

AN ABSTRACT OF THE THESIS OF

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Title: Parent Intervention to Promote Vegetable Consumption by Head Start Children.

Abstract approved:

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The purpose of this study was to evaluate the effect of parent education on increasing parental awareness of vegetable servings needed by preschool children, lowering barriers to increase vegetable consumption in their children's diets, increasing confidence in their ability to increase vegetables in their children's meals, and promoting parent-child interaction to increase vegetable consumption by preschool children.

The study was conducted with parents enrolled in the Kid-co Head Start program in Albany and Corvallis. The study protocol consisted of an experimental (n=10 parents) and control (n=4 parents) group. Parents in the experimental group attended a family night event about vegetables on February 13th of 2003. This event was followed by an in-school activity and a delivery of reinforcement material about vegetables, one week after family night event took place. Parents in the control group attended a family night event about healthy snacking on February 13th of 2003. Parents from both groups participated in a follow-up phone interview.

A high proportion of participants (75%) of the control group were Hispanics. In the experimental group, 70% were whites and 30% were Hispanics. Levels of education of participants of both groups ranged from 6 years of school up to college degrees.

Findings revealed vegetable availability in participants' homes. Fresh vegetable availability in control and experimental group combined ranged from 2 to 7 types of vegetables, before the intervention, and 2 to 5 types after the intervention. Seventy one percent of participants of combined experimental and control groups had frozen vegetables and 85.7% had canned vegetables (before and after the intervention). Daily vegetable consumption was reported by 64.3% of the parents from both experimental and control groups combined. A high proportion of parents (71.4%) from combined experimental and control groups reported that their children eat vegetables every day. Dinner, lunch and snacks are meals in which children eat most vegetables.

No significant difference was found about parents' awareness of the daily recommended number of vegetable servings needed by young children between experimental and control group. Similarly, no significant difference was found in experimental group responses before and after the intervention. Findings before the intervention indicate that 50% of participants in the experimental group didn't know the recommendation needed by young children. After the intervention 10% of participants responded that they didn't know the recommendation.

No significant difference was found about parents' confidence in their ability to increase vegetables in their children's diets between control and experimental groups responses (before and after the intervention). Similarly, no significant difference was found in experimental group responses before and after the intervention. However, high

levels of confidence were reported in both groups. Before the intervention, 75% and 50% of parents in the control and experimental group respectively, reported they felt “very confident.” After the intervention, 75% and 40% of parents in the control and experimental group respectively, reported they still felt “very confident.”

Before the intervention most participants in both groups reported they have barriers to increase the amount of vegetables in their children’s diets at least sometimes. The barrier “My child doesn’t like vegetables” was reported by 60% of parents in the experimental group and by 100% in the control group, at least sometimes. “Too much time to prepare vegetables” was reported by 25% and 10% of participants in the control and experimental group, respectively. Fifty percent of parents in the control group indicated they have lack of preparation skills, while only 10% of parents in the experimental group reported the same barrier. None of participants in the control group considered “cost of vegetables” a barrier. However, 50% in the experimental group reported the barrier “cost of vegetables.” “I can’t get satisfactory vegetables” was reported by 25% and by 40% of participants in the control and experimental group, respectively.

After the intervention, 25% and 30% of parents in the control and experimental group reported that “Nothing” is consider a barrier. However, “My child doesn’t like vegetables” was a barrier for 50% of parents in the control group and 10% in the experimental group. Not enough time and energy to cook were barriers reported by 30% and 20% of participants in the experimental group only. Lack of preparation skills was reported by 25% of participants in the control group and by 10% in the experimental group.

Only 20% of parents in the experimental group tried the vegetable recipes provided in the handouts. However, 90% of parents in the experimental group reported they tried to give more vegetables to their child since the family event. Ninety percent of parents reported preparing vegetables with their children. Letting their children choose a vegetable in the store was another parent-child interaction activity practiced by 60% of parents from the experimental group. All parents from the experimental group agreed that our educational material helped them to interact with their children. Ninety percent of parents agreed it helped to save money and 70% agreed it helped to prepare more vegetables for their child. Forty percent of parents reported that their child ate more vegetables after the family event.

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Parent Intervention to Promote Vegetable Consumption by Head Start Children

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Ines R. Arroyo

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I understand that my thesis will become part of the permanent collection of Oregon State University libraries. My signature below authorizes release of my thesis to any reader upon request.

Ines R. Arróyo, Author

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INTRODUCTION

It is necessary to achieve healthy eating behaviors at a young age to prevent long-term health problems, such as coronary heart disease, cancer, stroke and osteoporosis. Scientific evidence suggests that a high consumption of fruits and vegetables may prevent future chronic illnesses (Steinmetz and Potter, 1996). On account of the low fruit and vegetable consumption in the US population, the national program 5 A DAY was created in 1991 to promote the consumption of five or more servings of fruit and vegetables per day (www.5aday.gov).

The 5 A DAY program interventions for low-income populations have had positive outcomes (Havas, et al., 1998; Levy and Cooper, 1999). Results from studies show that one of the major needs among low-income parents is access to nutrition information (Pestano-Binghay, Reis, and Walters, 1993; Reed, 1996). Another need of low-income families is to address low vegetable consumption. For most low-income families the low consumption of vegetables is affected by several environmental factors such as lack of time due to parents' occupations, lack of preparation skills making healthy meals that include vegetables, and having a limited budget for buying healthy food (Reicks, Randall, and Haynes, 1994).

The number of American children that are consuming vegetables below the recommendations is tending to increase (Krebs-Smith, et al., 1996). Studies have shown a positive association between parents and their children's eating habits (Johnson and Birch, 1994; Skinner, et al., 1998). Parents play a role in influencing their children's dietary behavior. They influence their children's eating habits by acting as role models. Parents not only act as models in their children's environment, they also influence the type of food that children eat by the availability of food that they provide.

Active involvement of parents in their children's diets is necessary. Nutrition education provides important tools for low-income parents, so that they can overcome barriers and provide a healthy diet for their family. Parents need to learn positive eating behaviors to increase vegetable consumption and gain confidence to increase their family's vegetable consumption.

The criteria of giving nutrition education to low-income parents is derived from the assumption that parents serve as effective role models for their young children's eating behaviors, and influence children's consumption of vegetables during meals (Fisher et al 2002). This important role of parents in children's diets has to be targeted in order to increase vegetable consumption among young children.

Research Questions

1. Can parent education increase awareness of vegetable servings needed by preschool children?
2. Can parent education lower barriers (e.g., cost, preparation) to family vegetable consumption?
3. Can parent education promote parent-child interaction that increases vegetable consumption by preschool children?
4. Can parent education increase parents' confidence in their ability to increase their children's vegetable consumption?

LITERATURE REVIEW

Healthy eating habits are important for the adequate growth of preschool children and also to prevent future chronic diseases. Healthy eating habits during preschool years may provide the foundation for lifelong eating habits. Two assumptions underlie the idea of establishing healthy habits in childhood. The first is that dietary habits can be established (controlled by parents) and the second is that habits in childhood persist into adulthood (Wardle, 1995).

Young children's obesity

The prevalence of obesity in the US population is increasing not only in adults, but also in young children and adolescents. One out every five American children is obese. This may have negative consequences in their adulthood (Dietz, 1997). Scientific evidence indicates that children are becoming more sedentary and are consuming diets high in fat and low in fruits and vegetables (Hill and Trowbridge, 1997). Data from NHANES III shows that the percentage of children between the ages of 2 to 5 years with weight-for-stature above the 95th percentile has risen from 2.1 to 5% for boys and from 4.8 to 10.8% for girls (Ogden, et al., 1997). Diabetes, hyperlipidemia, and hypertension are some of the health problems in which obesity is associated; currently these health problems are also affecting young children (Dietz, 1997).

Young children's food preferences

Children's food preferences are shaped by the quantity and quality of their experience with food (Birch, 1998). Familiarity is an important factor for food preference among preschool children, and is the major basis of likes and dislikes (Birch, 1979).

Study about food preferences among toddlers (28 to 36 months old) indicated that the liked food list included several fast food items (e.g., French fries, pizza, hamburger and fried chicken), snacks (e.g., variety of chips, cookies, candies, and ice cream), baking products, and only some fruits such as bananas, apples and grapes (Skinner, et al., 1998). Many of the vegetables that are disliked by mothers are vegetables never tried before by their children from 2 to 3 years old (Skinner, et al., 2002). These vegetables were beets, collards, radishes and winter squash. Some parental restriction was observed in regard to beverages and dairy products consumption. Several beverages such as whole and chocolate milk, soda, and coffee are foods children like; but they do not eat them as frequently, because of parental restriction (Skinner, et al., 2002).

Vegetable items were foods most frequently reported as disliked by preschool-aged children from 2 to 5 years old (Stanek, Abbott, and Cramer, 1990). The list of foods that toddlers (28 to 36 months old) dislike most and do not eat includes several vegetables (Skinner, et al., 1998). Results from this study indicated that twenty-one of the 22 more disliked foods were raw and cooked vegetables like raw onions, raw broccoli, green pepper, lettuce, tomatoes, cabbage, raw carrots and cauliflower.

The dislike of fruits and vegetables is becoming a major concern and nutrition topic among low-income and other parents (Reicks, Randall, and Haynes, 1994; Dunn, et al., 1994; Marshak, De Silva, and Silberstein, 1998; Weaver, Poehlitz, and Hutchinson, 1999). One experimental study has showed that if preschoolers were influenced with positive attitudes toward vegetables, there would be an increase in familiarity and willingness to taste new vegetables (Byrne and Nitzke, 2002).

Young children's food consumption

The preschool years are a time when children are developing eating behaviors, food preferences and dislikes (Phillips and Kolasa, 1980). Early food experiences give lasting “food roots” in actual eating behaviors of adults (Devine, et al., 1998, Devine, et al., 1999). The meanings that are related with food such as preparation practices, cleaning, and serving the food, may have an effect in boys or girls preference for food (Matheson, Spranger, and Saxe, 2002). Other factors that influence people's food behaviors during their life are family roles, stages of life, health condition, ethnicity, and income. Qualitative analysis has shown that these factors may also contribute to food choices (Devine, et al., 1998; Devine, et al., 1999). People who form the habit of eating fruits and vegetables early in life are more likely to consume more fruits and vegetables as adults (Subar, et al., 1995). Only ~1% of children are meeting the national recommendations for the five food groups: milk and milk products, meat and meat alternatives, vegetables, fruits, and breads and cereals (Muñoz, et al., 1997).

The trend of soft drink consumption is increasing and it may be negatively affecting the consumption of milk and fruit juices that are rich in vitamin C (juices) and vitamin A (milk) (Harnack, Stang, and Story, 1999). Findings among preschool-aged children indicate that white children are more likely to consume soft drinks than black children (Harnack, Stang, and Story, 1999). About high-fat food preferences, young children show that they have a strong preference and are more likely to eat high-fat products (Fisher, et al., 2002). Discretionary fat supplies account for ~ 24% of the energy in children's diets, while the added sugar represents ~ 13% of the total food energy intake (Muñoz, et al., 1997). The difference between the amount of fat actually consumed by an individual and the amount that have been consumed in the same number of servings of each food group but with the leanest choices and non fat added in cooking or at the table, it is know as discretionary fat (Muñoz, et al., 1997). Data from the Continuing Survey of Food Intakes by Individuals (CSFII) indicates that sources of fiber for children age 2 to 5 years are mostly yeast bread and cereal, which contributes to 14.4 and 10.6% of total fiber respectively (Subar, et al., 1998). Furthermore, fortified cereals are an important source of nutrients in children's diets, providing folate, vitamin A, and vitamin C nutrients that could otherwise be provided by high nutrient dense vegetables (Subar, et al., 1998).

Young children's vegetable consumption

The vegetable consumption among children from 2 to 5 years old is very low. The percentage of children aged 2 to 5 years old that meets the daily-recommended number of vegetable servings is 17.8% for boys and 20.4% for girls (Muñoz, et al., 1997). The mean serving of fruit and vegetables per day for boys was 3.3 and the mean serving for girls was 3.6 (Krebs-Smith, et al., 1996). Children (2-5 yrs) consume a small amount of green/yellow vegetables, only approximately 0.2 servings per day. While starchy vegetables consumption was 1 serving for boys and 1.1 servings for girls. Additionally, children consume only 20% of their vegetables without fat added (Krebs-Smith, et al., 1996). French-fried potatoes alone constitute about 23% of all vegetables and 14% of all fruit and vegetables consumed. Consumption of other vegetables was 0.6 servings in boys and 0.7 servings in girls (Krebs-Smith, et al., 1996). Another study indicates that only 3% of 2 year old children and no 5-year-old children consume more than 3 servings of vegetables everyday (Dennisson, Rockwell, and Baker, 1998).

Based on ethnicity, white children were more likely to meet recommendations for grains and dairy than Hispanic children, but less likely than black children to meet the recommendation for vegetables (Bollella, et al., 1999; Muñoz, et al., 1997). Gender also affects patterns of fruit and vegetables intake; evidence suggests that girls eat more fruits, and vegetables than boys (Reynolds, et al., 1999; Baranoski, et al., 1997). The influence of poverty on food intake has been linked with the intake quality (Muñoz, et al., 1997;

Krebs-Smith, et al., 1996). Results from both studies indicated that household income has a positive effect on the percentage of children who consume the recommended number of servings of fruits and vegetables. Low-income households tend to consume few servings of fruits and vegetables (Krebs-Smith, et al., 1996).

