A PRE- AND POST-MENU EVALUATION OF *HEALTHY FUTURES STARTING IN THE KITCHEN*: AN EDUCATIONAL PROGRAM THAT TEACHES CHILD CARE CENTER COOKS AND ADMINISTRATORS ABOUT HEALTHY MENU PLANNING AND FOOD PERPARATION FOR CHILDREN

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A Pre- and Post-Menu Evaluation of *Healthy Futures Starting in the Kitchen*: An Educational Program that Teaches Child Care Center Cooks and Administrators about Healthy Menu Planning and Food Preparation for Children

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Dedication and Acknowledgements

I wish to thank the person who strengthens me, Jesus Christ, my Lord and Savior.

I wish to thank my mother, Veronica L. Stroud, for her continuous love and support.

I wish to thank my Committee Chair Dr. Iris Smith and Field Advisor M.Ed. Priscilla Laula for all of their support and guidance in completing my thesis.

I wish to thank Corliss Allen, a Fellow from the Center for Disease Control and Prevention, for her guidance in completing my thesis.

This project is dedicated to all child care centers that promote healthy eating to combat obesity by implementing changes through education and prevention.

This project is dedicated in the memory of my grandparents who provided me with the foundation of strength to complete my goals and to always dream beyond expectations.

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ABSTRACT

Obesity is a serious health concern for children and adolescents (D.C. Hunger Solutions, 2010). Results from the 2007-2008 National Health and Nutrition Examination Survey (NHANES), using measured heights and weights, indicate that an estimated 17 percent of children and adolescents ages 2-19 years are obese (NHANES, 2010). Among pre-school age children 2-5 years of age, obesity increased from 5 to 10.4%, between the years of 1976-1980, and from 6.5 to 19.6% between 2007-2008 (NHANES, 2010). In order to combat childhood obesity, it is imperative that support comes from individuals who have the ability to make a significant impact in a child's life when parents, family, and friends are not able to do so. It is often child care centers that are left with the responsibility of caring, nurturing, educating and providing balanced meals for children during their most critical years of life. A program committed to educating cooks and administrators about healthy menu planning is *Healthy Futures Starting in Kitchen* (HFSK). This program targets those who serve children in child care centers - cooks and administrators. HFSK offers healthy food alternatives, ideas, and choices to the child care center (CCC) menus. Five variables of interest include: whole grains, milk, vegetables, low fat meats and proteins. The goal is to evaluate pre- and post-menus to determine if changes have been made after the HFSK program intervention according to the variables selected. The content of this paper will discuss the importance of the HFSK program and its effects on healthy menu planning in CCCs in Mecklenburg County, North Carolina. Assessing this information will provide specific information which will help improve program practices with the goal of expanding to other North Carolina counties in the future.

INTRODUCTION

Background

Obesity has been an epidemic in the United States for several decades. About one-third of U.S. adults (33.8%) (NHANES, 2010) and approximately 17% (or 12.5 million) of children and adolescents aged 2—19 years are obese (NHANES, 2010). Overweight and obesity have tremendous consequences on our nation's health and economy (CDC, 2012). Furthermore, overweight and obesity is significantly associated with diabetes, high blood pressure, high cholesterol levels, asthma, arthritis, and fair or poor health status (CDC, 2012). There is an assortment of risk factors that have contributed to the rise in obesity including: poor eating habits, lack of available and affordable healthy food choices, lack of physical activity, and genetic factors such as a predisposition to being overweight or obese. A number of risk factors related to overweight and obesity are environmental and out of individual control. However, some risk factors such as nutritional intake are within an individual's control. Nutrition or lack thereof, is a risk factor being targeted by a number of public health campaigns including *Healthy Futures Starting in the Kitchen* developed at the Mecklenburg County Health Department (MCHD).

Obesity rates and its effects have steadily impacted every state within the US. Thirty-six states, including North Carolina, had an overweight and obesity prevalence of 25%. North Carolina's estimated 2011 total population is 9.7 million (U.S. Census Bureau, 2011). Of the adults, 36% are considered overweight and another 29% are considered obese, according to 2007 Behavioral Risk Factor Surveillance System data.

Only 22% of North Carolinians report eating fruits and vegetables at least five times a day.

The problem is not limited to adults. Thirty percent of North Carolina youth are either overweight or obese (CDC, 2012). According to the 2006 Child Assessment and Monitoring Program survey, more than one-in-three children and youth under age 18 eat a fast food meal once a week; another 35% eat a fast food meal two or more times each week (CDC, 2012). Only 15% eat fruits and vegetables five or more times a day. Thirty-seven percent drink at least one non-diet soda each day (CDC, 2012).

