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## Expression of chronic inflammatory markers in South Carolinian children

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The increased number overweight and obese children in the United States and specifically South Carolina can be linked to several factors which include but are not limited to nutrition, socioeconomic status and access to health care. Obesity is a major health concern as it is a precursor to many diseases in children; obesity can lead to numerous health complications such as diabetes, high blood pressure, chronic inflammation and carcinogenesis. Therefore, saliva samples from two different counties (Chesterfield county and Newberry county) with varying degrees of rurality (rural vs. very rural) were analyzed to determine if obesity and/or high fat inflammatory diets contribute to increased levels of pro-inflammatory markers and obesity related genes in children ages 2-19. Based on a review of literature, a list of 12 genes was grouped according to their degree of inflammation into two categories either chronic or acute. The DNA collected from the participants was used to detect expression levels of chronic inflammation markers (IL-16, IL-12b chronic and SAA2). The procedure involved extracting RNA from samples collected, followed by reverse transcription after which a PCR (Polymerase Chain Reaction) was used to investigate gene expression. Increased expression was found in participants that ate high fat/proinflammatory diets, irrespective of weight class (normal, overweight, obese). Project is ongoing and data is still being collected.

### Biography

Taiwo Biotidara is a senior Biology Major at South Carolina State University from Lagos, Nigeria. He has been actively engaged in research for the past four years. Sydney Spry is a senior Biology Major at South Carolina State University from Miami, Florida. She has plans of attending graduate school to pursue a degree in Cancer Biology. She has been actively engaged in research for the past four years.

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