

**Effects of Government Subsidized Food on Childhood Overweight and Obesity in Nueces  
County**

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## Abstract

**Background:** Forty-five percent of children in the United States (US) are from low-income families and 15% are obese. In Texas 15.7% of low-income preschool children are obese and in Nueces County it is 20.7%. Low-income and minority children continue to be disproportionately affected by obesity. Participation in governmental food programs (WIC, SNAP, FSP) contributes to obesity in adults, but findings have been inconsistent regarding the relationship between these programs and childhood obesity.

**Research Question:** “Is food consumed from government food programs (SNAP & WIC) contributing to the childhood obesity rate in Nueces County?”

**Design & Methods:** Quantitative survey will be distributed to the low-income population in Nueces County. Inclusion criteria are: children under 18 present in the household and low-income family. Food selected from families that receive government food programs (SNAP & WIC) will be compared to other low-income families that do not receive government food programs (SNAP & WIC).

## **Effects of Government Subsidized Food on Childhood Overweight and Obesity in Nueces County**

Forty-five percent of children in the United States (US) are from low-income families and 15% are obese (Pan, Blanck, Sherry, Dalenius, & Grummer-Strawn, 2012; Addy, Engelhardt, & Skinner, 2013). In the 2014 fiscal year there were a total of 8,258,922 people receiving Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), and 46,535,888 receiving Supplemental Nutrition Assistance Program (SNAP) in the US<sup>1 2</sup>. 16.9% of children and adolescents in the US are obese (Ogden, Carroll, Kit, & Flegal, 2012). For 12 to 19 year old adolescents between 2009- 2010 the obesity rate was 18.4%. 5% of children and adolescents from 2 to 19 years old were overweight in the 1970's. By 1999-2000 the percentage for overweight increased to 14.4% (Jolliffe, 2014). 13% of low-income children 2- 4 years old were obese in 1998, and in 2010 it increased to 15% (Pan et al., 2012). Low-income and minority children continue to be disproportionately affected by obesity (Wang, & Beydoun, 2007).

When children are overweight or obese they are also at risk for education disparities: less engaged, increase in absences, and having to repeat classes or the grade level (Bethell, Simpson, Stumbo, Carle, & Gombojav, 2010). Obese children experience psychosocial difficulties like eating disorders and bullying. These children are also predisposed to hyperlipidemia, glucose intolerance, cholelithiasis, hepatic steatosis, and hypertension when they become adults (Diets, 1998). The government provides financial assistance for nutrients in the form of programs WIC and SNAP. Is this assistance contributing to the increase in overweight and obese children?

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Some believe that government subsidies may be contributing to overweight and obesity problems in program participants. It has been opined that food stamp participants may receive more assistance than is necessary to purchase food so they purchase more food than they need. This could result in greater caloric intake and weight gain (Besharov, 2002). It has also been suggested that food stamp participants do not budget their subsidy well and tend to binge eat for the first three weeks of the month, and then have too little funds left over for the final week of the month. The binge eating could also result in increased weight gain (Townsend, Peerson, Love, Achterberg, & Murphy, 2001). However, no consistent associations have been found between overweight children and food-insecurity (Dinour, Bergen, & Chin, 2007). Food insecurity exists when families do not have consistent access to funds for healthy food (USDA/Economic Research Service, 2014).

### **Obesity and Overweight**

Overweight or obese classification is determined from the Body Mass Index (BMI), calculated by dividing weight (in kg) by height (in m<sup>2</sup>). The BMI of children must be compared to other children of the same gender and age to determine weight status. According to the Centers for Disease Control and Prevention (CDC, 2015), normal healthy weight for children is a BMI between the 5<sup>th</sup> and 85<sup>th</sup> percentile for children of their same gender and age. BMI between the 85<sup>th</sup> and 95<sup>th</sup> percentile is classified as overweight and BMI at or above the 95<sup>th</sup> percentile is classified as obese (CDC, 2015).

From the 1970's to the 2000's low-income children and adolescents had a greater increase in BMI and size of obesity population than high income children and adolescents (Murasko, 2011). Males have a higher overweight population than girls, and Hispanic has the

highest obesity among different ethnicities. In 2000 the Hispanic population was 30.8% and males were 50.5% of the U.S. population using subsidized food between 2 and 4 years of age (Sherry, Mei, Scanlon, Mokdad, & Grummer-Strawn, 2004). But in a survey it was found that only about 12% of children and adolescents in the U.S. is Hispanic (Wang, & Zhang, 2006).