Research has shown that modifying nutritional intake can impact the risk of obesity (CDC, 2011). In fact, it has been the goal of an assortment of national programs including *Healthy People 2020*, *My Plate* and *Let's Move*. On a local level there's *Healthy Futures Starting in the Kitchen (HFSK)* a program focused on modifying CCC menus to ensure that children under the age of 5 are receiving ideal nutritional intake. It is the goal of HFSK to teach child care cooks basic nutrition and how to prepare healthy, delicious foods that appeal to young children. HFSK presents a different approach to addressing childhood obesity that needs to be further explored for future public health programming.

The theoretical framework that would be most appropriate to gain an understanding of the effects that HFSK program would have on obesity is the Health Belief Model (HBM). The HBM is a psychological model that attempts to explain and predict health behaviors (Glanz et al, 2002) (Figure 1). This is done by focusing on the attitudes and beliefs of individuals (Glanz et al, 2002). The HBM considers four

constructs representing the perceived threat and net benefits: perceived *susceptibility*, perceived *severity*, perceived *benefits*, and perceived *barriers* (Glanz et al, 2002).

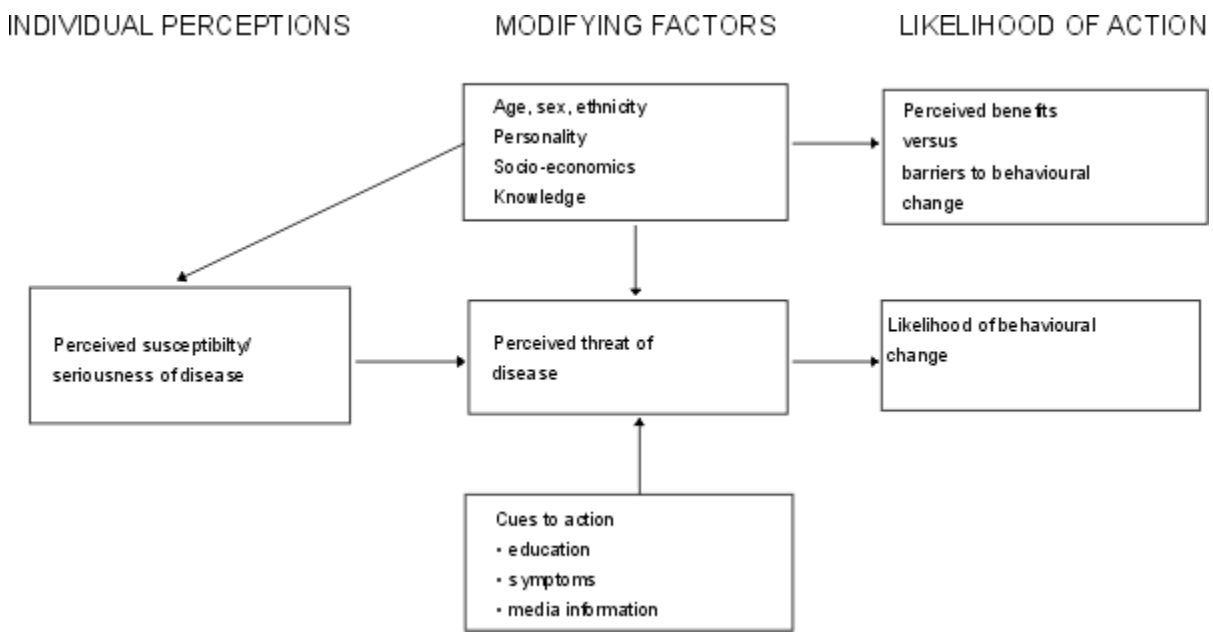


Figure 1. Health Belief Model

Source: Glanz et. al, 2002

Literature Review

The pre-school period is a critical time for growth and development. Establishing healthy eating habits and encouraging daily active play early in childhood can help prevent obesity and cultivate lifelong healthy behaviors (Whitaker et al. 1998, Dietz 1997a, Dietz, 2000b). Of the nation's 21 million pre-school children, 13 million attend a child care center, where they consume a substantial portion of their daily foods and calories (Healthy Eating Research, n.d.). Many federal, state and local policies govern

child care and preschool facilities (Healthy Eating Research, n.d). Understanding the causes of childhood obesity can provide for the opportunity to focus resources, interventions and research in directions that would be most beneficial in addressing the problem (DHHS, n.d.). Therefore, educating administrators and cooks about childhood obesity and the necessity of serving nutritionally rich foods can lead to healthy weight and overall healthier children.

