



School of Medicine

# Implementation of I2D2: An Obesity Prevention Project



McKenzie M. Kudron, MPH-PHP Candidate<sup>1</sup>, Grenae Dudley, PhD.<sup>2</sup>, Joi Mitchell<sup>2</sup>

WSUSOM, Department of Family Medicine and Public Health Sciences, Detroit, MI<sup>1</sup>. The Youth Connection, Detroit, MI<sup>2</sup>



## BACKGROUND

The Youth Connection (TYC) is a 501(c) (3) non-profit organization located on the East Side of Detroit, Michigan committed to connecting families to high-quality youth programs and resources. One of the three main services the organization provides is the I2D2 Fit 'n' Fun Family Clubs, their Nutrition Education Program. The aim of I2D2 is to increase consumption (I2) of fruits and vegetables and physical activity, and to decrease the consumption (D2) of sugary drinks and screen time in families living in Detroit. This six-week project meets once a week to assess and improve the participants' knowledge on healthy eating, physical activity, and screen time.

## INTRODUCTION

Obesity is defined as having a BMI >30<sup>4</sup> and affects millions of Americans. There are many contributing factors to obesity that can lead to health problems including heart disease, type 2-diabetes, and hypertension<sup>1</sup>. Michigan ranks in the top quarter of the country for obese children and adults<sup>2</sup>. Additionally, African Americans and Hispanic adults have a significantly higher prevalence of obesity compared to non-Hispanic white adults and children<sup>5</sup>. Detroit, Michigan has one of the highest obesity rates, ranking 21<sup>st</sup> in the country<sup>3</sup>. Implementing a health and nutrition program focusing on the underserved residents in Detroit can make a positive impact on the Detroit community.

## METHODS

- Provided a six-week health and nutrition program to Detroit children, teens and families.
- Targeted children and families living in the underserved population in Detroit, MI.
  - Specifically African American, Hispanic, and Arabic populations
    - Surveys were translated into Spanish and Arabic
- Data was collected and analyzed from pre- and post surveys on:
  - Knowledge of and behavior change in daily fruit and vegetable consumption
  - Physical activity habits
  - Sugary drink consumption
  - Used measures of cross tabulation and McNemar chi-square.

## ACTIVITIES



Attended and completed I2D2 facilitator's training



Attend and participated in I2D2 programs in Detroit



Conducted sociocultural research on the histories, diets and traditions of Muslim, Bangladesh, and Yemeni populations in Detroit.

## OBJECTIVES

**GOAL:** To promote healthy lifestyles among Detroit children, teens, and adults for the prevention of overweight and obesity in the Detroit community.

**OBJECTIVE 1:** Improve the healthy nutritional intake of 50% of the I2D2 participants

**OBJECTIVE #2:** Improve the physical activity of 30% of the I2D2 participants

**OBJECTIVE #3:** Reach 1,000 individuals in the Detroit Community through the promotion of the I2D2 Campaign.

### INDICATORS

# who know the recommended daily intake of fruits and vegetables (5 servings/day)

# who increase daily fruit and vegetable intake

# who know the healthy alternatives to sugary drinks

# who decrease their daily sugary drink intake

### INDICATORS

# who know the recommended minutes of physical activity per day (30-60 minutes/day)

# who increased their daily physical activity

# who know the recommended screen time per day (<2 hours/day)

### INDICATORS

# of promotional pamphlets distributed for events

# of new partnerships made

# of referrals to appropriate physical activity venues

# who attended parent teacher conferences

# who attended community organizational meetings

Figure 1: Program Goal and Objectives

## RESULTS

Table 1: Number of Detroit residents reached

Number of Participants	240 children/teens; 257 adults
Number of Outreach Activities	30+
Number of individuals reached by outreach activities	8,500

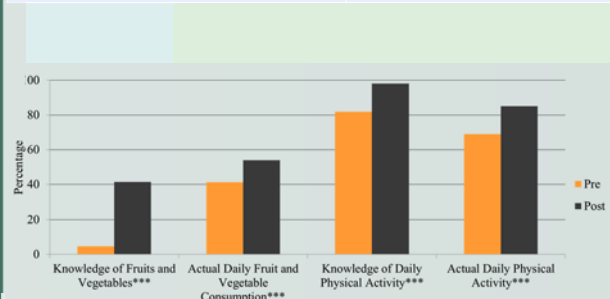


Figure 2: Percent of total participants with correct knowledge of daily recommendations for fruit and vegetable consumption and physical activity as well as behavior change from pre to post test in those categories (n=496)

