

Implication of childhood obesity, nutrition, and inflammation on south Carolinian children in Orangeburg county

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Abstract

In South Carolina childhood obesity is growing at an alarming rate surpassing the national average. Forty percent of children in SC are classified as either overweight or obese. Childhood obesity can lead to numerous health complications in adulthood that includes diabetes, high-cholesterol, chronic joint pain, and cancer. Childhood obesity could be caused by various other factors such as socioeconomic status and poor nutritional choices. In SC, Orangeburg County is located within the I-95 Corridor “Corridor of Shame”, because of issues such as poverty, lack of health care, poor health choices, and obesity due to being severely underfunded and underdeveloped. The purpose of this study is to enroll SC children to determine if obesity and/or high-fat pro-inflammatory diets contribute to increased levels of pro-inflammatory markers. A screening survey, which gives a brief overview of the candidate’s nutritional/physical activity background and demographics was conducted and analyzed in addition to the collection of saliva biospecimens from each participant. The majority of participants enrolled were between 10-13 years old with a family income of less than \$20K annually. 42% and 31% were categorized as ideal weight or obese, respectively. Extracted RNA was used to analyze the expression of acute inflammation markers (IL8 and IL6) and chronic inflammation markers (ADP, CRP, IL-1 β , and SAA1). Data suggests that irrespective of weight class, expression levels of chronic inflammation markers are correlated with high fat diets. If the preventable risk factor of childhood obesity is targeted, it could play a significant role in reducing chronic inflammation in children. Work funded by USDA/NIFA Grant Number SCX-311-20-16.

Biography:

Christyan Norman is a Senior Biology major at South Carolina State University from Orlando, Florida. He has hopes of attending dental school. He has been actively engaged in research for the past four years.



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