Many CCCs participate in the Child and Adult Care Food Program (CACFP), a federally funded program that provides a meal plan template for offering nutritious meals and snacks to low-income infants and children (Oakley et al., 1995). If the meal plan is followed, CACFP reimburses centers at free, reduced-price, or paid rates for eligible meals and snacks served to low-income, subsidized children (Oakley et al., 1995). While CACFP provides financial assistance to CCCs, funding for nutrition education, menu planning, and healthy food preparation through CACFP has been drastically reduced. Because of the reduction, in funding child care providers are no longer receiving this type of training. *Healthy Futures Starting in the Kitchen* (HFSK) in Mecklenburg County, North Carolina is a program that demonstrates the importance of educating CCC administrators and cooks not only in nutrition basics and menu planning, but also in healthy food preparation and selection.

Limited research has been conducted in the area of educating administrators and cooks about healthy meal preparation and selection in the child care setting. It has been suggested by Neelon et al., that menus from CCCs are an important source of information for parents, researchers, dietetics practioners, and child-care regulators. They suggest that looking at menus helps assess the nutritional value of foods and beverages served, as well

as, identify opportunities for improvement through dietary intervention (Neelon et al., 2010). They concluded that parents, dietetic practioners and others who promote healthy eating in CCCs should encourage menus that include and serve healthy food and beverage selections.

A study conducted in South Australia by Matwiejczyk et al., focused on directors and cooks who were required to attend training for the quantity and quality of food items provided to children in their centers. The finding was that those who completed the training had significant changes in menu planning and healthier food selections (Matwiejczyk et al., 2007). A second study conducted in Western Australia by Pollard et al., collected information from the Long Day Care Centers to help develop strategies for food service improvement (Pollard et al., 1999). The study found that most centers employed a cook with limited or no culinary training (Pollard et al., 1999). It was concluded that for foods to meet nutritional requirements in the child care setting, consistency in educating child care workers and training cooks would be necessary (Pollard et al., 1999). A third study conducted by Oakley et al., evaluated menus in Mississippi CCCs that participated in CACFP (Oakley et al., 1995). Of the CCCs evaluated, it was found that centers following the established guidelines set forth by CACFP may not guarantee consistent nutritional quality of planned menus in centers. Although most CCCs participate in CACFP programs, there is a need to have additional programs such as HFSK that introduce best practices in serving nutritional foods and meals.

Important aspects to be considered are the obstacles and barriers that hinder menu planning, healthy food selection and preparation. The barriers include perceptions,

beliefs, and attitudes about food and therefore to planning menus. A study conducted in Nova Scotia by Romaine et al., suggested that it was important to obtain this type of information from administrators and cooks (Romaine et al., 2007). The information obtained from a questionnaire utilized for this study showed that administrators and cooks had relevant knowledge and training, but their attitudes, beliefs and perceptions about food kept them from using this knowledge in menu planning practices (Romaine et al., 2007).

By increasing knowledge and awareness about better menu planning, food selection and preparation in CCCs, more people involved in the education and feeding of young children will make an attitudinal shift. This could lead to policy changes in the feeding of young children – thus, future generations of children who attend CCCs will benefit.

Conceptual Framework

Most studies looking at childhood obesity and behavioral risk factors have been atheoretical or without a theoretical basis. Furthermore, the few studies that have been done on child care menus have focused on individual factors, but not the relationship between such factors. Most studies have found that looking at menus helps assess the nutritional quality of foods and beverages served in CCCs. It was also found that to assure that foods meet children's nutritional requirements there should be consistency in educating child care workers and training cooks, because most often CCCs employ a cook with limited or no nutrition or culinary training. An additional influence on menu planning is CACFP. It was found that participation in this program did not guarantee

consistency in the nutritional quality of planned menus in CCCs, therefore; it is imperative to understand the barriers that affect menu planning, as well as, bring awareness to CCC administrators and cooks on healthy menu planning.

Based upon HBM, the actions of cooks will be affected by their beliefs about, food, healthy menus, and childhood obesity. There are a number of modifying factors to take into consideration including how cooks perceive the consequence of poor nutritional intake and childhood obesity (perceived severity), do they believe changing the menu will have a positive effect (perceived benefits), what obstacles prevent them from changing the menu (perceived barriers), are there any nutritional promotions or awareness about child care nutrition (cues to action) and do they believe that they can cook healthy meals (self-efficacy). The conceptual model in Table 1 provides an explanation of each construct.