## RESULTS cont.

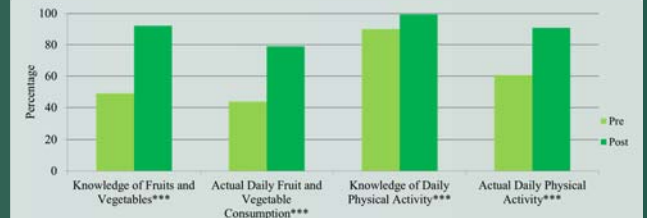


Figure 3: Percent of adults with correct knowledge of daily recommendations for fruit and vegetable consumption and physical activity as well as behavior change from pre to post test in those categories. (n=257)

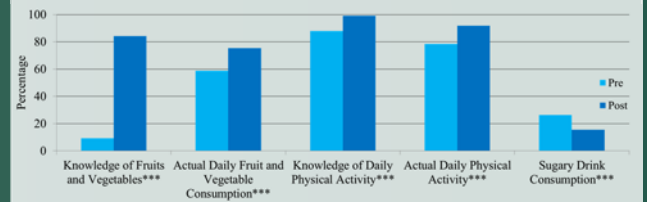


Figure 4: Percent of children and teens with correct knowledge of daily recommendations for fruit and vegetable consumption, physical activity and sugary drink consumption. (n=240)

\*\*\*p<.001 for testing differences between baseline and follow-up Data Source: The Youth Connection I2D2 Implementation database

## DISCUSSION

- Educational health and nutrition programs have the ability to increase knowledge and behavior in participants and should be brought into locations with poor health outcomes to help push them in the right direction.
- I2D2 was shown to be successful in increasing knowledge and influencing positive behavior change in the Detroit population in as little as six weeks.
- By continuing to educate these underserved populations on healthy nutrition and exercise habits, we can begin to combat obesity and hopefully begin to reduce chronic diseases that stem from it.

## RECOMMENDATIONS

- Expand program to new places across the Detroit and Wayne County area such as recreational centers, faith and community based organizations and new schools
- Run different analyses between the groups:
  - That contained the youth only compared to the youth who were in the combined parent and youth groups.
  - Compare results across racial/ethnic groups.
- Update the pre and post surveys to reflect the objectives we are measuring consistently across all of the identified groups.
- The program should include another post analysis to determine if the gains that were demonstrated are maintained.

## CITATIONS

- 1) *Childhood Obesity Facts*. (2015, June 19). Retrieved February 5, 2016, from Centers for Disease Control and Prevention website: <http://www.cdc.gov/obesity/data/childhood.html>
- 2) *Michigan* (2016). Retrieved February 5, 2016, from Alliance for a Healthier Generation website: [https://www.healthiergeneration.org/about\\_childhood\\_obesity\\_in\\_your\\_state/michigan/?gclid=CJ2Xm039ocCFY8hgQodeisNYA](https://www.healthiergeneration.org/about_childhood_obesity_in_your_state/michigan/?gclid=CJ2Xm039ocCFY8hgQodeisNYA)
- 3) *Obesity Rates for States, Metro Areas*. (2011). Retrieved February 6, 2016, from Governing website: <http://www.governing.com/gov-data/obesity-rates-by-state-metro-area-data.html>
- 4) *Overweight and Obesity in Michigan: Surveillance Update 2014*. (2014). Retrieved February 5, 2016, from Michigan Department of Community Health website: [https://www.michigan.gov/documents/mdech2014\\_Surveillance\\_Update\\_470592\\_7.pdf](https://www.michigan.gov/documents/mdech2014_Surveillance_Update_470592_7.pdf)
- 5) *Pediatric and Pregnancy Health Indicators*. (2012, August 17). Retrieved February 5, 2016, from Centers for Disease Control and Prevention website: [http://www.cdc.gov/pedss/pedss\\_tables/tables\\_health\\_indicators.htm](http://www.cdc.gov/pedss/pedss_tables/tables_health_indicators.htm)