

# A Family-Based Intervention Targeting Childhood Obesity among Ghanaian Immigrants: Quality Improvement Project

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## ABSTRACT

Obesity in the Ghanaian culture is viewed as a positive implication in life. A quality improvement (QI) project is centered on providing knowledge to influence change regarding obesity. The target population for this project was Ghanaian mothers who reside in the United States, ages of 21 and 43 years. The instrument used in this project was the Family Eating and Activity Habits Questionnaire, which is categorized into four phenomena; activity level, eating style, eating related to hunger, and stimulus exposure. Concerning activity levels, the M scores were 1.51 for mothers, 1.28 for fathers, and 2.08 for children. Eating style category was higher at posttest for mothers, at  $t(22) = 10.04$ ,  $p = .000$ . With eating related to hunger category, 80% of children will delay eating when not hungry compared to a pretest response of 32%. The M score for families eating in restaurants decreased from 1.80 pretest to 1.04 posttest.

## INTRODUCTION

- Obesity is a common childhood chronic disease which poses a considerable global threat.
- By the year 2020, more than 60 percent of all global diseases will be obesity-related.
- According to the World Health Organization (WHO), obesity currently affects an estimated 43 million children, most of whom are under five years of age.
- About 30% of children in the United States are either obese or overweight.
- One in ten children under six years of age is obese, while over 12.5 million children and teenagers meet the criteria for obesity.
- One in three immigrant children have been estimated to be overweight.
- Obese or overweight is viewed as good wealth and good living in the Ghanaian culture.
- Poor dietary and exercise habits most directly contribute to excessive weight gain in children



## PURPOSE

The purpose of this quality improvement (QI) project is to increase awareness of the importance of diet and physical activities in preventing childhood obesity and management of lifestyle changes using the Ways to Enhance Children's Activity & Nutrition (We Can) educational tool among Ghanaian parents.



## METHODS

### Participants (n = 25)

- Mothers/guardians of Ghanaian descent must be age 18 to 44 years and proficient in the English language

### Measurements

- Family Eating and Activity Habits Questionnaire before and after attending the informational session.
- Activity level,
- Stimulus exposure,
- Eating-related to hunger,
- Eating style

### Analysis

- Descriptive statistics, including means with standard deviations
- A paired samples t-test was conducted to compare the means of the participant mothers, fathers, and children pre- and post-physical activity and eating behavior

- Statistical significance set at  $p < 0.01$  due to family-wise error rate been high.

## RESULTS

### Descriptive Statistics on Time Spent Watching Television Pretest and Posttest (n=25)

Hours per day you will likely watch TV Pretest	N	Min	Max	M	SD
Mothers	25	0	6	2.58	1.63
Fathers	25	0	4	1.77	1.07
Children	25	0	6	3.28	1.65

Hours per day you will likely watch TV Posttest	N	Min	Max	M	SD
Mothers	25	0	4	1.8	0.82
Fathers	25	0	2	1.56	0.65
Children	25	0	5	1.76	1.01

**Activity level.** In the activity level category, the mean pretest score for the mothers was 1.51 (SD = 1.40), and it was 1.28 (SD = 1.62) for the fathers and 2.08 for the children (SD = 2.23). For the post-test, the M score for the mothers was 2.72 (SD = 1.4), and it was 2.67 (SD = 1.73) for the fathers and 4.46 (SD = 2.95) for the children

### A paired samples t-test Physical Activity

- The results indicated that the mean physical activity (PA) was significantly higher at posttest for mothers, at  $t(24) = -3.20$ ,  $p = .004$ .
- The fathers' results indicated that the mean PA was significantly higher at posttest, at  $t(24) = -3.31$ ,  $p = .003$ ,
- Children's results indicated that the mean PA was significantly higher at posttest, at  $t(24) = -4.24$ ,  $p = .000$

## Reference literature

Texas ranks sixth among states regarding childhood obesity (Nyberg, Burns & Parker, 2009). When compared to nationwide statistics, nearly 33 percent of children and adolescents are overweight or obese, 16.3 percent of children and adolescents are obese, and 11.3 percent are very obese. Approximately 86% of parents do not accurately identify their children to be overweight or obese.

## DISCUSSION

- The study found statistically significant change between physical activity and dietary in the management of childhood obesity.
- The average hours a child and parents spent watching television/games was 37 hours, and 30 hours for activity per week. During the posttest, the number of hours spent sedentary decreased while the activity level increased
- The less children eat in the television room or living room without with TV present, it will prevent distraction for parents to monitor how much the child eats.
- Study results showed 80% of the mothers would delay the meal when the child is not hungry.
- Study analysis revealed an improvement in knowledge of the stimuli. The changes were influenced by diet education because of the statistically significant improvement in the percentage change concerning families eating in a restaurant once a month.

## CONCLUSIONS

- QI project was conducted with the purpose of increasing awareness of the importance of diet and physical activity in preventing childhood obesity
- There were no physical changes effect by the intervention due to same-day data collection, the analysis revealed statistically significant results concerning the importance of maintaining a healthy diet and increased physical activity to help decrease child obesity.
- A knowledge change in a child is easily achieved if the entire family participates in this change.
- It is anticipated that the results of this study will be valuable to the site of the project and the community.