Table 1. *Conceptual Model Table from "Theory at a Glance: A Guide for Health Promotion Practice" (1997)*

Concept	**Definition**	**Application**
Perceived Susceptibility	One's opinion of chances of getting a condition	Define population(s) at risk, risk levels; personalize risk based on a person's features or behavior; heighten perceived susceptibility if too low.
Perceived Severity	One's opinion of how serious a condition and its consequences are	Specify consequences of the risk and the condition
Perceived Benefits	One's belief in the efficacy of the advised action to reduce risk or seriousness of impact	Define action to take; how, where, when; clarify the positive effects to be expected.

Perceived Barriers	One's opinion of the tangible and psychological costs of the advised action	Identify and reduce barriers through reassurance, incentives, assistance
Cues to Action	Strategies to activate "readiness"	Provide how-to information, promote awareness, reminders.
Self-Efficacy	Confidence in one's ability to take action	Provide training, guidance in performing action

Purpose

Problem Statement. Poor nutrition is a major contributor to childhood obesity. It is imperative that there is conceptual clarity on what factors and barriers impact the nutritional intake of children, especially day care aged children. The goal of this study is to assess the impact of the HFSK program on menu planning and healthy food preparation among CCCs in Mecklenburg County, North Carolina using the Health Belief Model. The overall goal of this study is to understand the role of the HFSK program and if it is effective in encouraging CCCs to create healthy menus to decrease child obesity rates.

Significance of study. Nutritional intake has been identified as a behavioral risk factor to be controlled as a means to combat childhood obesity. Children ages 5 and under spend a major part of their day CCCs where they receive a most of their nutritional intake. An alarming aspect about CCCs is that administrators and kitchen staff are not required to have knowledge about nutrition, nor have classes been developed to train them how to plan and prepare healthy meals. Better menu planning, through interventions

from programs such as *Healthy Futures Starting in the Kitchen* (HFSK), will allow CCCs to make healthier options a first choice for serving meals and snacks. This will promote and instill better eating habits in young children and decrease the chances of child/adolescent obesity in the future, thus decreasing the burden of obesity on children, their families, communities and the nation.

Study Aims and Research Hypotheses

The purpose of this thesis is to provide an understanding of how educating administrators and cooks about healthy menu planning can help combat obesity in children who attend CCCs. Overweight and obesity has been an increasing problem among children and adolescents over the last decade. Educating child care administrators and cooks and helping them to become more aware of their perceptions, attitudes and beliefs about food and childhood obesity can help them rearrange or change menus to offer healthier food choices to children. The HBM theoretical framework allow for an understanding of how the barriers such as perceptions, beliefs and attitudes can affect menu planning.

Aim

The aim is to understand the role of HFSK and if it is effective in planning healthy menus. This assumes that menu choices are effective measures in decreasing the prevalence of childhood/adolescent obesity as children get older.

Hypothesis

The hypothesis of this study is that HFSK can help cooks and administrators select and prepare foods through healthy menu planning. The HBM theoretical framework provides an understanding of the interplay among the attitudes, perceptions and beliefs of administrators and cooks that can affect menu planning.

Assumptions

1. Each CCC cook and/or administrator completed the HFSK course
2. Each menu provided accurately depicts foods served in the CCC
3. Each participant attempted to implement concepts learned from the program

Delimitations

1. Participants in the HFSK program must have a CCC star rating ranging from 3-5 and the center must be located within Mecklenburg County, North Carolina.

Limitations

1. This study only includes those CCCs that provided pre- and post- menus
2. This study only includes participants from Mecklenburg County, North Carolina
3. This study uses secondary data which was collected by Health Promotion Coordinator, Priscilla Laula

Definitions

HFSK *Healthy Future Starting in the Kitchen*

CDC	Center of Disease Control and Prevention
MCHD	Mecklenburg County Health Department
CCC	Child Care Centers
HBM	Health Belief Model
CACFP	Child and Adult Care Food Program
Star Rating	is a child care program that meets North Carolina's minimum licensing standards for child care. The star rating is based on the following components: staff education and program standards. The two components of the star rated license have a range of one to seven points
Whole grains	as defined by the program includes: whole wheat bread/pita/roll, rice, crackers, oatmeal, grits, rice cakes, cereal (honey oat, Raisin Bran, Cheerios)
Milk	as defined by the program includes: 1% or skim milk
Vegetables	as defined by the program includes: all spectrum of vegetables (carrots, broccoli, zucchini, squash, peas cauliflower, potatoes, green beans, tomatoes, celery, cucumbers, corn, okra and salad, etc)
Low fat meats	as defined by the program includes: chicken (chicken breast, chicken pot pie, BBQ chicken), turkey (turkey bacon, ground turkey), fish (i.e. salmon, tuna)
Alternative Proteins	as defined by the program include: a meal without a meat serving/(s) such as beans (i.e. bean burrito), cheese (i.e. string cheese, cheese roll

up, cheese pizza, macaroni and cheese), eggs (egg & vegetable bake), and peanut, soy, or sunflower seed butter

METHODOLOGY

The purpose of this evaluation is to determine whether participation in the HFSK training program influenced menu planning. To determine if there were changes in menu planning after participation in HFSK behavior by CCCs cooks and administrators, pre- and post-menus were assessed after participation in the program. The research design and data collection of this study will be discussed in further detail within this section.

