

# Breastfeeding & Asthma Prevalence

Jeannese Castro, B.A.

Russell Kirby, Ph.D.

# Breastfeeding

- Two Categories (Nwaru et. al., 2013)
  - Exclusive
  - Non-exclusive
- Exclusive breastfeeding until 6 months (WHO, 2013)
- Benefits
  - Promotes bonding
  - Reduces Type 2 Diabetes
  - Lowers risk of Breast and Ovarian Cancer
- Breastfeeding associated with reduced likelihood of childhood conditions (e.g., asthma)

# Hypothesis



**Children under the age of five will have lower chances of having childhood asthma if they were exclusively breastfed.**

# Data

- 2011 National Survey of Children's Health (NSCH)

Inclusions	Exclusions
Children < 5 years old	Children > 5 years old
Never breastfed	Missing responses
Exclusively breastfed	Previous asthma
Ever breastfed	
Current asthma	

# Variables

Independent Variable	Dependent Variable	Included Covariates	Necessary Control
Exclusive Breastfeeding	Current Asthma	Gender	Secondhand Smoke in Household
		Age	
		Poverty Level	
		Race/Ethnicity	
		Birth Weight	

# Analytic Method

- Statistical Analysis Software (SAS) 9.3
- Univariate and Bivariate Analysis
- Multivariate Logistic Regression, using weighted data



# Demographics

## Prevalence of non-asthma based on race

Race	Percentage
White non-Hispanic	54%
Hispanic	28%
African non-Hispanic	12%

## Prevalence of asthma by income level

Federal Poverty Level	Percentage
0-99%	2%
100-199%	1%
200-399%	2%
400% or greater	1%

## Prevalence of asthma among gender

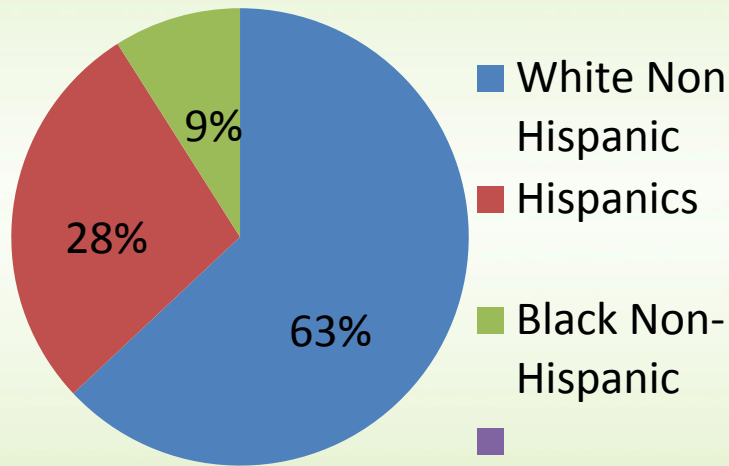
Gender	Percentage
Male	5%
Female	2%

## Prevalence of asthma by low birth weight

Birth Weight	Percentage
Normal	5%
Low	1%

# Exclusive Breastfeeding

## Exclusive Breastfeeding



## Poverty Levels

Federal Poverty Level	Exclusively Breastfed
0-99%	3%
400% or greater	5%



# Univariate Results

Infant Feeding Practice	Percentage
Never Breastfed	22%
Exclusively Breastfed	16%
Ever Breastfed	62%



# Odds Ratio Estimates

Effect	Point Estimate	Lower 95%Wald Confidence Interval	Upper 95% Wald Confidence Interval
Ever Breastfed	1.5	1.06	2.12
Never Breastfed	2.5	1.70	3.56
No smokers in household vs. $\geq 1$ smoker in the household	0.7	0.54	0.89

*Referent Group: Exclusively breastfed for first 6 months*

# Adjusted Odds Ratio

Effect	Point Estimate	Lower 95% Wald Confidence Interval	Upper 95% Wald Confidence Interval
Ever breastfed	1.46	1.04	2.07
Never breastfed	1.68	1.13	2.49
No smokers in household vs. $\geq 1$ smoker in the household	0.81	0.63	1.05

*Referent Group: Exclusively breastfed for first 6 months*

# Strengths and Limitations

## Strengths

- Large sample size
- Nationally used data set
- Breastfeeding indicator

## Limitations

- Self-reported survey
- Recall bias
- Research limited to NSCH indicators

# Conclusions

- Exclusive Breastfeeding is a protective factor against developing childhood asthma
- Males have a higher prevalence of asthma than females
- White non-Hispanics had the highest prevalence of exclusive breastfeeding and therefore had the lowest prevalence of asthma
- The low birth weight indicator was not a relevant indicator in predicting childhood asthma
- Poverty plays a role in prevalence of asthma



# Implications for Public Health

- Future research
- Health disparities
- Breastfeeding promotion



# References

Center for Disease Control and Prevention (CDC). (n.d.) Asthma's impact on the nation. Data from the CDC national asthma control program. Retrieved from [http://www.cdc.gov/asthma/impacts\\_nation/asthmafactsheet.pdf](http://www.cdc.gov/asthma/impacts_nation/asthmafactsheet.pdf)

National Survey of Children's Health (2011). *Child and Adolescent Health Measurement Initiative (CAHMI), "2011- 2012 NSCH: Child Health Indicator and Subgroups SAS Codebook, Version 1.0" 2013*. Data Resource Center for Child and Adolescent Health, Maternal and Child Health Bureau. Retrieved from [www.childhealthdata.org](http://www.childhealthdata.org)

Nwaru, B. I., Craig, L. C. A., Allan, K., Prabhu, N., Turner, S. W., McNeill, G., . . . Devereux, G. (2013). Breastfeeding and introduction of complementary foods during infancy in relation to the risk of asthma and atopic diseases up to 10 years. *Clinical and Experimental Allergy*, 43(11), 1263-1273. doi: 10.1111/cea.12180

World Health Organization (WHO). (2013). Exclusive breastfeeding. Retrieved from [http://www.who.int/nutrition/topics/exclusive\\_breastfeeding/en/](http://www.who.int/nutrition/topics/exclusive_breastfeeding/en/)

**Others upon request**