Environmental influences on young children's behavior

The social and emotional environments influence the food habits of preschool children. Studies suggest that the quality of diet is improved by companionship at mealtime during childhood (Birch, 1979; Oliveria, et al., 1992; Stanek, Abbott, and Cramer, 1990; Boutelle, et al., 2003; Gable and Lutz, 2001). Family has an important role in children's consumption, because they provide a variety of foods that children are familiar with due to the exposure to those kinds of food (Skinner, et al., 1998). New evidence suggest that parent's perceptions of mealtime environment such as planning meals in advance, eating dinner with the family, and having the television off during mealtime were positively related with the children's intake of vegetables and healthy eating habits (Boutelle, et al., 2003; Matheson, Spranger, and Saxe, 2002).

Traditionally, family has been the primary influence on the eating behavior of preschool children, but child-care providers also have influence on children's eating habits (Nicklas, et al., 2001; Gable and Lutz, 2001). Head Start, a federally funded preschool program for children from low-income families, has been focused on nutritional services. Findings show that Head Start teachers display more positive than

negative nutritional behavior during mealtime, such as encouraging children to try new foods and structuring a mealtime behavior between teachers and children (Gable and Lutz, 2001). Studies in child-care programs suggest that there is a positive correlation between the nutritional knowledge of care-providers and preschoolers' behavior at mealtime (Nicklas, et al., 2001; Nahikian-Nelms, 1997).

Role of parents

Family members have a strong influence in preschool children's eating practices (Nicklas, et al., 2001; Fisher, et al., 2002). Behavioral patterns of children are going to be affected and shaped during childhood. Parents have an important role, because they establish a social context in which the children experience a learning process (St.Jeor, et al., 2002). A correlation between parents' and 5 years old girls about their fruit and vegetable consumption confirms the importance of the parental role in young children's diets (Fisher, et al., 2002). Parents' fruit and vegetable intake may increase the availability of fruits and vegetables for children, giving the opportunity to children to become familiar with a variety of fruits and vegetables (Fisher, et al., 2002).

Parents control the availability of foods at home and act as role models (Fisher, et al., 2002). The correlation between parental influence and their children's preferences/behaviors about foods is based on research about parent-child similarities in preferences, attitudes, food intake, and nutritional status (Wardle, 1995; Oliveria, et al., 1992; Carruth and Skinner, 2000; Skinner, et al., 1998; Matheson, Spranger, and Saxe,

2002; Klesges, et al., 1991; Fisher, et al., 2002; Carruth, et al., 2000; Phillips and Kolasa, 1980). Similarities between children's food preferences and family members are consistent over time (Skinner, et al., 1998). This trend has important implications for the development and persistence of eating behaviors (Skinner, et al., 2002; Nicklas, Webber, and Berenson, 1991).

Parents influence their children's eating patterns not only through the foods that they make available to them, but also through the child-feeding strategies they practice with them (Golan and Weizman, 2001). A parental approach in which parents have a fundamental involvement had positive outcomes over young obese children. This proposed approach includes changes in parental cognition, focusing "parenthood presence," in which parents serve as a source of authority and as role models (Golan and Weizman, 2001).

Findings related to the mothers' involvement in children's food choices show that mothers tend to focus on reducing foods lowest in nutritional value rather than increasing foods highest in nutritional value, and if children (4 to 7 years old) are alone they tend to choose meals high in sugar content (Klesges, et al., 1991).

Findings about parents' consumer practices indicate that parents influence their children's food choices, because they usually go to buy food with their children, talk to their children about the cost of foods, discuss which food should be purchased, and set a model while they are in the grocery store (Carruth, et al., 2000). Results about purchase habits determine that families at high risk for poor nutrition quality were those with lower socioeconomic status (Walberg, et al., 1998). Results from the same study also indicated

that family size contributed to the low amount of fruit and vegetable purchases. Even though the inclusion of a parent nutrition education component required additional effort, because it is time consuming, nutrition educators concurred that educating parents about nutrition information is worthwhile (Kirks and Highes, 1986).

Barriers to low-income family vegetable consumption

The principal barriers that affect healthy eating habits among low-income families are lack of time and family conditions such as having a reduced budget for buying food, lack of transportation, and lack of space in their homes (Pestano-Binghay, Reis, and Walters, 1993; Omar, Coleman, and Hoerr, 2001; Cohen, et al., 1998). Other barriers that these families reported were their occupations (Omar, Coleman, and Hoerr, 2001). Qualitative results from this study indicated that several parents have long job schedules, which affect the availability of time for preparing meals.

Income is an important factor that affects food consumption in low-income families. Persons with less education or lower income tend to eat a less healthy diet with fewer daily servings of fruits and vegetables (Reicks, Randall, and Haynes, 1994; Krebs-Smith, et al., 1996; Cohen, et al., 1998). Availability of fruits and vegetables is limited by the amount of money that parents have for buying food. Although parents prefer high quality fresh vegetables, vegetables are expensive during out of season (Reicks, Randall, and Haynes, 1994; Omar, Coleman, and Hoerr, 2001).

Another influential factor, besides cost, that affects family intake of fruit and vegetables is the lack of time to prepare foods among low-income mothers (Omar, Coleman, and Hoerr, 2001; Quan, et al., 2000). Vegetables have greater barriers to consumption because of their long preparation time (Reicks, Randal, and Haynes, 1994). Findings about the vegetable consumption behaviors of low-income mothers shows that few women report having vegetables for snacks (7%), only 20% eat 2 kinds of vegetables at dinner, and 15% of participants eat salads at lunch most days (Quan, et al., 2000).

Lack of enough space to store fresh and frozen vegetables at home, and inaccessible means of transportation for buying groceries more frequently are other barriers for increasing vegetable consumption among low-income families (Reicks, Randall, and Haynes, 1994; Omar, Coleman, and Hoerr, 2001; Havas, et al., 1998; Balch, et al., 1997).

Finally, the “picky eater” behavior of many young children makes parents feed their children with the kind of food children like (Reed, 1996; Omar, Coleman, and Hoerr, 2001). Taste persists to be an important fact at the time of buying food. Many low-income families don’t like the taste of vegetables (Quan, et al., 2000; Reicks, Randall, and Haynes, 1994). Also, focus groups indicate that parents tend to hide vegetables in their meals by adding seasonings, sauces, and dips because this makes them more accepted by children (Reicks, Randall, and Haynes, 1994).

5 A DAY intervention studies targeting low-income families

Diets rich in fruits and vegetables may be related with the reduction in the incidence of diabetes, cancer and cardiovascular diseases (Steinmetz and Potter, 1996; Van Dyun and Pivonka, 2000). Also, the health-related effects of vegetables and fruits may be different (Steinmetz and Potter, 1996). The majority of research studies combined fruit and vegetable consumption (Trudeau, et al., 1998). Some research evidence suggests vegetables are more beneficial than fruit in preventing different kinds of cancer (Steinmetz and Potter, 1996). Data has shown that Americans eat few cruciferous and dark greens (Johnston, Taylor, and Hampl, 2000). Thus, it is important to consider fruits and vegetables separately, because of their different use in meal preparation, and taste (Trudeau, et al., 1998).

In 1991, a national survey showed that the mean adult consumption level of fruits and vegetables was 3.5 servings. Only 23% of the population was consuming five or more servings of fruits and vegetables a day (Subar, et al., 1995). Because the US population consumes too few fruits and vegetables, in 1991 the National Cancer Institute started the National 5 A DAY for Better Health program to help Americans to eat 5 or more servings of fruits and vegetables everyday (Heimendinger, 1993). Several nutrition interventions were developed to promote fruit and vegetable consumption through the 5 A DAY program (Anderson, et al., 2001; Masur Levy and Cooper, 1999; Foerster, et al., 1998; Havas, et al., 1997; Havas, et al., 1998; Beresford, et al., 2001).

The WIC 5 A DAY program in Maryland, which consisted of nutrition classes, conducted by peer educators, printed materials/photovoice, and direct mail/tailored letter, showed positive outcomes among low-income women (Havas, et al., 1998). Even though results from this program indicated that there were significant differences only among whites and adults with at least a high school education, individuals who participated in the intervention increase their fruit and vegetable consumption after the intervention. Havas et al., (1998) pointed out that low-income mothers that participate in the classes increased their knowledge, attitudes and confidence to eat more vegetables. Also these new patterns of consumption and behavior persisted after 1 year of the completion of the intervention.

Another intervention evaluated cooking classes and an advertising campaign targeting low-income families with young children (Weaver, Poehlitz, and Hutchinson, 1999). Results from this intervention showed that a high percentage of participants from the cooking events not only identify correctly the 5 A DAY logo, but they also comprehend the meaning of it, in comparison with the individuals that participated in the advertisement campaign.

Another 5 A DAY intervention for low-income women showed that the education component had a positive effect in building confidence to make changes in behavior, to improve vegetable consumption; while the “coupon component” affected consumption (Anderson et al 2001). Results from the same study showed that education is not going to have a significant direct effect on behavior change.

A parent education program was created to assist Head Start parents with their preschool children eating habits (Koblinsky, Guthrie, and Lynch, 1992). This study evaluated if parents eating behaviors affect their children's diets. Results indicated that nutrition education had a beneficial effect on children's consumption of nutritious foods. Even though there was not a significant increase in the overall vegetable consumption, children were eating more of the vegetables targeted in their workshops, such as dark greens, dark orange vegetables and fruits rich in vitamin C.

Additional nutrition education for preschool children 3 to 5 years old, "The five a day, let's eat and play" program, was developed to increase the awareness and intake of fruits and vegetables among preschool children by using games like the vegetable spinning wheel, art, and food activities (Levy and Cooper, 1999). Results indicated that 90% of the children increased their fruit intake and 62% of the children increased their vegetable consumption after taking part in the program (Levy and Cooper, 1999).

Parent education

Children are consuming more food high in fat and low amounts of fruits and vegetables. This contributes to the incidence of childhood obesity. It is important to include parents in the nutrition education of their children, because research has shown the influential role of parents in young children's environments (American Dietetic Association, 1999). Research findings show that the majority of mothers would like more information about nutrition and they would be willing to receive helpful ideas and hints

to increase more vegetables in their meals (Pestano-Binghay, Reis, and Walter, 1993; Reed, 1996; Balch, et al., 1997). Findings indicate that mothers from Head Start and WIC programs consider these major problems in their children's nutrition: the high consumption of junk food, health problems due to low quality diets and children being overweight (Pestano-Binghay, Reis, and Walter, 1993).

Another need in regard to nutritional knowledge among low-income mothers is that they would like to learn about serving sizes and to know the recommended daily servings from the five food groups, as well as information about how to read food labels (Reed, 1996; Pestano-Binghay, Reis, and Walter, 1993). Other common needs are to know about which health problems can be prevented by a healthy diet, ways in which children can eat healthy, and to know how much is too much fat in their children's diet (Reed, 1996; Dunn, et al., 1994; Pestano-Binghay, Reis, and Walter, 1993). Low-income parents would like new ways to prepare vegetables so they can taste good to children, recipes in which children's participation is required, as well as fun activities with fruits and vegetables so children can eat a variety of foods are necessary (Reicks, Randal, and Haynes, 1994; Dunn, et al., 1994; Marshak, De Silva, and Silberstein, 1998; Weaver, Poehlitz, and Hutchinson, 1999). Also, new ways to have pleasant family meals, as well as ways to induce changes in family diets were named as some of the principal parents' needs (Reed, 1996).

Social Cognitive Theory factor: Self-efficacy

Self-efficacy may explain parents' guidance of young children's eating behaviors. The Social Cognitive Theory suggests that individuals learn skills and gain confidence by observing models (Bandura, 1986). Additionally, personal behaviors and the environment interact to produce a change in behaviors (Bandura, 1986). Self-efficacy influences the change of behaviors; it is a personal skill to subdue barriers to change a behavior (Bandura, 1986).

Self-efficacy varies along dimensions of magnitude, strength and generality (Abusabha and Achterberg, 1997). "Magnitude" refers to the opinion individuals have about themselves in order to accomplish something in their life, "strength" means how sure individuals are about themselves in order to achieve a task, and "generality" refers to the amount of situations in which a person feels able to perform a skill (Abusabha and Achterberg, 1997). Self-efficacy related to nutritional behavior is defined as the ability to change dietary behavior (Abusabha and Achterberg, 1997). These self-efficacy beliefs would need to be positive indicators if they are expected to promote healthy behavior in children and parents' vegetable intake (Havas, et al., 1998).

Even though few studies have approached the association between self-efficacy and food related behaviors, evidence suggests that self-efficacy can measure how much motivation the individual has in order to change their fruit and vegetable consumption (Reynolds, et al., 1999; Cullen, et al., 1998; Havas, et al., 1998). Other results support that self-efficacy is related to "stages of change" for fruit and vegetable consumption; it

increases more if the individual eats considerable amounts of fruits and vegetables (Ma, et al., 2002). Results from the Maryland WIC 5 A DAY intervention reveal that self-efficacy is one of the factors that determine a change in fruit and vegetable consumption (Havas, et al., 1998).