Research Design

This research uses a non-experimental design, more specifically an explanatory retrospective design. A non-experimental design focuses on two dimensions which include: the purpose of the study and/or the time frame in which the data was collected, more specifically; the explanatory retrospective design focuses on looking back in time utilizing existing or available data to explore how some phenomena works or how it operates (Belli, 2008). In this case a theory about the existing data and the phenomena/circumstance is generated. The main objective is to test a theory about the phenomena/circumstance (Belli, 2008). A hypothesis is developed from the theory and tested so that the theory can become validated. This particular research is considered to be a retrospective design because non-experimental explanatory retrospective design looks at the time frame in which menus were collected, (2008-present) utilizing existing and available data. A hypothesis is that the HFSK program can help cooks and administrators select and prepare healthy foods through good menu planning. The sample utilized in this research included 20 child care centers in Mecklenburg County,

NC. These particular CCCs were selected to be analyzed because they were able to provide pre/before and post/after menus. All menus provided were completed for an entire week for both pre- and post-HFSK program.

Study Materials

Secondary data which include pre- and post-menus from CCCs will be used. All of the menus provided were courtesy of Health Coordinator, Priscilla Laula, who directs the program. The selections of menus utilized for this assessment are from participating CCCs from 2008- present.

Study Population

The study population includes CCC cooks and administrators who participated in the HFSK program 2008-present. Approximately, 20 cooks and administrators were chosen for this study. The majority of the CCCs were rated as 4-5 stars. The locations of the CCCs were from the North, South, East, and West areas of Mecklenburg County.

Selection Criteria

In order for a CCC cook or administrator to be an eligible participant, the centers must have a rating of 3, 4 or 5 stars. They must have subsidized children and be located within Mecklenburg County, NC. Each CCC has equal opportunity to participate in the program as long as it rates as a 3-5 star center.

Confidentiality

To maintain confidentiality, menus contained no identifying information. All pre- and post-menus are kept in a binder by Health Promotion Coordinator Priscilla Laula, HFSK director. The menus were selected based on what was available in a binder for all participating CCCs.

Data Management

For quality control, a frequency distribution was obtained utilizing the selected variables to assure all values fall within specific ranges and that missing values are accounted for. If the values do not fall within the specific ranges, they will be recalculated to assure data entry errors did not occur.

Measures

All information was extracted from CCC menus and entered into an Excel spreadsheet database. A database was created containing twenty tabs for the twenty CCCs used for this project. Each of the tabs contained the five variables of interest which included: whole grains, milk, vegetables, low fat meats and alternative proteins. Each pre- and post-menu of the individual CCCs was evaluated by the number of times the five variables were served for an entire week, Monday –Friday. According to how many times a CCC served any of the five variables of interest, the CCC was awarded one point. Breakfast, lunch, and snack information of all menus was utilized to award points. Once all information was collected for each CCC, additional tabs were created for the variables in order to calculate the combined total of each CCCs pre- and post-menu

servings of the five variables. Also, each individual CCC menu was taken into consideration to calculate the percentage of CCCs that used the five variables within the particular center for an entire week.