### **History of Government Subsidized Food Programs**

The Food Stamp Program started because in the 1920-30's there was a surplus of food, high unemployment and high food costs. They started to experiment with a Food Stamp Program that would focus on consumption of goods not unemployment. The experiment started in May of 1939 and by May of 1943 there were 4 million participants of Food Stamps<sup>15</sup>. They would purchase orange stamps to cover all retail food and they would receive blue stamps that could be used on the surplus food (\$1 orange stamps: \$0.50 blue stamps)<sup>16</sup>. In 1943 a decrease in the food surplus caused the experimental Food Stamp Program to be shut down. In 1961 President Kennedy initiated Food Stamp Pilot programs and in 1963 he requested a permanent Food Stamp Program. By 1964 there were 380,000 recipients of Food Stamps in the pilot. In August of 1964 the Food Stamp Act of 1964 was signed by President Johnson in his "War on Poverty". The individual States would establish their standards and it was only to be used on retail food. In 2008 Food Stamps were renamed to the Supplemental Nutrition Assistance Program (SNAP). SNAP eligibility is predominantly based on income, a family's gross monthly income and net monthly income. The gross monthly income for a family of four must be at or less than \$2,584, and the net monthly income must be at or less than \$1,988<sup>15</sup>. SNAP determines the amount of benefits given to participants by subtracting 30% of the monthly net income from the predetermined monthly allotment for that household size. If a household of two (maximum

monthly allotment of \$357) has a monthly net income of \$650 they will receive \$162 in SNAP allotment for one month<sup>17</sup>.

In the 1960's it became nationally known that people with low-incomes were also experiencing malnutrition. During the Food, Nutrition, and Health White House Conference in 1969, it was decided that extra focus needed to be placed on the preschool aged and pregnant populations. This led to the creation of the Special Supplemental Food Program for Women, Infants, and Children (WIC) for an initial 2 year pilot that would provide additional nutrition to those that met the criteria for participation. To be considered for participation in WIC a health care professional has to consider them to be at nutritional risk. In 1975 WIC became a permanent program and in 1978 the WIC program started to offer education along with their services. WIC had a name change to the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) (Oliveira, Racine, Olmsted, & Ghelfi, 2002). WIC currently provides nutrition education, health referrals and supplemental nutrition for women, infants, and children (Johnson, Giannarelli, Huber, & Betson, 2015). Women are eligible for WIC while they are pregnant, for up to six months postpartum if bottle-feeding their infants, and until the infant is one year old, if breastfeeding. Children are eligible for WIC until they are five years of age<sup>20</sup>.

The BMI in low-income children and adolescents has been increasing (Murasko, 2011; Sherry et al., 2004; Lohrmann, YoussefAgha, & Javawardene, 20014). It has been found that FSP or SNAP contributes to the increase in BMI in adults (Meyerhoefer &Pylypchuk, 2008; Webb, Schiff, Currivan, & Villamor, 2008; Gibson, 2006; Ver Ploeg & Ralston, 2008). One theory is that the participants are purchasing more than they need with the supplemental income (Besharov, 2003). Another theory is that the overweight or obese low-income populations are more likely to apply for the FSP or SNAP because they have a larger appetite than the normal or

underweight population (Ver Ploeg & Ralston, 2008). But when it comes to children the studies are inconsistent with regard to whether FSP or SNAP has had a relationship on the obesity and overweight populations (Gibson, 2006; Ver Ploeg & Ralston, 2008; Gundersen, 2015; Kohn, Bell, Grow, & Chan, 2014; Nguyen, Shuval, Bertmann, & Yaroch, 2015).

## **Nueces County**

Low-income children from ages 2-4 in the United States have an obesity rate of 15% (Pan et al., 2012). In Texas 15.7% of low-income preschool children are obese and in Nueces County it is 20.7% (City-data.com). One in four low-income children in Nueces County is obese. Weight gain is contributed to a greater caloric intake than the calories the body uses (U.S. Department of Health and Human Services, & National Heart, Lung, and Blood Institute, 2010). The food that parents choose to feed their children is affected by their culture and the time they have to prepare the food (Sealy, 2010). The purpose of this Project of Excellence is to see if the food consumption by children on government food programs (SNAP & WIC) can be contributing to the childhood obesity rate in Nueces County. The research question addressed is: “Is food consumed from government food programs (SNAP & WIC) contributing to the childhood obesity rate in Nueces County?”

## **Design and Method**

Quantitative survey will be distributed to the low-income population in Nueces County. Inclusion criteria are: children under 18 present in the household and low-income family. Food selected from families that receive government food programs (SNAP & WIC) will be compared to other low-income families that do not receive government food programs (SNAP & WIC).

## **Resources needed**

The only financial resources need for this project is the ink and paper to print out the survey.

## **Mentor**

My mentor for my Project of Excellence is Dr. Theresa J. Garcia. Dr. Garcia received her BSN and doctorate of philosophy in nursing from the University of Texas at Austin. She has been an advisor for five Master's Capstone projects. Dr. Garcia has published her own research and is currently working on "Involvement of older-aged adults in chronic illness care decisions: A meta-synthesis." Dr. Garcia is an assistant professor in the College of Nursing and Health Science. She teaches Health Law and Ethics (graduate course), Research Methods in Advanced nursing Practice (graduate course), Patterns of Care Delivery (Graduate course), Nurse as a Research Consumer (undergraduate course), and Care of Community Health Clients (undergraduate course).

## **Timeline**

<b>Date</b>	<b>Project of Excellence</b>
September 29, 2015	Send in IRB paperwork with survey
November	Deliver surveys and receive surveys
December and January	Construct a flow sheet and insert survey results
February and March	Annalise survey results
April	Write up report over the project and the results

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