## Obesity and Asthma among Women in North Carolina



Studies have shown a positive relationship between obesity and asthma among women, but not among men. However, there is a lack of population-based research in the U.S. regarding this issue.

## Introduction

In 2007, about 154,200 North Carolina adults ( $18+$ years) with current asthma were obese (BMI >30.0) and an additional 25,600 adults were overweight (BMI $25.0-29.9$ ).

Study objective: To investigate the relationship between obesity and asthma among women using a state-wide sample of adults while controlling for selected demographic
characteristics.

## Background

"Obesity is associated with a higher prevalence of asthma." Office of the Surgeon General, 2008
...Compared to adults with healthy weight (BMI values from 18.5 to 24.9), those with a body mass index of 40 or higher had an increased risk of being diagnosed with ... asthma (2.72 times greater) ..."

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\text { Centers for Disease Control and Prevention, } 2002
$$

Methods
Source of data:
2007 N.C. Behavioral Risk Factor Surveillance System (BRFSS)
Variables of interest:
Asthma prevalence: lifetime asthma, current prevalence Selected demographic characteristics: gender, age, race
Body mass index: recommended range (normal) $=$ BMI 18.5-24.9, overweight $=$ BMI 250-29.9, obese $=$ BMI $>30.0$

## Analysis:

Biovariate and multiple logistic regression: to examine
Control for: age, race/ethnicity income, education

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| Results |  |  |
| :---: | :---: | :---: |
| Table 1Descriptive Statistics: 2007 N.C. BRFSS Survey |  |  |
| Adults $18+$ Years$N=12,166$ |  |  |
|  | N | Weighted \% |
| Lifetime Asthma |  |  |
| Yes | 1,405 | 11.5 |
| No | 10,761 | 88.5 |
| Current Asthma |  |  |
| Yes | 989 | 7.6 |
| No | 11,177 | 92.4 |
| Weight |  |  |
| Normal | 4,072 | 34.0 |
| Overweight | 4,503 | 36.8 |
| Obese | 3,591 | 29.2 |
| Gender |  |  |
| Female | 7,444 | 49.3 |
| Male | 4,722 | 50.7 |


| Table 2 <br> Adults with Current Asthma, by Weight Category and Gender 2007 N.C. BRFSS Survey |  |  |
| :---: | :---: | :---: |
| $\begin{gathered} \text { Adults } 18+\text { Years } \\ \mathrm{N}=12,166 \\ \hline \end{gathered}$ |  |  |
|  | N | Weighted \% |
| Weight |  |  |
| Normal | 272 | 7.2 |
| Overweight | 305 | 6.2 |
| Obese | 412 | 9.6 |
| Gender |  |  |
| Female | 724 | 9.2 |
| Male | 265 | 5.9 |

## Conclusions

Being female and obese greatly increased risk of asthma among N.C. BRFSS respondents.

Demographic variability observed: lower educational an
household income levels were factors associate with
ncreased risk for asthma
Intervention efforts might be appropriate for those with low educational and income levels

## Acknowledgments