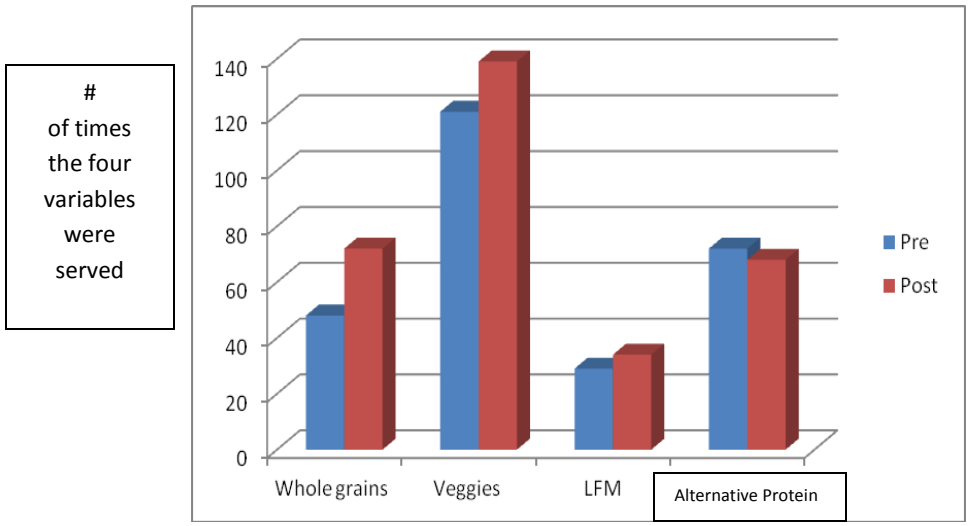
Analysis Plan

65% (20 out of 31) CCCs that participated in HFSK provided pre- and post-menus. The descriptive statistics that will be utilized for this paper will be a frequency distribution, which will be calculated for five variables from each pre- and post-menu. A frequency distribution will allow for comparisons to be made on all five variables to obtain the totals/sums that the HFSK program had on the CCC s, as well as, obtaining the percentage of influence the program had on each individual CCCs with each variable through the week.

RESULTS

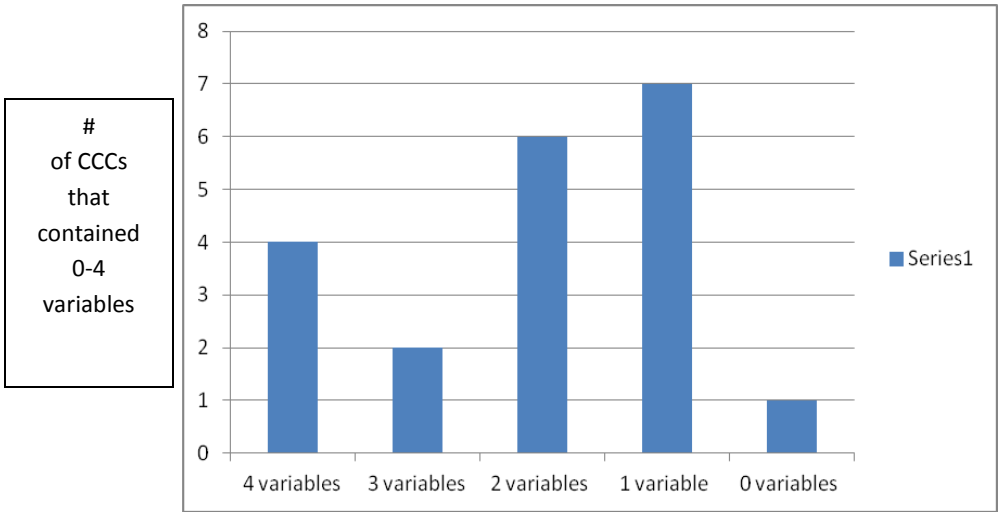
Twenty CCCs were considered in this study. There were only four variables utilized which were whole grains, milk, vegetables, low fat meats and alternative proteins. The results from "milk" are not listed because the pre- and post-menus for all twenty CCCs do not indicate the specific type of milk served, thus the totals/sums were zero.

Table 2. Four Variables Pre- and Post Participation with HFSK



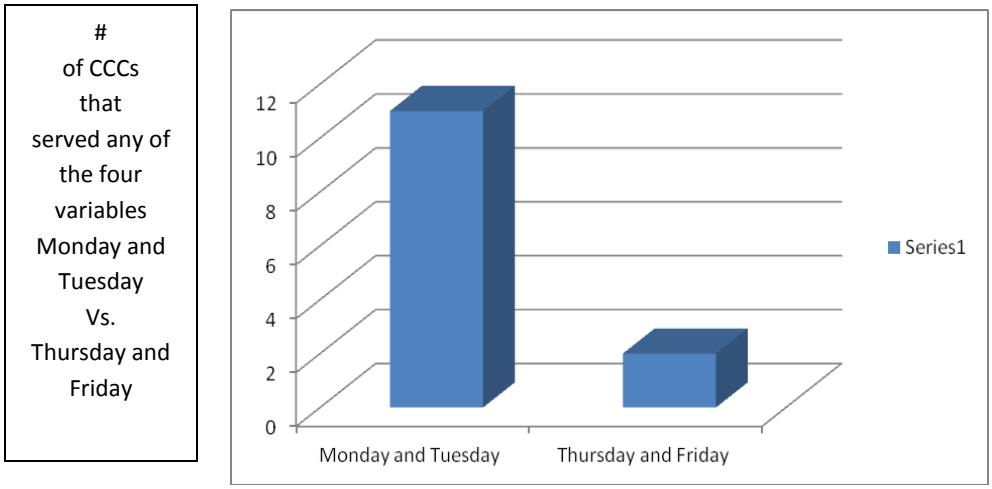
From the cumulative total of pre-menus, whole grains were served 48 times, and from the cumulative total of post-menus, whole grains were served 71 times. The total of pre-menus shows that vegetables were served 121 times, and in post-menus vegetables were served 138 times. The total of pre-menus indicates that low fat meats were served 29 times, and the total of post-menus shows that low fat meats were served 34 times. The total of pre-menus indicates that alternative proteins were served 72 times, and the total of post-menus shows that alternative proteins were served 68 times.