The impact of educational programs among low-income populations demonstrates that an increase in self-efficacy beliefs promotes an increase in fruit and vegetable consumption, and it is an important factor to change the behavior (Havas, et al., 1998; Marshak, De Silva, and Silberstein, 1998). A high level of education has a significant positive effect in the increase of self-efficacy beliefs (Havas, et al., 1998).

MATERIALS AND METHODS

Study Design

The research was conducted with Head Start families. The Head Start program was launched in 1965 and it was designed to help break the cycle of poverty by providing children of low income families with a program that meets their emotional, social, health, nutritional, and psychological needs. The Head Start program provides a range of individualized services in the area of education and early childhood development; medical, dental and mental health; nutrition; and parent involvement (U.S. Department of Health and Human Services, 2003).

The purpose of this study was to evaluate the effect of a parent intervention in low-income parents. This intervention focused on the daily vegetable recommendation needed by preschoolers, ways to overcome parents' barriers, parents' confidence, and parent-child interactions activities to increase vegetable consumption by preschoolers.

Low-income parents of children enrolled in the Kid-co Head Start program at Riverside school (Albany) and Lincoln school (Corvallis) were invited to participate in the study. Parents from the Albany site were chosen to be part of the experimental group of the study, while parents from the Corvallis site were chosen to be part of the control group.

The study consisted of four phases. Phase I was the in-service training to introduce the project to Head Start staff from all Kid-co Head Start. Phase II was the

family night intervention events for both experimental and control groups. Phase III (experimental group only) was an in-school activity and distribution of follow-up material to families. The experimental group received information from the lecture and handouts that focused on high nutrient density vegetables, while the control group received general information about healthy snacks. Phase IV was a phone survey with both experimental and control groups.

The study procedures, and educational material including lectures, handouts and questionnaires were coordinated with the Nutrition Coordinator of the Kid-co Head Start program. All questionnaires, handouts, and presentations were developed in English and translated into Spanish by the researcher.

Development of Instruments

The OSU Institutional Review Board (IRB) approved all procedures and questionnaires for the study. All questionnaires were approved before the study was started.

Pre-questionnaire: Control and Experimental Group

The written pre-questionnaire was developed to measure if parent education increased awareness of the number of vegetable servings needed by preschool children, lowered barriers that reduced family vegetable consumption, promoted parent-child interaction that increased vegetable consumption by preschool children, and improved parents' confidence in their ability to increase their children's vegetable consumption habits (Appendix.A). Questions in regard to family vegetable consumption were also included. Several questions were also developed to describe the demographic characteristics such as age, race, education level, family size, and children's ages.

The research question in regard to the awareness of the recommended daily number of vegetable servings for young children was measured by the question "How many times each day should your Head Start child eat vegetables for good health?" A continuous numerical scale from zero to five answered this question; the option "I don't know" was also included in the possible answers.

The research question related to the barriers that parents have to increase their family vegetable consumption was answered by the question “What things make it difficult for you to give vegetables to your child as often as you like?” Five possible responses and the option to write others barriers were included in the possible answers. Each category of barrier had three possible answers: “Yes,” “No,” and “Sometimes” which determined how frequent each barrier is perceived.

The research question in regard to self-efficacy factors related to increasing vegetables in young children’s diets was measured by the question “How confident are you that you can increase the amount of vegetables that your Head Start child eats?” This question was adapted using the self-efficacy question of the study by Clark and Dodge (1999) for assessing women’s perceptions in their self-efficacy levels. This question was answered by the options: “Not confident”, “Somewhat confident”, “Quite confident”, “Very confident”, and “Not applicable.”

Vegetable consumption practices in young children were asked by a categorical question where parents could circle in which of the four meals (breakfast, lunch dinner and snacks) their children eat vegetables. Another question was related to the sources of information that parents use to get nutritional information including newspaper/magazines, television/radio, friends/relatives, and Head Start/WIC programs. Each possible response has the option to answer “Yes” or “No.” The options “other sources” and “I don’t look for information” were also included in the list of possible answers.

Another way to know more about vegetable consumption practices was by knowing which fresh, canned and frozen vegetables were available in their kitchen. Respondents were asked to circle vegetables available in their kitchen from a list of seven vegetables: lettuce, peppers, cabbage, broccoli, onions, potatoes and carrots. The list of vegetables includes high-nutrient dense vegetables that were included in our printed material (broccoli, cabbage, and lettuce). Also, the list includes vegetables mostly consumed by American families (potatoes and onions), denoted in the study by Krebs-Smith et al (1996). Other high-nutrient dense vegetables such as carrots and peppers were also included. The option to write “other” vegetables that were not listed in the list was also given. Another two questions were structured to answer “Yes” or “No” if families have frozen and canned vegetables at home.

The pre-test questionnaire was developed to be filled out in ten minutes. It was the same for both the control and experimental group; it included a total of nineteen questions. All pre-test questionnaires also included a separate sheet in which participants filled out their name, phone number, and the time and day most convenient for them to receive a phone interview during phase IV of the pilot study. When administered to control and experimental groups, names of participants were not on the pre-test; their names and phones were taken on separate sheets of paper in order to contact each participant. All pre-tests were numbered to contact the participants; all responses were kept confidential and destroyed at the end of the study.

The pre-questionnaire was pilot tested among families with preschool children from the Child Development Center- OSU at Bates Hall. The pilot test took place three

weeks before the first family night event. Three parents, one father and two mothers, participated in the pilot test. They represented two households. The race of one mother was Asian and the other household's members, mother and father, were white.

Participants of the pilot test received the pre-questionnaire and answered all responses. After the pre-questionnaire was completed, parents gave us their perceptions about the questionnaire. All participants agreed that the questionnaire was clear and easy to read. One participant suggested including the option "I don't look for information" as a possible response about where they get information about vegetables.

Also they suggested including the option of an open-ended answer at the end of the list of things that makes it difficult for them to give more vegetables to their child. Finally, all participants agreed that the length of the questionnaire was adequate. It took approximately seven to ten minutes to fill out. The two suggestions of the pilot test were the changes done to the pre-questionnaire.

Post-questionnaire: Control Group

The post-questionnaire (Appendix.B) for the control group was developed to answer the research questions of the study and to know more about family vegetable consumption practices and to assess changes in snacking. It was designed as a phone interview. The post-questionnaire took five to seven minutes to administer.

The research question in regard to awareness of recommended daily number of vegetables servings for young children was the same question used in the pre-questionnaire. The research question in regard to self-efficacy factors related to increasing vegetable consumption in young children's diets was also the same question used in the pre-questionnaire.

The research question related to the barriers to increase family vegetable consumption was answered by the question "What things make it difficult for you to give more vegetables to your child as often as you like?" This question was structured as an open-ended question. The research question related to parent education that promotes parent-child interaction to increase vegetable consumption in young children was not asked in the control group because participants were not part of the experimental group in which the parent-child interaction was taught during the presentation.

Vegetable availability and vegetable consumption practices at home were also answered by the open-ended question: "What fresh vegetables are in your kitchen this week?" The questions "Do you have any frozen vegetables?" and "Do you have any canned vegetables?" were also used to know about vegetable availability.

On the post-questionnaire the overall effect of the family night event was measured by the question "Have you made any changes in the type of snacks your child has eaten since the family event?" The question was answered by "Yes" or "No" and if there was a positive effect, participants were asked an open-ended question in order to explain the type of changes they made since the family night event.

Names of participants were not on the post-test; their names and phone numbers were taken on separate sheets of paper during the family night event in order to contact them during phase IV of the study. All responses were kept confidential and destroyed at the end of the study. A simulated phone interview took place before calling the participants, in order to rehearse the introductory speech and the questions the interviewer was going to ask.

Post-questionnaire: Experimental Group

The post-questionnaire (Appendix.C) for the experimental group was developed to answer the research questions of the study; to know more about family vegetable consumption practices, and to know the effect of the presentation and printed material. The post-questionnaire consisted of 15 questions to be answered in approximately five to seven minutes.

The research question in regard to awareness of the recommended daily number of vegetable servings for young children was measured by the same question used in the pre-questionnaire for both groups. The research question related to lowering barriers to family vegetable consumption was answered by the open-ended question “What things make it difficult for you to give vegetables to your child as often as you like?” The research question in regard to parent-child interaction to increase vegetable consumption in young children was answered by the following questions:

- Has our educational program helped you interact more with your Head Start child about vegetables?
- Have you prepared vegetables together?
- Have you let your child choose a vegetable at the grocery store?
- Have you tried to give more vegetables to your Head Start child since the family night program?
- Did you do the activities with your child?

All questions were structured for answering with the options “Yes,” and “No.” The answers “Not sure” or “Not yet” were also included as possible responses. The research question in regard to self-efficacy factors related to increasing vegetables in young children’s diets was measured with the same question used in the post-questionnaire, “ Have you tried to give more vegetables to your Head Start child since the family night”.

Vegetable availability and vegetable consumption practices at home were answered with the same open-ended questions used for the control group. Also, the following questions were used to find out the participants’ perceptions and the effect of the information provided in class and in the printed material:

- Has our vegetable information helped you to save time when you prepare vegetables?
- Has our vegetable information helped you to save money when you buy vegetables?

- Has our vegetable information helped you to prepare vegetables for your Head Start child?
- Do you think other Head Start parents would like the information you received about vegetables?

Names of participants were not on the post-test; their names and phone numbers were taken on a separate sheet during the family night event in order to contact them during phase IV of the study. All responses were kept confidential and destroyed at the end of the study. All questionnaires were developed in English and Spanish. A simulated phone interview took place before calling the participants in order to rehearse the introductory speech and the questions the interviewer was going to ask the participants. No change was done to the post-questionnaire after the simulated phone interview.

Educational Material Development

Handout: Healthy Snacking Everyday

A “Healthy Snacking Everyday” handout (Appendix.D) was developed for Head Start families in the control group. It was based on information from the Healthy Snacks handout provided by the Oregon State University Extension Service, and additional information from the Extension Family Nutrition Education Program at Washington State University.

The handout included information about what characteristics make a snack healthy. It also included simple tips to promote healthy snacks in young children's diets and information about why it is important to include snacks in their diet. Two pictorial recipes (from the Oregon State University Extension Service) were attached to the handout; they included healthy ingredients such as fruits, yogurt, cereals, and crackers. The recipes were easy to prepare and they consisted of 4 to 5 preparation steps. Each recipe included low-cost and easily available ingredients. Parents and children could prepare the recipes together. Each recipe included the nutritional benefits that each snack provided. The handout/two recipe packet included graphic art in order to make them more appealing to the target audience and they were printed on different colors of paper to make it easy to differentiate between each other.

Handout: Vegetables: A Healthy Harvest

The educational generic handout about vegetables for the experimental group was based on the Oregon's Healthy Harvest cards, and the Food for Tots handout that were developed by the Oregon State University Extension Service. All vegetable material focused on high-nutrient density vegetables.

The generic "Vegetables: A Healthy Harvest" handout (Appendix.E) consisted of general information about the benefits of consuming more vegetables, the minimum number of vegetable servings that is recommended for children and adults, and easy ways

parents can include more vegetables in children's meals. Seasonality of vegetables that grow in Oregon was another criterion that was included in the handout, with simple tips to save money when parents are buying vegetables in and out of season. Finally, information about parent-child interaction was also considered in the educational material, in order to give ideas to parents, so they can interact more with their children about vegetables. The handout was formatted into two folded 11x17 inch sheets, and graphic art was included to add appeal to the target audience.

Handout series: Cabbage; Broccoli; Leafy Greens

The educational material handouts about specific vegetables (Cabbage; broccoli; leafy greens) (Appendix.F) were based on the Oregon's Healthy Harvest cards and recipes promoting vegetables that were developed by the Oregon State University Extension Service. The handouts focused on high-nutrient density vegetables. They consisted of easy tips about purchasing, handling and storing each specific vegetable. Food safety, money saver tips, and time saver tips were also included in the handouts..

Two types of recipes were also included in each handout. One was a meal recipe that can be prepared by parents, and the other was a simple recipe that children can prepare with their parents. The criterion for selecting the recipe was based on low cost, availability of ingredients, short preparation time, and ease of preparation.

The handouts were formatted into three individual 8 ½ x11 inch sheets (printed back to back). Each type of vegetable handout was printed on a different color of paper, so parents could easily differentiate each one. Also graphic art was included in the format in order to make the handouts more appealing to the target audience.

Parent Education Program Development

Family Night Presentation: Control Group

Information provided in the “Healthy Snacking Everyday” lecture during the family night event for the control group was based on “Building a Healthy Diet” educational material that was developed by the Extension Service of the Iowa State University. The event lecture included information about why it is important to include healthy snacks in children’s diets, awareness in regard to high consumption of high fat and high sugar snacks and the importance of reading food labels. Main concepts were taught during the lecture such as:

- Choosing snacks from the five food groups.
- The importance of small meals and snacks on a regular schedule for children.
- The use of snack boxes to teach children how to choose healthy snacks.
- The importance of knowing how to read nutritional labels for choosing healthy snacks.
- The plan to set a goal for eating more healthy snacks.

Transparencies in English and Spanish were developed in order to give the class in both languages (Appendix.G). Graphic images were included in the transparencies to make the class more appealing for the attendees.

