%	14.90%	0.15
Sesame	20.20%	20.70%	0.92	15.00%	16.40%	0.863

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 Age

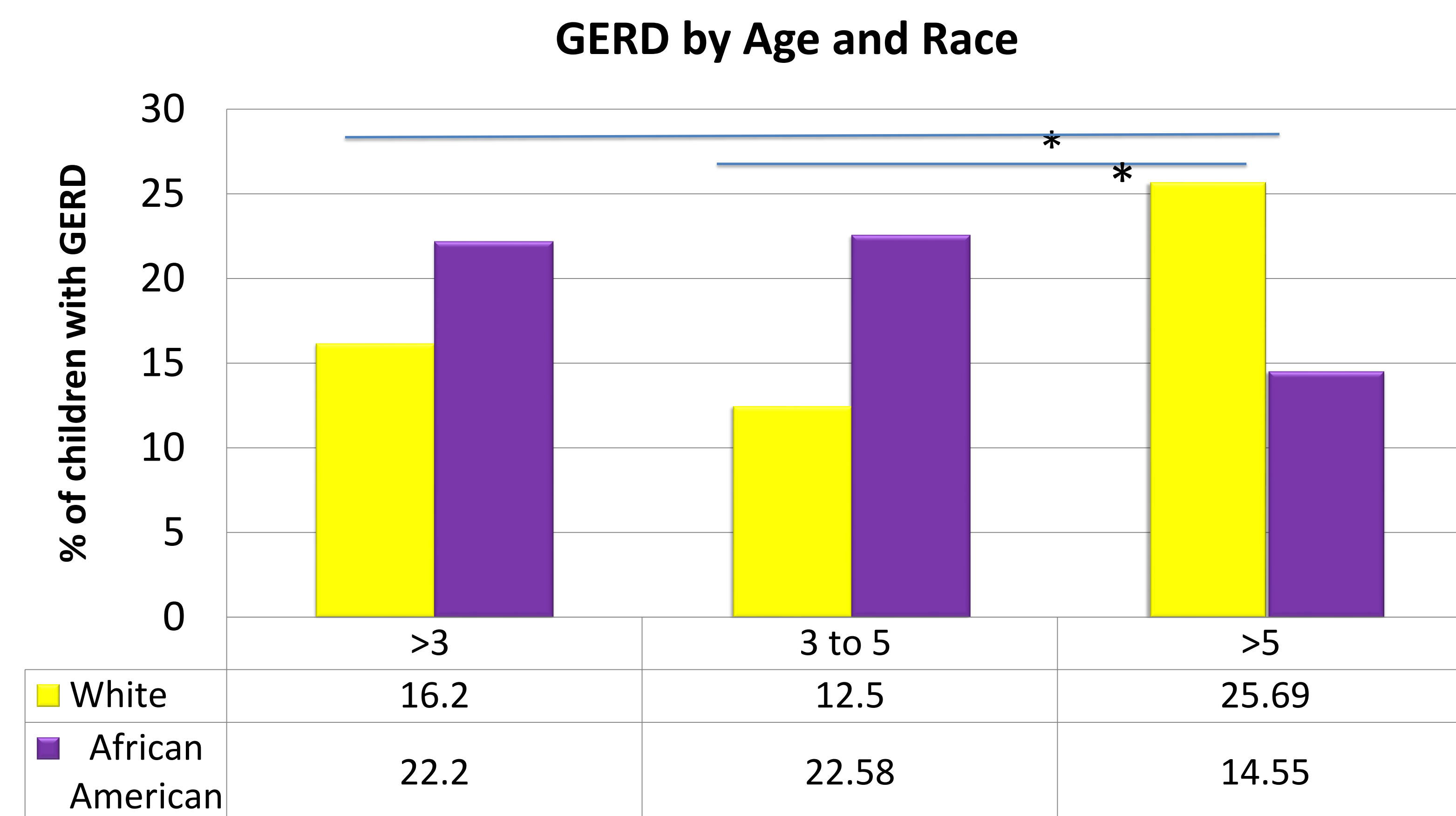


Fig 1. In white children, the prevalence of GERD is higher in children above 5 years old(p<0.05) compared to younger white children. In African American children, the association between GERD and age is not significant.

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

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