Table 3. Increases in Variables from Pre-menu Post-menu



5% (1) of the CCCs had none of the five variables in their menus. 35% (7) of CCCs contained at least one variable. 30% (6) of CCCs contained at least two variables. 10% (2) of CCCs contained at least three variables. 20% (4) of CCCs contained at least four variables.

Table 4. Post Menu Comparison of Variables Monday and Tuesday vs. Thursday and Friday



Whole grains, vegetables, low fat meats and alternative proteins served 55% (11) on Mondays and Tuesdays when compared to 10% (2) on Thursdays and Fridays. A particular variable of interest was alternative protein. Cheese was consistently noted when reviewing the menus; it was also classified as an alternative protein. If cheese were not utilized in the data the outcome for this variable may have yielded different results.

DISCUSSION

This research study was comprised of a sample of twenty CCCs in Mecklenburg County, North Carolina. The purpose of this thesis is to determine the effects that the HFSK program has on menu planning in CCCs within Mecklenburg County. The aim of the study was to understand the role of HFSK and if it is effective in planning healthy menus, focusing on five variables: whole grains, milk, vegetables, low fat meats and alternative proteins. What was found was that three variables: whole grains, vegetables, and low fat meats all increased in the CCC menus after the participation in HFSK. Alternative proteins were the only area that showed a decrease. The decrease could have been due to the way alternative proteins were defined, which was a meal without a meat serving such as beans (i.e. bean burrito), cheese (i.e. string cheese, cheese roll up, cheese pizza, macaroni and cheese), eggs (egg- veggie bake), and peanut butter. Utilizing the framework of the HBM as the theoretical framework, allows for a better understanding of how attitudes, beliefs and perceptions could potentially affect better/healthy menu planning among CCCs.

Overall, this research project provided awareness of the effect HFSK has on menu planning. Although, there was not an increase in the variable of alternative proteins, HFSK does exhibit a positive effect on CCCs in Mecklenburg County, North Carolina. It is important to understand how perceived barriers to menu planning affect those who work in CCCs. Additional aspects that have to be considered when thinking of menu planning are cost, budget, time and level of knowledge when planning a menu. All of these aspects are taught not only through participation in HFSK, but through continuing education classes offered by HFSK throughout the year.

Limitations

This research was limited in many ways. There was no comparison group in which there would be a base line to compare information obtained. This could be due to the fact that the program was developed in 2008, so collection of information is still being made. A second limitation was the lack of clarity among the variables being considered in the menu, especially considering the variable 'milk.' All of the menus show the use of milk, but did not specify the type of milk (1% or skim). This resulted in the pre- and post-menus equaling zero. This could be due to the fact that CCC menus are not required to specify the type of milk they are using so the CCC can state only the word, "milk". A third limitation is seasonal variability in which certain types of vegetables are available, such as tomatoes, green beans, corn and okra in summer, squash and pumpkins in fall, collard greens and lettuce in spring. Year round vegetables include cabbage, carrots, celery.

Conclusion

When assessing the effects of programs such as HFSK has on menu planning in CCCs, it is important to consider perceived barriers, cost, budget, time, and level of knowledge when planning a menu. This research study has shown that the HFSK program has contributed to healthy menu planning to CCC participants.

Recommendation for the future would be to eliminate CCCs that may participate in other nutritional programs, meaning programs that may be similar to *Healthy Futures Starting in the Kitchen*, so there can be more of an accurate depiction of the contributions that HFSK specifically makes. It is important to have an accurate view of the effects that

HFSK has on CCCs, so that centers can see the positive changes pre- and post-program and the program coordinator can identify areas that need improvement for future programs. Another recommendation would include obtaining more detailed menus. The majority of menus were not concise in details of the 5 variables, so information extracted was not clear, for example, the type of milk served or items that might have been made "from scratch". Without the menu specifically mentioning items of food with clarity, these items were missed or not accurately accounted for, but it does not mean that the CCCs did not use the information/techniques from the program. From this study, as well as looking at past studies, I believe that more research is needed in the area of menu planning in CCCs.