Family Night Presentation: Experimental Group

Information provided in the “Vegetables: A Healthy Harvest” lecture was based on the Oregon’s Healthy Harvest cards that were developed by the Oregon State University Extension Service and the handout “Hey Mom, Give Me Five” from the Pennsylvania WIC Program (http://www.nal.usda.gov/wicworks/Sharing_Cebter/PA/Child_Obesity_part6.pdf). The event lecture was developed to be 45 minutes in duration and the main concepts that were taught in the lecture include:

- General benefits of consuming more vegetables.
- Information about the minimum number of servings of vegetables that children should eat every day, according to the Dietary Guidelines Recommendations (Vegetable food models that showed serving sizes were also included).
- Ways to overcome barriers for consuming more vegetables among low-income families were discussed in the lecture. Barriers that were included in the lecture were cost, time for preparing vegetables and ways to make vegetables more appealing for children.

- The importance of the parents' role, and parent-child interaction in their children's eating habits were also presented in the lecture.

Transparencies in English and Spanish were developed in order to give the class in both languages (Appendix.H). Images were included in the transparencies to make the class more appealing for the attendees.

Kid-co in-service training

Ten days before the family night was carried out for the control group at Lincoln school, an in-service training (Phase I) for all Kid-co Head Start personnel from multiple sites took place. The in-service training took place February 3rd of 2003 at 10:45 am in a classroom from the Queen Anne School in Lebanon.

The one-hour training included lectures, discussions, and activities among participants. Two graduate student researchers carried out the in-service training. The purpose of this training was to introduce the project about vegetables (Vegetables: A Healthy Harvest) and snacks (Healthy Snacking Everyday) to the Head Start personnel and to evaluate handout and lecture acceptance among participants. Approximately 25 personnel from the Kid-co-Head Start program including nutrition coordinator, teachers, teachers' assistants, bus drivers, and kitchen personnel participated in the in-service training.

Nutritional topics such as healthy snacks, benefits of vegetables and parent and child roles in feeding practices were included in the lecture. The in-service training was the pilot test for the generic handout, activities and presentations for the control and experimental group. A label activity in which participants could choose a healthy snack based on the nutritional content was also included, as well as an exercise activity.

The exercise activity consisted of doing five steps, five side stretches, five knee bends and five jumping jacks in each corner of the classroom. The participants were separated into four groups. Each participant received a card on which they stuck a label for each time they completed an exercise. All participants received a small gift from the 5 A DAY program when they finished their exercise activity. Participants reacted in a positive way when both topics were taught during the class and they participated providing their own experiences about their children's vegetable consumption practices and their personal needs in regard to vegetable consumption and healthy snacks.

Attendees received information including the Dietary Guidelines about the number of servings from the five food groups that are recommended, and the generic handout about vegetables. Participants gave positive feedback about this educational material. They suggested including additional ideas about how to add more vegetables in their children's diet, and to make some changes to the Oregon Harvest Season chart in order for it to be more understandable.

Development of Recruitment Material

Family events in both sites, control and experimental, were publicized by fliers. The control group flier informed parents about the topic of the event (Healthy Snacking) while the flier for the experimental group informed parents about Vegetables: A Healthy Harvest (Appendix.I). Availability of a bilingual presentation (English and Spanish), childcare and refreshments were also included in the fliers, as well as the place and date of the event. Fliers were available in English and Spanish in order to reach all Kid-co Head Start parents.

Kid-co Head Start parents who attended the family event were invited to participate in the research project at the beginning of the family night event. A consent form was developed to recruit participants (Appendix.J). Participants' consent forms were available in English and Spanish. The consent form included information for participants about the purpose and procedures of the study. The procedures included:

- Filling out of the pre-test questionnaire that was completed during the family night event.
- The follow-up phone call that took place two weeks after the family night event.
- The authorization for the Kid-co Head Start program to release the children's Food Record sheet that parents completed when their child joined the Kid-co Head Start Program.

The OSU Institutional Review Board (IRB) approved all procedures of the study. The parent or guardian's signature was interpreted as an acceptance to participate in the pilot study.

Development of Family Night Event

Family Night Event: Control Group

At the beginning of the event the researcher invited all attendees to participate in the study. The consent form content was verbally explained to all participants and questions about the research were answered after the explanation. Attendees who agreed to participate signed a consent form and answered a 10-minutes pre-test questionnaire about vegetable consumption.

The lesson plan included the presentation about healthy snacks, activities for parents and a chance to sample healthy snacks. Participants received the handout related to healthy snacks, which provided easy information about the importance of healthy snacks in young children, tips to increase the consumption of healthy snacks among their young children, and recipes to prepare easy healthy snacks with young children.

Following the presentation, parents participated in an activity to learn how to read nutritional labels and were asked to choose a healthy snack option in regard to its nutritional content showed on the food label. Several labels of common snacks were used

in this activity. Also a discussion among parents was included to talk about different strategies to increase healthy snacks in their children's diet.

Labels of several common snacks such as peanuts, chocolate cookies, whole-wheat crackers, raisins, cereals, and fruit juices were used in a label reading activity. Some 3-dimensional food models were used to show healthy options that can be included in the snack box including: a pear, a banana, some crackers and a container of yogurt.

Finally, the family night event concluded with a sampling of snacks: broccoli, carrots, and celery sticks with low-fat dip made up with low-fat plain yogurt or sour cream. Also, crackers with low-fat cheese or regular cheese were provided in order to compare options of healthy and non-healthy snacks. Participants commented about the easy ideas to prepare healthy snacks, such as fresh vegetables with a low-fat dip and crackers with low-fat cheese that were presented in the event. Parents' personal impressions about healthy snacks were discussed while they were trying the healthy snacks.

The researcher presented bilingually the family night event lecture (both English and Spanish) and educational material was provided in both, English and Spanish. The family night event was developed for 45 minutes of duration.

Family Night Event: Experimental Group

At the beginning of the event all attendees were invited to participate in the study. The consent form content was explained out loud to all participants and questions about

the research were answered after the explanation. Attendees who agreed to participate signed a consent form and answered a pre-test questionnaire about vegetable consumption practices that took 10 minutes to fill out. Attendees who didn't agree to participate received nutritional information to read while participants were completing the questionnaire. Concurrently, Kid-co Head Start teachers who were in the room were invited to go to another room to receive explanatory information about a classroom activity they were going to carry out two weeks after the family night event. After all participants completed the questionnaire all attendees, parents, teachers and Kid-co Head Start personnel, were invited to listen the presentation.

The family night presentation included parents' participation and discussions about their children's vegetable consumption practices. Participants received the generic handout related to vegetables that included information about tips for overcoming common barriers of vegetable consumption, ideas to promote parent-child interaction in regard to vegetable consumption, food safety tips, recipes to prepare healthy snacks with young children that include vegetables in them, and one meal recipe. The vegetable handout about cabbage was attached to the generic handout that parents received. All parents also received a cabbage at the end of the presentation, in order to encourage them to try a recipe that was provided in the handouts.

Different ways that vegetables are packed, such as frozen, fresh, and canned were used to show different ways that vegetables are available in the grocery stores. Food models such as peas, broccoli, cauliflowers, and carrots were also used to show the daily number of vegetables servings that young children should eat.

Following the lecture, the conclusion of the event took place when parents joined their children in the gym of the school and both parents and children sampled several vegetables with a low-fat healthy dip. While the vegetables sampling took place, attendees and their children were listening to a 5 A DAY music tape about vegetables.

Development of classroom activity/ Delivery of reinforcement material for parents

The delivery of the classroom activity material to Riverside teachers was done one week after the experimental group family night event took place. Teachers from this site received educational material to carry out a classroom activity with their students during the week they received the material.

The kit included instructions to carry out the classroom activity and a list of the material that was delivered to them. A cassette tape “Jammin’ 5 A Day Song Tape” from the 5 A Day Program was also included to be played during the classroom activity. The tape had catchy tunes to teach kids the importance of eating fruits and vegetables. Also, paper stick figures with vegetables printed on them (broccoli and carrots) were given to the children. Each child received one carrot figure stick and one broccoli figure stick to color during the classroom activity (Appendix.K).

Educational material for parents was sent to parents’ homes with the children. It included a letter for parents in English and Spanish and the vegetable handouts about Broccoli and Leafy Greens inside a “5 A Day Color Me Lunch Bag” (Appendix.K).

Phase IV took place after the classroom activity in the experimental group took place. The same classroom activity was carried out with the control group following the phone interviews for the experimental and control groups.

Dietary intake instrument: Control and Experimental Group

The information related to the consumption of vegetables high in vitamin C, high in vitamin A and other vegetables was taken from the Food Record that parents filled out when their child joined the Head Start program in Fall 2002 (Appendix.L). Two versions of the Food Record were used in Kid-co Head Start as tools for obtaining a child's vegetable consumption baseline. One participant of the Experimental group filled out the old version of the Food Record. The rest of participants filled out the new version of the Food Record.

Nine categories of food and non-food items were included in both versions of the Food Record and include the following groups:

- Meat and protein food
- Nuts and beans protein food
- Dairy products
- Bread, cereal and other grains
- Vitamin C rich fruits and vegetables
- Vitamin A rich fruits and vegetables
- Other vegetables

- Empty calorie foods
- Fast foods
- Non-food items

Each category group included a list of food items that participants circled if their child consumed them. Each category group also includes the frequency that the Head Start child eats foods from each type of food group. The new version of the Food Record included the following frequencies consumption categories: “3-4 times a day,” “1-2 times a day,” “3-4 times a week,” “1-2 times a week,” and “less than that.” While the old version of the document only included the following frequency categories: “3-4 times a day,” “1-2 times a day,” and “less than that.”

Study Procedures

Control Group Procedures

In the control group, fliers publicized the family night event for Kid-co Head Start parents at the Lincoln site two weeks before the event. The flier was delivered along with other information that the Kid-co Head Start program sent home to parents. The family event (Phase II) took place on February 13th of 2003 at 6:45 pm in the library of the Lincoln School in Corvallis.

Telephone follow-up surveys (Phase IV) started two weeks following the family night event for both the control and experimental groups. Parents who agreed to

participate in the study received a follow up phone call two weeks after the family night event took place. All phone interviews were conducted during the time and date that was convenient for the participants, according to the information obtained from the pre-test. Five days were necessary to complete all participants' follow-up surveys. Follow-up surveys took place from February 28th to March 4th of 2003.

The delivery of material to carry out the classroom activity and to deliver reinforcement material to all parents (Phase III) was provided to the control site following the phone interviews (n=14) in both sites.

The Food Record collection data was accessed when all the study procedures in the experimental group were concluded. All parents who agreed to participate in this study had authorized the Kid-co-Head Start program to provide copies of their children's Food Record that they filled out when they joined the program. Authorized personnel from this program were provided with a photocopy of each parent's consent form, and made a photocopy of the children's Food Record.

Experimental Group Procedures

In the experimental group, fliers publicized the family night event for Kid-co Head Start parents from Riverside school. The flier was delivered along with other information that the Kid-co Head Start program sent to the parents at home. The family night event (Phase II) took place February 20th of 2003 at 6:30pm in a classroom of the Kid-co Head Start site at Riverside school.

One week following the family night event (Phase II), the educational reinforcement material developed for parents and material for carrying out the classroom activity was delivered to the experimental site. Classroom activities with delivery of reinforcement material to parents (Phase III) in all classrooms (n=90) from the Riverside school took place during the week the material was delivered. Classroom activities were carried out from March 3rd to March 7th of 2003.

Approximately one week after the classroom activity and delivery of reinforcement material (Phase III) follow-up surveys (Phase IV) were conducted. Parents from the experimental group who agreed to participate in the study received a follow up phone call one week after the reinforcement material was delivered to them. All phone interviews were done during the time and date that was convenient for the participant.. One week was necessary to reach all participants who agreed to receive a follow-up call. All follow-up surveys were conducted from March 17th to March 23th of 2003.

Finally, the Food Record Collection was done after all parents from the experimental group were reached to have a follow-up survey. All parents who agreed to participate in this study authorized the Kid-co Head Start program to provide copies of their children's Food Record that they filled out when they joined the program. Authorized personnel from this program were provided with a photocopy of each parent's consent form, and made a photocopy of the children's Food Record. The completion of the food record collection indicated the conclusion of the study procedures in the experimental group.

Data analysis

Descriptive statistics like means and standard deviations were used to present demographic characteristics of participants. Frequencies and percentages were used to describe other demographic characteristics like participants' relation with the child, language, ethnicity and education.

The small sample size limited the data analysis of the study. T-test and Chi-square couldn't be used to evaluate the data. However, non-parametric statistic tests were used in the data analysis. The non-parametric statistic Mann-Whitney Test was used to determine significant difference between groups (control group and experimental group) before and after the intervention. This statistical test evaluated responses in regard to the recommendation of vegetable servings needed by preschool children and to parents' confidence to increase the amount of vegetables in their children's diets. These variables were also evaluated using the non-parametric statistic Wilcoxon Signed-Rank test to measure relationships within the experimental group before and after the intervention. Statistical significance was $p < 0.05$ for both non-parametric tests.

Frequencies, means and percentages were used to describe responses about children's vegetable consumption, availability of vegetables at home, and the awareness of the daily-recommended number of vegetables for young children.

Frequencies and percentages were also used in other variables such as parents' self-efficacy to increase the amount of vegetables that their child eats, parent-child interaction, and parent education. All data of our research were analyzed by the statistical computer package SPSS (Statistical Package for Social Science).

RESULTS AND DISCUSSION

Two sites of the Head Start program, Riverside (Albany) and Lincoln (Corvallis) were chosen to be part of this educational project. Parents from Lincoln School served as the control group, while parents from the Riverside School served as the experimental group. Although 90 children attend the Kid-co head Start program at Riverside school and 40 children attend at Lincoln school, attendance at both the control and experimental family night events was very low.

It is important to mention that the Kid-co Head Start program provided transportation, dinner and childcare for all participants at the event. Perhaps the low attendance is due to parents' lack of interest in the topic. Another possible reason might be parents' job and family demands. Also scheduling the event in the evening might be a negative factor for low-income parents with young children.

Four households attended the event in the control group and twelve households attended the event at the experimental group. Participants of the control group were all mothers. Eight mothers, a grandmother, two father/mother couples and one mother/friend couple represented the experimental group's households. All attendees from the control group agreed to participate in the project, and ten out of twelve households agreed to participate in the experimental group. Because number of participants was low, control and experimental pre-test findings are combined as well as reported separately.

Demographics

Demographic characteristics (Table.1) of the control and experimental group indicate a higher mean age of participants in the experimental group than in the control group. The mean age of participants from the control group was 26.5 ± 1.9 years, and it was 35.1 ± 6.7 for the experimental group. Significant difference ($p\text{-value}=0.009$) was found between participants' ages of control and experimental group. Two females and 2 males represented the gender of the Head Start children in the control group, and 4 females and 6 males represented the gender in the experimental group. In regard to the number of children under 18 years old that live in each household, results indicate similar means for the experimental and control group. The mean number of children for the control group was 2.8 ± 1.0 , and 2.5 ± 1.2 for the experimental group. No significant difference was found between control and experimental group.

Table.1 Means and standard deviation of demographic variables: Control and Experimental Groups before the intervention

Demographic Variables	Control Group (n = 4)			Experimental Group (n = 10)		
	n	Mean \pm SD	Min/Max	n	Mean \pm SD	Min/Max
Age	4	26.5 ± 1.9	25/29	10	35.10 ± 6.7	27/49
Number of children (under 18 years old) living in the household	4	2.8 ± 1.0	2/4	10	2.5 ± 1.2	1/5

Demographic characteristics about race of participants indicate that whites and Hispanics represent the races in the control and experimental groups (Table.2). A high proportion of participants are Hispanics (75%) and the rest are whites (25%) in the control group. Whites represent the principal race in the experimental group (70%) and the rest are Hispanics (30%). The languages that participants usually speak in their homes indicate that 50% of participants from the control group speak Spanish, 25% speak English and Spanish, and 25% speak only English. In the experimental group, 70% of the participants primarily speak English, 10% speak English/Spanish, and 20% speak only Spanish (Table.2).

The levels of education of participants of both groups indicate diversity in their levels of instruction, from 6 years of school up to college degrees. Fifty percent in the control group and 40% in the experimental group had some kind of high education level (Table.2).

Table.2 Percentages of demographics variables before the intervention: Control and Experimental Group

Variables	Categories of variables	Control Group (n = 4)	Experimental Group (n = 10)
		(%)	(%)
Participant's relation to child	Mother	100.0	90.0
	Grandmother	0.0	10.0
Language	English	25.0	70.0
	Spanish	50.0	20.0
	English / Spanish	25.0	10.0
Race	White	25.0	70.0
	Hispanic	75.0	30.0
Ethnicity	Not of Hispanic origin	25.0	70.0
	Hispanic origin	75.0	30.0
Level of education	6 years	25.0	10.0
	7 – 11 years	25.0	30.0
	GED	0.0	20.0
	Trade school	0.0	10.0
	Some College	25.0	20.0
	College	25.0	10.0

Vegetable availability at home

Participants in the experimental and control groups combined had a wide range from 2 to 11 of types of vegetables in their kitchens (Table.3). Sixty percent of participants from the experimental group had less than 6 types of fresh vegetables at home before the intervention. However, participants from the control group had 6 or 7 types of fresh vegetables at home.

After the intervention, 50% of participants from the experimental group had a low variety of fresh vegetables available in their kitchens. However, 50% of households had 4, 5 or 7 types of vegetables. The lower number of vegetables recorded in their homes after the intervention could be because on the date that the post-questionnaire was conducted many families were out of vegetables, due to their shopping schedule.

After the intervention, 50% of participants in the experimental group reported they had three types of fresh vegetables at home. Responses ranged from 2 to 7 types in the experimental group and from 3 to 9 types of fresh vegetables in the control group. Control group participants had a greater variety of fresh vegetables than the experimental group.

Table.3 Number of fresh vegetables available in participants' kitchen before and after the intervention

Number of fresh vegetables available in your kitchen	Control Group (n = 4)		Experimental Group (n = 10)	
	Pre-test (%)	Post-test (%)	Pre-test (%)	Post-test (%)
2	0.0	0.0	10.0	10.0
3	0.0	25.0	10.0	50.0
4	0.0	0.0	30.0	10.0
5	0.0	0.0	10.0	20.0
6	50.0	25.0	10.0	0.0
7	50.0	0.0	20.0	10.0
8	0.0	25.0	0.0	0.0
9	0.0	25.0	0.0	0.0
10	0.0	0.0	0.0	0.0
11	0.0	0.0	10.0	0.0
Total	100.0	100.0	100.0	100.0

Results about types of vegetables available at home in both groups combined indicate a range of 2 to 7 types of vegetables available in participants' kitchens before the intervention (Table.4). After the intervention, the number of types of vegetables ranged from 2 to 5 types of vegetables in both groups combined.

Table.4 Number of fresh vegetables available in participants' kitchens before and after the intervention: Control and Experimental Groups combined and Hispanic Group

Number of fresh vegetables available in your kitchen	Control & Experimental Groups combined (n = 14)		Hispanics/Control & Experimental Groups combined (n = 6)	
	Pre-test (%)	Post-test (%)	Pre-test (%)	Post-test (%)
2	7.1	7.1	0.0	0.0
3	7.1	42.8	0.0	50.0
4	21.4	7.1	0.0	0.0
5	7.1	14.3	16.7	16.7
6	21.4	7.1	50.0	16.7
7	28.6	7.1	33.3	0.0
8	0.0	7.1	0.0	16.7
9	0.0	7.1	0.0	0.0
10	0.0	0.0	0.0	0.0
11	7.1	0.0	0.0	0.0
Total	100.0	100.0	0.0	0.0

Qualitative findings of the study by Hampl and Sass (2001) indicate that Hispanic families recognized that their children should eat more vegetables, but they didn't consider this a great concern. In regard to Hispanics' availability of fresh vegetables, results of our study showed that before the intervention Hispanic families had 5, 6 or 7 types of vegetables, but after the intervention 50% of them indicated they had only 3 types (Table.4). Hispanics seem to have more variety of vegetables at home than white

households. Perhaps, this variety of vegetables in Hispanic households is due to traditional Hispanic food. These Hispanics households commonly prepare meals that contain a variety of vegetables.

Results from our project indicate the fresh vegetables available at the homes of Head Start families from both groups were beets, broccoli, brussels sprouts, cabbage, carrots, cauliflower, celery, cucumber, green peas, green peppers, lettuce, mushrooms, onions, potatoes, pumpkin, spinach, tomatoes and zucchini (Table.5).

Before the intervention, all participants of the control group indicated they had broccoli, carrots, lettuce and onions in their kitchen. All participants of the experimental group indicated they had potatoes. Carrots, lettuce and onions were also available in most of the households of the experimental group. Vegetables such as beets, brussels sprouts, cauliflower, green peas, mushrooms, pumpkin and spinach were not mentioned by any of the participants from either groups.

After the intervention, carrots, lettuce and onions were available 70%, 50% and 60% respectively in participants' kitchens of the experimental group. All participants from the control group reported they had broccoli and 75% reported they had carrots, cauliflower and potatoes during the follow-up survey.

Table.5 Availability of fresh vegetable at home before and after the intervention

Fresh Vegetables	Control Group (n = 4)		Experimental Group (n = 10)	
	Pre-test (%)	Post-test (%)	Pre-test (%)	Post-test (%)
Beets	0.0	0.0	0.0	10.0
Broccoli	100.0	100.0	30.0	30.0
Brussels sprouts	0.0	0.0	0.0	20.0
Cabbage	25.0	0.0	20.0	40.0
Carrots	100.0	75.0	90.0	70.0
Cauliflower	0.0	75.0	10.0	20.0
Celery	0.0	25.0	30.0	20.0
Cucumber	25.0	0.0	0.0	10.0
Green Peas	0.0	25.0	0.0	0.0
Green peppers	50.0	0.0	10.0	10.0
Lettuce	100.0	25.0	80.0	50.0
Mushroom	0.0	25.0	10.0	0.0
Onions	100.0	50.0	80.0	60.0
Potatoes	75.0	75.0	100.0	10.0
Pumpkin	0.0	25.0	0.0	0.0
Spinach	0.0	50.0	0.0	0.0
Tomatoes	25.0	25.0	40.0	40.0
Zucchini	25.0	25.0	0.0	0.0

Before the intervention, fresh vegetables most commonly available in participants' kitchens (control and experimental groups combined) were carrots, broccoli, lettuce, onion and potatoes (Table.6). Most of participants reported that they had carrots and potatoes in their kitchen and 85.7% had lettuce and onions.

After the intervention both groups reported the same kind of vegetables as the most commonly available in their homes. Carrots were the fresh vegetables most commonly available after the intervention; carrots were found within 71.4% of the households from both groups combined (Table.6). Vegetables such as lettuce, cauliflower, and tomatoes were also reported, but in lower proportions.

Fifty percent of Hispanics reported they had carrots, lettuce, onion and potatoes before the intervention (Table.6). After the intervention, consumption of lettuce, onions and potatoes was the same as before the intervention. Hispanics' consumption of carrots increased from 50% before the intervention to 66.7% after the intervention. Vegetables such as broccoli and cauliflower increased from 0% before the intervention to 66.7% after the intervention in Hispanic households. Vegetables such as cabbage, green peppers, tomatoes, spinach and pumpkin were available in less proportion in Hispanics' kitchens.

The high nutrient dense vegetables most commonly available in participants' kitchens were carrots and broccoli. Other high nutrient dense vegetables such as cabbage; green peppers, pumpkin, spinach and tomatoes were available in few or none of the households.

Table.6 Availability of fresh vegetables at home before and after the intervention: Control and Experimental Groups combined for all participants and for Hispanics Group alone

Vegetables	Control & Experimental Groups combined (n =14)		Hispanics/Control & Experimental Groups combined (n =6)	
	Pre-test (%)	Post-test (%)	Pre-test (%)	Post-test (%)
Beets	0.0	0.0	0.0	0.0
Broccoli	50.0	50.0	0.0	66.7
Brussels sprouts	0.0	14.3	0.0	0.0
Cabbage	21.4	28.6	16.6	16.6
Carrots	92.9	71.4	50.0	66.7
Cauliflower	7.1	35.7	0.0	66.7
Celery	21.4	21.4	33.3	0.0
Cucumber	7.1	7.1	0.0	0.0
Green Peas	0.0	7.1	0.0	0.0
Green peppers	21.4	7.1	16.6	0.0
Lettuce	85.7	42.8	50.0	50.0
Mushroom	7.1	7.1	0.0	0.0
Onions	85.7	57.1	50.0	50.0
Potatoes	92.9	28.6	50.0	50.0
Pumpkin	0.0	7.1	0.0	16.7
Spinach	0.0	14.2	0.0	16.7
Tomatoes	35.7	35.7	33.3	33.3
Zucchini	7.1	7.1	0.0	0.0

Results of fresh vegetables available show us that less nutrient dense vegetables such as lettuce, onions and potatoes were most available in low-income families. This result correlates with the findings by Krebs-Smith et al. (1996) in which starchy vegetables represent 61% of total vegetable consumption in low-income populations; other vegetables such as tomato, lettuce cabbage and peppers represent 35% of the total vegetable consumption and green/yellow vegetable consumption represents only 4.3%. Moreover the study by Johnston, Taylor, and Hampl (2000) indicates that starchy vegetables represent 40% of all vegetables consumed, and of this 80% are potatoes. Although results from our study indicate a high consumption of potatoes, many of the households reported they also consumed high nutrient dense vegetables such as carrots and broccoli.

Canned vegetables were also available in the homes of both the control and the experimental groups (Table.7). Both before and after the intervention, 85.7% of participants in both groups had canned vegetables, and 71.4% had frozen vegetables.

Table.7 Frozen and canned vegetables available at home before and after the intervention for Control, Experimental, and combined groups

Availability of frozen or canned vegetables	Responses	Control Group (n=4)		Experimental Group (n=10)		Control & Experimental Groups combined (n=14)	
		Pre-test (%)	Post-test (%)	Pre-test (%)	Post-test (%)	Pre-test (%)	Post-test (%)
Do you have frozen vegetables?	Yes	75.0	50.0	70.0	80.0	71.4	71.4
	No	25.0	50.0	30.0	20.0	28.6	28.6
Do you have canned vegetables?	Yes	75.0	75.0	90.0	90.0	85.7	85.7
	No	25.0	25.0	10.0	10.0	14.3	14.3

Parents from both sites have overcome storage limitations and high cost for out of season vegetables by substituting frozen and canned vegetables. Our results couldn't support the findings by Reicks, Randall, and Haynes (1994) that reported storage and cost barriers for many low-income families. By providing periodic handouts to parents, the Kid-co Head Start nutrition involvement possibly generates positive influences on parents in their vegetable consumption practices. These handouts include the weekly menu, vegetable preparation tips, a recipe and other information about vegetables. These handouts are available in English and Spanish to reach all Kid-co Head Start parents.