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Appendix A Emory Institutional Review Board

January 25, 2011

RE: Determination: No IRB Review Required
Title: An Evaluation of the effects of Healthy Futures Starting in the Kitchen: An educational
program to teach childcare facilities cooks how to prepare healthy meals for children, has on
before and after menus of childcare facilities.
PI: Shayla Stroud

Dear Ms. Stroud:

Thank you for requesting a determination from our office about the above-referenced project. Based on our review of the materials you provided, we have determined that it does not require IRB review because it does not meet the definition(s) of "research" or the definition of "clinical investigation" as set forth in Emory policies
and procedures and federal rules, if applicable. Specifically, in this project, you will be conducting a program evaluation of the Healthy Futures Starting in the Kitchen educational program

This determination could be affected by substantive changes in the study design, subject populations, or identifiability of data. If the project changes in any substantive way, please contact our office for clarification.

Thank you for consulting the IRB.
Sincerely,
Andrea Goosen, MPH, CIP
Research Protocol Analyst
This letter has been digitally signed

Appendix B Resume

VITA

Name: Shayla Stroud
Address: 1520 Ivy Meadow Dr.
Charlotte, NC 28213
Phone: (704) 488-7902
Email: stroud.shayla@gmail.com

EDUCATION AND TRAINING

College: University of North Carolina Charlotte, North Carolina
Bachelors of Science degree received 5/2003
Bachelors of Arts degree received 5/2003

University of North Carolina Greensboro, North Carolina
Post-baccalaureate Biology 8/2005

Emory University Atlanta, Georgia
Masters of Public Health 5/12

SERMACS (Southeastern Regional Meeting of the American Chemical Society) 10/2007

SNCURCS (State of North Carolina Undergraduate Research and Creativity Symposium) 11/2007

Good Clinical Practice Training 3/2008

OUR (Office of Undergraduate Research) expo 4/2008

Collaborative Institutional Training Initiative (CITI) 3/2008-present

Physicians Assistant Shadowing
Carolinas Medical Center General Surgery- Hepatobiliary 11/2011
McKay Urology 12/2011
Preoperative Screening Clinic 12/2011
Blumenthal Cancer Center Breast Clinic 12/2011

EMPLOYMENT

2/2008- Present Oncology Research, Blumenthal Cancer Center
Carolinas HealthCare System, Charlotte, NC
Oncology Research Data Coordinator

10/2001- Present Carolinas Laboratory Network
Carolinas Medical Center
Carolinas HealthCare System, Charlotte, NC
Clinical Lab Assistant/Phlebotomy

6/2010- 4/2011 Internship, Mecklenburg County
Mecklenburg County Health Department, Charlotte, NC
Health Promotions Coordinator Intern

2/2007-2/2008 e-Link Critical Care, Moses Cone Hospital
Moses Cone HealthCare System, Greensboro, NC
Unit Secretary

CERTIFICATION AND MEMBERSHIPS

Cardiopulmonary Resuscitation (CPR), 2008-present
Delta Sigma Theta Sorority Inc., Member, 1999-present
American Public Health Association (APHA), Member 2009-present
Society of Clinical Research Associates (SoCRA), Member 2009-present
Certified Fitness Instructor (NshapewithN), 2008-present
American Chemical Society (ACS), Member 2007

RESEARCH EXPERIENCE

Undergraduate Researcher 2006-2008
Clear Cell Sarcoma Research Department of Chemistry/Biochemistry
Direction of Ph.D. Johanna Mazlo, University of North Carolina at Greensboro

Research Assistantship 2007
An award given by the University of North Carolina at Greensboro Undergraduate Research Office to further the advancement of research on Clear Cell Sarcoma therapeutic approaches.
Direction of Ph.D. Johanna Mazlo, University of North Carolina at Greensboro

HONORS

Carolinas HealthCare System 10 year Service Award, 2011
Carolinas HealthCare System Values in Action, 2003, 2009
University of North Carolina at Greensboro Merit Scholar, 2006, 2007, 2008
Moses Cone HealthCare System Nursing Secretary of Excellence, 2008
Carolinas HealthCare System Top Gun, 4th Quarter, 2007

ABTRACTS and POSTERS

Development of a Purification Protocol for an Inhibitory Anti-ATF1/CREB Single Chain Antibody Fragment (scFv41.4). Poster presentation. Annual OUR Symposium. April 2008.