In both groups combined, the most common frozen vegetables available in participants' kitchens were corn, peas, and mixed vegetables. Black beans, green beans

and peas were canned vegetables available most often in participants' kitchens (Table.8). Frozen corn, frozen mixed vegetables, canned corn and canned green beans were available in 40% of participants' kitchens in the experimental group. Fifty percent of Hispanics had frozen mixed vegetables, canned green beans and canned green peas in their kitchens. Other vegetables such as canned corn and canned mixed vegetables were available in less proportion in Hispanics' kitchens (Table.8).

Table.8 Percentages of frozen and canned vegetables available at home after the intervention for Control, Experimental, combined and Hispanic groups

Vegetables	Control Group (n = 4)	Experimental Group (n = 10)	Control & Experimental Groups combined (n = 14)	Hispanics/ Control & Experimental Groups combined (n = 6)
	Post-test (%)	Post-test (%)	Post-test (%)	Post-test (%)
Frozen vegetables				
Broccoli	0.0	20.0	14.3	0.0
Carrots	25.0	10.0	14.3	0.0
Cauliflower	0.0	10.0	7.1	0.0
Corn	0.0	40.0	28.6	0.0
Green beans	0.0	20.0	14.3	0.0
Peas	0.0	30.0	21.4	0.0
Pepper	25.0	0.0	7.1	0.0
Vegetable mix	25.0	40.0	35.7	50.0
Squash	0.0	10.0	7.1	0.0
Canned vegetables				
Asparagus	0.0	20.0	14.3	0.0
Beets	0.0	10.0	7.1	0.0
Black beans	25.0	50.0	42.9	33.3
Cream of corn	0.0	10.0	7.1	0.0
Corn	25.0	40.0	35.7	16.7
Green beans	0.0	40.0	28.6	50.0
Vegetable mix	25.0	20.0	21.4	33.3
Peas	75.0	20.0	35.7	50.0
Spinach	0.0	10.0	7.1	0.0

Parents Vegetable Consumption

Results of our research indicate that 64.3% of parents from both groups consume vegetables everyday (Table.9). The number of times in which parents consume vegetables each day indicates that 77.8% of parents who eat vegetables everyday eat them 1 to 2 times a day. This result supports the findings by Quan et al. (2000) in which low-income mothers considered eating vegetables at dinner an easy habit to practice.

Table.9 Parents' vegetable consumption before the intervention: Control and Experimental Groups

Parents' vegetable consumption	Responses	Control Group (n=4)	Experimental Group (n=10)	Control & Experimental Groups combined (n=14)
		Pre-test (%)	Pre-test (%)	Pre-test (%)
Do you eat vegetables everyday?	Yes	50.0	70.0	64.3
	No	50.0	30.0	35.7
How many times a day do you eat vegetables?	1-2 times	50.0	85.7	77.8
	3-4 times	50.0	14.3	22.2

Children's Vegetable Consumption

Information from the Food Record (fall 2002) indicated that all documents were filled out between August and November of that year when children joined the Kid-co Head Start Program. This seasonal condition may affect the amount and variety of vegetables in children's diets that were reported by their parents, due to the lower cost of some vegetables during the summer season.

The Food Record showed that children tend to consume more vegetables that are less rich in vitamin C and A. (Table.10). Our results confirm the findings denoted by Krebs-Smith et al. (1996) in which children 2-5 years old consume lower amounts of leafy greens and yellow vegetables than other vegetables less rich in vitamin C and A. However the Head Start Food Record results indicated a moderate variety of vegetables rich in vitamin C, A, and other vegetables. Most low-income children's vegetable consumption reflects the positive influence of Kid-co Head Start in regard to nutrition. Periodic handouts and nutrition interaction with the nutrition coordinator appear to have positive influences in most households that participate in Kid-co Head Start program.

Table.10 Fall 2002 Head Start Food Record at enrollment in Program: Means and standard deviation of types of vegetables eaten by children

	Control and Experimental Groups combined (n = 14)		
	N	Mean \pm SD	Min/Max
Vegetables rich in vitamin C	10	4.1 ± 2.1	0/7
Vegetables rich in vitamin A	10	3.5 ± 1.8	1/7
Other vegetables	9	5.3 ± 1.7	2/8

The study by Krebs-Smith et al. (1996) reported that the mean number of vegetable servings for boys 2 to 5 years old is 1.8 and 1.9 for girls. Of this, starchy vegetables represent 56% and 58% of the total number of servings for boys and girls respectively. Results from the Head Start Food Record indicate that the mean number of types of vegetables rich in vitamin C that children ate was 4.1 ± 2.1 , for vegetables rich in Vitamin A was 3.5 ± 1.8 , and for other types of vegetables that are less nutrient dense was 5.3 ± 1.7 . Four types of vegetables rich in vitamin C were most commonly consumed by 21.4% of children from both groups combined (Table.11). Four types of vegetables rich in vitamin A were eaten by 28.6% of the children and two types of vegetables were eaten by 21.4% of the children. Head Start Food Record didn't provide information about number of servings.

Table.11 Fall 2002 Head Start Food Record: Types of vegetables rich in vitamin C, A and other vegetables eaten by children: Control and Experimental Groups combined (n=14)

Types of vegetables eaten by children	Vegetables rich in Vitamin C (%)	Vegetables rich in Vitamin A (%)	Other vegetables (%)
0	7.1	0.0	0.0
1	0.0	7.1	0.0
2	7.1	21.4	7.1
3	7.1	0.0	0.0
4	21.4	28.4	7.1
5	7.1	7.1	21.4
6	14.3	0.0	14.3
7	7.1	7.1	7.1
8	0.0	0.0	7.1
No Response	28.6	28.6	35.7
Total	100.0	100.0	100.0

The Head Start Food Record (fall 2002) of control and experimental groups indicate that children commonly eat corn and potatoes. These results support the findings by Krebs-Smith et al. (1996) in which white potatoes, and corn are common vegetables consumed by young children. Other fresh vegetables commonly eaten by children from both groups were broccoli, carrots, sweet potatoes and tomatoes.

Results of the Head Start Food Record (Fall 2002) indicate that the most common vegetables rich in vitamin C that children eat 3-4 times a day are broccoli, cauliflower, potatoes with skin, and tomatoes. Few children eat vegetables rich in vitamin C like cabbage, brussels sprouts, spinach and peppers. Vegetables rich in vitamin A were more frequently eaten than vegetables rich in vitamin C by most of the children from the Kid-co Head Start program. More parents reported their children eat vegetables rich in vitamin A: 1-2 times a day.

Kid-co Head Start children are more likely to consume vegetables high in vitamin A such as broccoli, carrots, sweet potatoes, pumpkin and tomatoes. Children eat these vegetables 1 to 2 times a day. Other vegetables high in vitamin A such as squash and mixed vegetables were reported as vegetables not commonly eaten.

Head Start children regularly eat less nutrient dense vegetables. Vegetables such as corn, cucumber, green beans, lettuce and potatoes were commonly reported in the Food Record. These records indicated that children used to eat them 1-2 times a day or 3-4 times a week. Other low nutrient dense vegetables reported were celery, mushroom, peas, radishes and zucchini. This information confirms that children are used to eating more vegetables that are not high in nutrient density. The study by Krebs-Smith et al. (2000) pointed out that besides starchy vegetable consumption; young children often consume low-nutrient dense vegetables such as cucumber, lettuce and onions.

Participants' responses indicate that 71.4% of children of both groups eat vegetables everyday. The study by Baranowsky et al. (1997) indicated that preschool children typically consume most vegetables during lunch and dinner. Responses about

vegetable consumption practices in our study indicate that 78.6% of children eat vegetables for lunch and 92.9% eat vegetables for dinner (Table.12). However, 14.3% of parents responded that they didn't know if their child eats vegetables everyday at home or at school. They may not be aware of consumption at Head Start. Also, only 14.3% of participants responded that their child eats vegetables for breakfast. However, 57.1% of parents responded that their child eats vegetables for snacks.

Table.12 Percentages of children's daily vegetable consumption: Control and Experimental Groups combined (n = 14)

Variable	Response	(%)
Does your Head Start child eat vegetables every day either at home or at school?	Yes	71.4
	No	14.3
	Don't know	14.3
	Total	100.0
Does your Head Start child eat vegetables for breakfast?	Yes	14.3
	No	71.4
	Don't know	7.1
	No response	7.1
	Total	100.0
Does your Head Start child eat vegetables for lunch?	Yes	78.6
	No	7.1
	Don't know	14.3
	No response	0.0
	Total	100.0
Does your Head Start child eat vegetables for dinner?	Yes	92.9
	No	7.1
	Don't know	0.0
	Total	100.0
Does your Head Start child eat vegetables for snacks?	Yes	57.1
	No	42.9
	Don't know	0.0
	Total	100.0

Awareness of daily recommended number of vegetable servings needed by preschool children

Results of our study indicate a lack of knowledge among many low-income parents about children's vegetable needs. Before the intervention, 50% of the participants from the experimental group and 25% from the control group responded that they were

not aware of children's daily recommendation for vegetable consumption (Table.13).

Before the intervention, 10% of participants from the experimental group and 25% of the participants in the control group responded with the correct answer of “three vegetable servings every day” when asked how many vegetables are recommended per day for their preschool children.

Table.13 Percentages of responses about the recommended number of vegetable servings for young children before and after the intervention

Responses of daily recommended number of vegetables servings for young children	Control Group (n = 4)		Experimental Group (n = 10)		Control & Experimental group combined (n = 14)	
	Pre-test (%)	Post-test (%)	Pre-test (%)	Post-test (%)	Pre-test (%)	Post-test (%)
1	0.0	0.0	0.0	10.0	0.0	7.1
2	25.0	50.0	20.0	10.0	21.4	21.4
3*	25.0	0.0	10.0	40.0	14.2	28.6
4	25.0	50.0	10.0	30.0	14.2	35.7
5	0.0	0.0	10.0	0.0	7.1	0.0
Don't know	25.0	0.0	50.0	10.0	42.8	7.1

*Denotes correct response

After the intervention only 10% of participants in the experimental group responded that they didn't know the recommendation, but 40% answered with the correct response of “3 vegetable servings every day.” The desire to know more information can

be observed in the decrease of “I don’t know” responses in regard to the recommendation after the intervention. However, a high proportion of participants didn’t remember the dietary recommendation about vegetables that was taught in the family event or reinforced in the handout. Probably, participants knew that vegetables are beneficial for children, but few of them remembered that “3 vegetables servings every day” is the correct recommendation. A wide variety of responses (1 to 5 servings of vegetables per day) probably confirm that participants knew that we were interested in researching their vegetable consumption. As a result, most of them gave a response, even if they weren’t sure, rather than saying “I don’t know.”

Weaver, Poehlitz, and Hutchinson (1999) confirmed that nutrition classes could positively reach low-income families. This study showed how parents who attended the nutrition classes remember the logo of the 5 A DAY campaign and also understand its meaning. However, our study was a single educational event and it may not have had as much influence on parental awareness.

The usefulness of our educational material about the awareness of the daily-recommended number of servings of vegetables for young children couldn’t be determined. Perhaps it would be necessary to include the recommendation more times throughout the class and handouts, in order for parents to be able to remember the recommendation. Probably, the short period of the intervention might affect, to some degree, the learning process of the recommendation due to the low level of education by some of the participants. Also, the time that the event took place was late in the day and it might be that participants were tired and they didn’t pay much attention to the class.

Barriers (e.g., cost, preparation) to family vegetable consumption

Most low-income parents from the experimental and control group that participated in our study agreed that they have barriers to increase the amount of vegetables in their child's diets (Table.14). Barriers that parents reported, at least sometimes, were: "I can't get satisfactory vegetables," "Vegetables cost too much," and "My child doesn't like them." Our results confirm the study by Omar, Coleman, and Hoerr (2001) in which most low-income parents have barriers such as lack of time, cost, and the picky eater behavior to increase their family vegetable consumption.

Before the intervention, "I can't get satisfactory vegetables" was reported at least sometimes as a barrier by 40% of the participants in the experimental group and by 25% of the participants in the control group.

Before the intervention, 10% of the participants in the experimental group reported the barrier "Too much time to prepare vegetables," and 25% of the participants in the control group reported that barrier, at least sometimes. These results didn't confirm the findings by Quan et al. (2000) in which the length of vegetable preparation is considered a common barrier for most low-income families.

Another barrier, "I don't know how to prepare vegetables" was reported by 10% of the experimental group and by 50% of the control group. However, the control group might not be a valid comparison due to the small sample size. The findings by Quan et al (2000) indicate that a lack of preparation skills is a barrier in many low-income households.

Table.14 Barriers to increase amount of vegetables in children's diets before the intervention: Control and Experimental Group

Barriers	Responses	Control Group (n = 4) (%)	Experimental Group (n = 10) (%)	Control & Experimental Groups combined (n = 14) (%)
I can't get satisfactory vegetables	Yes	0.0	20.0	14.3
	No	75.0	50.0	57.1
	Sometimes	25.0	20.0	21.4
	No response	0.0	10.0	7.1
Too much time to prepare vegetables	Yes	0.0	10.0	7.1
	No	75.0	80.0	78.6
	Sometimes	25.0	0.0	7.1
	No response	0.0	10.0	7.1
I don't know how to prepare	Yes	25.0	10.0	14.3
	No	50.0	80.0	71.4
	Sometimes	25.0	0.0	7.1
	No response	0.0	10.0	7.1
Cost too much	Yes	0.0	10.0	7.1
	No	100.0	40.0	57.1
	Sometimes	0.0	40.0	28.6
	No response	0.0	10.0	7.1
My child doesn't like them	Yes	0.0	20.0	14.3
	No	0.0	30.0	21.4
	Sometimes	100.0	40.0	57.1
	No response	0.0	10.0	7.1

The high cost of vegetables is considered another important barrier for 50% of participants in the experimental group, at least sometimes before the intervention. Several studies identified a limited budget for food in most low-income households, as a barrier for increasing vegetable consumption (Quan, et al., 2000; Reicks, Randall, and Haynes, 1994; Pestano-Binghay, Reis, and Walters, 1993). However, all participants from the control group in our study didn't consider the cost of vegetables a barrier to increase the amount of vegetables in their child's diet.

Before the intervention, "My child doesn't like vegetables" was one of the common barriers for 60% of mothers in the experimental group, and for 100% of the control group, at least sometimes. This finding confirms the study by Reed (1996) in which the picky eater behavior is an important barrier for many low-income mothers. Moreover the study by Dunn et al. (1994) also identified the picky eater and how to make young children eat more vegetables as a concern of many parents.

After the intervention, 30% of participants from the experimental group and 25% of the control group indicated that "Nothing" was considered a barrier to increase the amount of vegetables in their child's diets (Table.15). Barriers such as lack of preparation skills, and that their child doesn't like vegetables were still considered barriers by 10% of the experimental group after the intervention. Fifty percent of participants in the control group responded with the barrier "My child won't eat vegetables," and 25% reported the barrier "I don't know how to prepare vegetables." However, results from the control group are not a valid comparison, due to the small sample size.

After the intervention, 30% of participants in the experimental group reported the barrier “Not enough time” and no participants in the control group reported that barrier. “I don’t have enough energy to prepare meals” was reported by 20% of the participants in the experimental group. However, one of these two participants indicated she was taking medicine. These responses may confirm the findings by Omar, Coleman, and Hoerr (2001) in which time and energy are determinants to increase vegetable consumption in low-income families with young children. It is important to consider that many participants asked if the follow up survey could be done at another time because they were busy. Most participants preferred to have the follow-up survey later at night. Other participants agreed to answer the phone survey only due to its short length.

During the follow up call, 50% of the parents in the control group reported that “my child doesn’t like vegetables,” and 10% in the experimental group also reported that barrier. This may confirm that the picky eater behavior is a barrier in many low-income families. It is probable that the barrier “My child doesn’t like vegetables” is related with the issue that some parents don’t know how to hide vegetables in their children’s meals and to prepare tasty vegetables for their children. Perhaps the control group was being honest, whereas the experimental group knew we were promoting vegetables and reported what they thought we wanted to hear. Another possible reason would be the social environment related to mealtime behaviors. However, it is necessary to consider that the small sample size in the control group didn’t provide a valid comparison. The study by Stanek, Abbott, and Cramer (1990) identified that companionship at mealtime positively influences the amount of vegetable servings in young children eat.

Table.15 Barriers to increase amount of vegetables in children's diets after the intervention: Control and Experimental Group

Barriers	Control Group (n = 4) (%)	Experimental Group (n = 10) (%)
Nothing	25.0	30.0
My child won't eat vegetables	50.0	10.0
Not enough time	0.0	30.0
Not enough energy to cook	0.0	20.0
Don't know how to prepare	25.0	10.0

Parent education to increase parents' confidence in their ability to increase their children's vegetable consumption

Parents' confidence in their ability to increase the amount of vegetables in their child's diet varies along a range of "not confident" to "very confident" (Table.16). Before the intervention, parents' responses showed that 75% of parents from the control group and 50% from the experimental group felt "very confident" to increase the amount of vegetables that their child eats (Table.16). None of the participants from the control group considered themselves "not confident" or "somewhat confident," while in the experimental group 20% responded that they felt "not confident," and 10% answered "somewhat confident." However, the control group didn't provide a valid comparison due to the small sample size.

Perhaps the Kid-co Head Start involvement with periodic handouts might positively influence them. Most households joined the Kid-co Head Start program during fall 2002, six to seven months was the period of time that most parents were in the program during the intervention. This period of time might affect their attitudes in regard to vegetables. Another reason could be the prior involvement of Kid-co Head Start in regard to vegetables, our parent education program only reinforced most parents in regard to vegetable consumption.

The study by Marshak, De Silva, and Silberstein (1998) indicated that nutrition education for parents positively changed in their confidence for eating healthy foods. Similar findings were found in the Maryland WIC 5 A DAY program; it showed a positive effect on vegetable consumption in low-income women due to their increase in confidence to eat more vegetables (Havas, et al., 1998).

After the intervention, 40% of the parents from the experimental group responded that they feel “very confident” (Table.16). None of the participants from the experimental group perceived themselves as “not confident.” And 30% of parents from this same group considered themselves “somewhat confident” or “quite confident” to increase the amount of vegetables that their child eats.

No significant difference was found between parents’ confidence in the ability to increase the amount of vegetables in their children’s diet from the control and experimental group before and after the intervention. Also, no significant difference was found between responses in the experimental group before and after the intervention.

Table.16 Percentages of responses about how confident parents are to increase the amount of vegetables that their child eats

Self-confidence Responses	Control Group (n = 4)		Experimental Group (n = 10)		Control & Experimental Groups combined (n = 14)	
	Pre-test (%)	Post-test (%)	Pre-test (%)	Post-test (%)	Pre-test (%)	Post-test (%)
Not confident	0.0	0.0	20.0	0.0	14.3	0.0
Somewhat confident	0.0	25.0	10.0	30.0	7.1	28.6
Quite confident	25.0	0.0	20.0	30.0	21.4	21.4
Very confident	75.0	75.0	50.0	40.0	57.1	50.0

Parental use of vegetable educational materials

In regard to the reinforcement material, 90% of parents (experimental group only) indicated they received the material at home. Sixty percent of parents responded that they read the material. However, 20% answered they didn't read it yet. These results may suggest that handouts are a practical way to reach low-income households. Findings of the study by Weaver, Poehlitz, and Hutchinson (1999) indicate that newsletters were more widely read by intervention participants. Similar findings in the study by Pestano-Binghay, Reis, and Walters (1993) indicate that low-income parents like to receive handouts because of the convenience. Moreover, the research by Dunn et al. (1994) also indicates that parents mostly preferred information delivered by mail.

In regard to recipes, only 20% of experimental group parents prepared some of the recipes that were provided in the material (Table.17). However 60% responded that they had not yet prepared any recipe from the reinforcement material. This response might suggest a probable use of the recipes in the future.

Table.17 Use of parent education material about vegetables after the intervention: Experimental Group

Use of educational material	Experimental Group (n = 10) (%)			
	Yes	No	Not yet	Not Applicable
Did you receive the bag with materials?	90.0	10.0	0.0	0.0
Did you read them?	60.0	10.0	20.0	10.0
Did you prepare some of the recipes?	20.0	10.0	60.0	10.0

In regard to the usefulness of the handout about vegetables for low-income parents, results indicated that 20% of parents of the experimental group considered the information about saving time when preparing vegetables helpful (Table.18). Perhaps the lack of time is one of the principal challenges that most low-income parents with young children have to deal with, due to their family and job demands. Ninety percent of parents indicated that the information about vegetables helped them to save money. Probably the seasonal criterion for buying vegetables encourages parents to buy fresh vegetables that

were on sale. Seventy percent of participants of the experimental group responded that our information helped them to prepare more vegetables for their child. Finally, a high proportion of participants (80%) responded that they think other Head Start parents would like the information.

Table.18 Usefulness of parent education material about vegetables after the intervention: Experimental Group

Usefulness educational material	Experimental Group (n = 10) (%)		
	Yes	No	Not sure
Has our information helped to save time?	20.0	10.0	70.0
Has our information helped to save money?	90.0	0.0	10.0
Has our information helped you to prepare vegetables to your Head Start child?	70.0	0.0	30.0
Do you think other Head Start parents would like to receive the information?	80.0	0.0	20.0

The results of the outcomes of parent education on their child's vegetable consumption indicate that 40% of parents from the experimental group responded their child eats more vegetables since the family event (Table.19). Perhaps the parent education program positively influences parents to give more vegetables to their children. The increase of stages of parents' confidence for giving more vegetables to their children might be related to the responses of 40% of parents who said their children eat more vegetables since the family event. Our results may confirm the findings by Koblinsky, Guthrie, and Lynch (1992) in which nutritional classes and handouts about vegetables have a positive influence in parents of young children and their children's vegetable consumption. A high level of confidence, "quite confident" and very confident," of many of the parents might also have an impact on their children's vegetable consumption. However, no statistical analysis could be done, due to the small sample size.

Table.19 Percentages of outcomes of parent education: Experimental Group (n = 10)

Outcomes of parent education	Responses	(%)
Did your child eat more vegetables since the event?	Yes	40.0
	No	40.0
	Not yet	20.0
Did you prepare one of the cabbage recipes?	Yes	20.0
	No	80.0
If no, what did you do with the cabbage?	Coleslaw	25.0
	Soup	12.5
	Own recipe	62.5

In regard to the use of the cabbage recipe and fresh cabbage that parents in the experimental group received, few parents used the recipe provided in the family night event (Table. 19). However, all participants responded that they used the cabbage at home. They ate the cabbage in another recipe. The study by Koblinsky, Guthrie, and Lynch (1992) indicates that their educational program of four-nutrition sessions and 13 weekly handouts significantly affected cooking practices of participants. In our study only 20% of parents from the experimental group used the cabbage recipe. The rest of the parents prepared their cabbage by using different recipes. “My own recipe” was a main response for 62.5% of parents. Other parents (25%) responded that they prepared “coleslaw” and 12.5% said they prepared “soup with meat and cabbage.”

An additional reason why parents didn’t practice the recipe might be that it was not appealing enough for them. It would be useful to know which food style is most likely to be accepted by low-income parents.

Classroom activity

The classroom activity using vegetable figures and a music tape from the 5 A DAY program seemed to have a positive effect in participants’ children. Two parents reported that their children were singing a song that was taught at the school while they were playing with the vegetable figures. Also, another parent indicated that her child forced her to buy the vegetable (broccoli) that was printed in the vegetable figure.

Parent-child interaction to increase vegetable consumption by preschool children

The traditional role of the mother as the responsible person for feeding the child was observed in many of the households from the experimental and control groups combined (Table.20). All mothers from the control group responded that they are responsible for feeding the child. In the experimental group, 50.0% of mothers were the major responsible parent for feeding the child. A share of responsibility was observed in 20.0% of the households from the experimental group; in which “mother and father” (10.0%) or “mother and step-father” (10.0%) were both responsible for child feeding. The role of the father in the child feeding was reported by 14.3% in the control and experimental group combined. The qualitative study by Reed (1996) indicates that Head Start mothers perceive the influence of the male adults at home as an important factor in their children’s eating behaviors. Also, a grandmother responsible for feeding the child represented 7.14% of participants (Control and Experimental Groups combined).

Table.20 Primary person responsible for feeding the child before the intervention: Control and Experimental Group

Family Member	Control Group (n = 4) (%)	Experimental Group (n = 10) (%)	Control & Experimental Groups combined (n = 14) (%)
Father	0.0	20.0	14.3
Mother	100.0	50.0	64.3
Grandmother	0.0	10.0	7.1
Both, mother and step father	0.0	10.0	7.1
Mother and father	0.0	10.0	7.1
Total	100.0	100.0	100.0

Few indicated they did the activities that promote parent-child interaction that were provided in the reinforcement material that parents received at home (experimental group only), (Table.21). Only 20% of parents in the experimental group reported that they did the activities (recipes for children) from the reinforcement handout. Even though most parents did not practice the parent-child interaction activities about vegetables from the reinforcement material, 90% responded they tried to give more vegetables to their children (Table 21). In the post-questionnaire, 80% of parents in the experimental group

mentioned that they prepare vegetables with their children and 60% of them let their children choose a vegetable at the store. The topic of parent-child interaction seems to be accepted among low-income parents from the Kid-co Head Start program, because many parents tried to interact more with their children during food preparation and while shopping for vegetables at the store. The high acceptance for practicing parent-child interaction activities confirms the findings by Reed (1996) in which parents express that they want ways to interact with their children. Furthermore, the study by Omar, Coleman, and Hoerr (2001) indicates the willingness of parents to do activities with their children. Finally, all parents agreed that the educational information helped them to interact more with their child about vegetables (Table.21).

**Table.21 Parent-child interaction about vegetables after the intervention:
Experimental Group**

Variables	Responses	Experimental Group (n =10) (%)
Did you try to give more vegetables to your child?	Yes	90.0
	No	10.0
Did you do the activities with your child? (reinforcement material)	Yes	20.0
	No	10.0
	Not yet	60.0
	Not Applicable	10.0
Has our material help you to interact more with your child about vegetables?	Yes	100.0
	No	0.0
Have you prepare vegetables together?	Yes	80.0
	No	20.0
Have you let your child chose a vegetable at the store?	Yes	60.0
	No	40.0

Information sources

Most parents (92.9%) from the control and experimental group combined, considered the WIC and Head Start programs their major sources of information about vegetables (Table.22). These results confirm the findings by Reed (1996) and by Pestano-

Binghay, Reis, and Walters (1993) in which the Head Start and WIC program are considered major sources of nutrition information for low-income parents. Also, newspapers/magazines and friends/relatives were reported as sources of information about vegetables by 42.9% of participants (Table.22). Television/radio was reported as a source of information by 35.7% of participants from both groups combined. None of the participants reported another source of information. According to Pestano-Binghay, Reis, and Walters (1993) another important source of nutrition information is the physician. However, none of the participants in our research considered the physician as an important source of information about vegetables.

Table.22 Sources of information about vegetables before the intervention

Information Sources	Control Group (n = 4) (%)	Experimental Group (n = 10) (%)	Control & Experimental Groups combined (n = 14) (%)
Newspaper/magazines	25.0	50.0	42.9
Friends/relatives	50.0	40.0	42.9
T.V./radio	25.0	40.0	35.7
WIC/Head Start	100.0	90.0	92.9

Changes in snacking habits

Results of changes of healthy snacking practices in families from the control group indicated that 75% didn't change their types of snacks (Table.23). However, the participant who made a change in her child's snacks indicated she prepared the low-fat dip that was provided in the event. It might be necessary to include reinforcement material and additional classes to have a difference in participants snacking habits.

Table.23 Percentages in healthy snacking changes after the intervention: Control Group

Question about educational material (snacks)	Control Group (n = 4) (%)	
	Yes	No
Have you made any changes in the type of snacks	25.0	75.0

Research Question 1: Can parent education increase awareness of vegetable servings needed by preschool children?

One of the research questions of our study was intended to make parents aware of the recommended number of vegetable servings that their young children need every day. A study by Pestano-Binghay, Reis, and Walters (1993) reveals that two of the major concerns of some low-income parents are unhealthy meals and poor eating habits of their children. Moreover, a study by Reed (1996) indicates that low-income mothers from the Head Start program in his study thought they should know more about daily recommendations for the 5 food groups.

The effect of the parent education program in parents' responses is shown in Table.24. The non-parametric Mann-Whitney Test was used to determine if there was a significant difference between responses from the Control (n=4) and Experimental (n=10) Groups in awareness about recommended vegetable servings for young children. Statistical results indicate that there was no significant difference (p-value = 1.00) between the control and experimental group before the intervention. After the intervention there was still no significant difference (p-value = 1.00) between groups.

The non-parametric Wilcoxon Signed Rank Test was used to evaluate responses before and after the intervention only within the experimental group. Results indicate there were no significant differences (p-value = 0.414) before and after the intervention. Responses within the control group before and after the intervention could not be tested with the non-parametric Wilcoxon Signed Rank test due to the small size of the sample.

Table.24 Percentages of responses about the recommended number of vegetable servings for young children before and after the intervention (Adapted from Table.13)

Responses of daily recommended number of vegetables servings for young children	Control Group (n = 4)		Experimental Group (n = 10)	
	Pre-test (%)	Post-test (%)	Pre-test (%)	Post-test (%)
1	0.0	0.0	0.0	10.0
2	25.0	50.0	20.0	10.0
3*	25.0	0.0	10.0	40.0
4	25.0	50.0	10.0	30.0
5	0.0	0.0	10.0	0.0
Don't know	25.0	0.0	50.0	10.0

*Denotes correct response

One possible reason for parents' failure to learn children's vegetable needs might be that they were too tired at the time of the family event. The evening schedule might affect parents' attention to the topic about vegetables. Another factor that might also affect the attention of the participants at the family event is that it was scheduled after dinner and a Head Start parents' meeting.

A study by Koblinsky, Guthrie, and Lynch (1992) points out positive outcomes with participants in four nutrition sessions and 13-weekly newsletters. This parent education was found to be an effective way to teach low-income households. Perhaps our

study couldn't show positive outcomes because there was only one-family event and one delivery of information for reinforcement after the family event.

In the experimental group, our nutritional intervention didn't make parents aware of their preschool children's needs about vegetables. Perhaps the way of teaching the recommendation of "3 vegetable servings every day" was not adequate to have positive outcomes. Interactive activities with parents using more 3-dimension food models and games that reinforce the daily vegetable recommendation could be more appealing for parents during an evening class. However, parents' responses might suggest that they knew their children have to eat vegetables every day, but that they didn't remember the recommendation of "3 servings of vegetables every day."

The low-educational level of some of the participants might affect the process of learning the nutrition information. The study by Havas et al. (1998) indicates that a minimum of a high school education level will influence the positive outcome after an educational program. The desire to give an answer can be observed in the decrease of "I don't know" responses in regard to the recommendation after the intervention. Our results couldn't confirm the findings by Weaver, Poehlitz, and Hutchinson (1999) in which classes are a good way to teach nutrition information to low-income parents. However, the study by Anderson et al. (2001) pointed out a positive impact about nutrition knowledge in low-income parents who attend nutrition classes.

Research Question 2: Can parent education lower barriers (e.g., cost, preparation) to family vegetable consumption?

Results on Table.25 indicate that most low-income parents from the experimental and control groups that participated in our study responded they sometimes have barriers to increase the amount of vegetables in their children's diets. These findings confirm the results denoted by Cohen et al. (1998), in which low-income levels affect barriers to increasing fruit and vegetable consumption in a multi-ethnic population.

Before the intervention, 50% of parents in the control group and 10% of parents in the experimental group agreed they have barriers including lack of preparation skills to give more vegetables to their children, at least sometimes. Also, 25% of parents in the control and 40% in the experimental group sometimes consider the barrier "I can't get satisfactory vegetables." "Much time is required to prepare vegetables," was a barrier reported by 25% of participants in the control group and by 10% in the experimental group.

Fifty percent of parents in the control group and 10% in the experimental group reported the barrier "I don't know how to prepare vegetables." All parents in the control group didn't consider the cost of vegetables a barrier. However, 50% of parents in the experimental group reported the barrier "cost."

Perhaps the Kid-co Head Start involvement about vegetables is affecting parents' vegetable consumption. The possibility of nutrition involvement about vegetables is more promoted in the control site than the experimental site. However, the small sample size of the control group didn't provide reliable information and a valid comparison.

Table.25 Barriers to increase amount of vegetables in children's diets before the intervention: Control and Experimental Group (Adapted from Table.14)

Barriers	Responses	Control Group (n = 4) (%)	Experimental Group (n = 10) (%)
I can't get satisfactory vegetables	Yes	0.0	20.0
	No	75.0	50.0
	Sometimes	25.0	20.0
	No response	0.0	10.0
Too much time to prepare vegetables	Yes	0.0	10.0
	No	75.0	80.0
	Sometimes	25.0	0.0
	No response	0.0	10.0
I don't know how to prepare	Yes	25.0	10.0
	No	50.0	80.0
	Sometimes	25.0	0.0
	No response	0.0	10.0
Cost too much	Yes	0.0	10.0
	No	100.0	40.0
	Sometimes	0.0	40.0
	No response	0.0	10.0
My child doesn't like them	Yes	0.0	20.0
	No	0.0	30.0
	Sometimes	100.0	40.0
	No response	0.0	10.0

Forty percent of the parents in the experimental group agreed they sometimes had barriers such as: “high cost of vegetables” and that “their child doesn’t like vegetables.” A qualitative study by Reed (1996) that evaluates Head Start mothers with young children identified the picky eater behavior as an important concern. Our results on Table.25 confirm the findings by Reed (1996); because before the intervention 100% of participants in the control group and 60% in the experimental group considered the barrier “My child doesn’t like vegetables.”

Studies by Reicks, Randall, and Haynes (1994) and Quan et al. (2000) also reported “taste” as a significant barrier to increase the vegetable consumption in all family members. However none of the parents of both groups reported “taste” as a barrier.

According to studies developed by Quan et al. (2000), and Reicks, Randall, and Haynes (1994), most low-income mothers reported buying fresh vegetables when on sale. Similar findings were also denoted by Pestano-Binghay, Reis, and Walters (1993), in which cost was named as a barrier by low-income families. Before the intervention, the high cost of vegetables was sometimes considered a barrier in 50% of participants in the experimental group and no one in the control group. Our results might suggest that low-income parents know how to overcome the barrier of cost. Also they might be consuming canned and frozen vegetables that are less expensive than most fresh vegetables.

Studies by Reicks, Randall, and Haynes (1994); Omar, Coleman, and Hoerr (2001); and Reed (1996) indicate that low-income mothers want to receive recipes with low-cost ingredients, due to its usefulness. However, in our study many parents didn’t use

the recipes that were provided in the family event and delivery of information. Most parents chose to prepare their own recipes. This lack of interest in trying new recipes might be a result of why 80% of parents in the experimental group and 50% in the control group didn't consider preparation skills a barrier. Other explanations might be that parents were too busy to try new recipes, or that old habits are hard to change.

After the intervention, our results on Table.26 indicates that 30% of parents in the experimental group and 25% in the control group reported that "Nothing" was considered a barrier to increase the amount of vegetables in their children's diets. This response may have been affected by the short period of time after the intervention (two weeks after the family night event) that the follow up call took place. Also, the Head Start program's nutritional involvement may have influenced their family's eating habits.

A possible explanation to the lack of barriers identified by many parents might be a result of good nutritional involvement of the Kid-co Head Start program with low-income parents to promote vegetable consumption in young children. The periodic handouts that the program provides to parents have some tips about vegetables. This printed information might influence parents to overcome some barriers such as lack of preparation skills, cost of vegetables, and saving time in vegetable preparation. It is important to consider that most parents agreed that their principal sources of information about vegetables are the WIC and the Head Start program.

Table.26 Barriers to increase amount of vegetables in children's diets after the intervention: Control and Experimental Group (Adapted from Table.15)

Barriers	Control Group (n = 4) (%)	Experimental Group (n = 10) (%)
Nothing	25.0	30.0
My child won't eat vegetables	50.0	10.0
Not enough time	0.0	30.0
Not enough energy to cook	0.0	20.0
Don't know how to prepare	25.0	10.0

According to Omar, Coleman, and Hoerr (2001), low-income parents perceive a lack of energy and time, due to their children's needs and care, as important barriers to include more vegetables in their family's meals. After the intervention, "Not enough time to prepare meals" was reported by 30% of parents in the experimental group. "I don't have enough energy to prepare meals" was also reported in the post-test by 20% of participants in the experimental group. One of these two was taking medication for illness.

Time might be one of the principal barriers that participants had for increasing their children's vegetable consumption. Most of the participants answered that our information didn't help to save time when they buy vegetables and parents reported they consider "not enough time" a barrier.

The lack of attendance might also be a consequence of parents' lack of time and energy due to their job schedules and children's care. Qualitative research of low-income parents indicates that lack of time due to family and job demands is an important barrier for many families (Omar, Coleman, and Hoerr, 2001).

Reicks, Randall, and Haynes (1994) indicate that low-income families perceive lack of storage and lack of transportation barriers that negatively affect the increase of their family vegetable consumption. However, it is important to mention that none of the participants in our study reported "transportation," and "lack of storage" as barriers to increase vegetables in their child meals.

Before the intervention, parents in the control group reported fewer barriers than after the intervention. We were expecting to have similar responses. Perhaps, parents didn't want to agree that they still perceived barriers. Another possible explanation is that the control group didn't provide reliable data to compare the responses of the experimental group.

In regard to responses of the experimental group, barriers such as: "I can't get satisfactory vegetables," "vegetables cost too much," and my child doesn't like vegetables" decreased. However, the differences in questions' formats about barriers before and after the intervention lead us to believe that could be due to bias.

Research Question 3: Can parent education increase in parents' confidence in their ability to increase their children's vegetable consumption?

Parents' confidence to increase the amount of vegetables in their child's diet shown in Table.27 varies along a range of "not confident" to "very confident." Our study tried to teach ways to make Head Start parents feel more confident to give more vegetables to their young children, based on the evidence of Havas et al (1998) in which self-efficacy is one of the significant factors of vegetable consumption in women of the Maryland WIC 5 A DAY program. These results lead us to believe that the improvement of parents' self-confidence may influence their children's vegetable consumption.

Table.27 Percentages of responses about how confident parents are to increase the amount of vegetables that their child eats (Adapted from Table.16)

Self-confidence Responses	Control Group (n = 4)		Experimental Group (n = 10)	
	Pre-test (%)	Post-test (%)	Pre-test (%)	Post-test (%)
Not confident	0.0	0.0	20.0	0.0
Somewhat confident	0.0	25.0	10.0	30.0
Quite confident	25.0	0.0	20.0	30.0
Very confident	75.0	75.0	50.0	40.0

Before the intervention, 75% of parents of the control group felt “very confident” to increase the amount of vegetables that their children eat (Table.27). And 50% of parents in the experimental group felt “very confident.” These responses are related with the lack of barriers to increase vegetables in their children’s diets that many parents had before the intervention. This high level of confidence might be a result of the nutrition information that Head Start provides to parents.

After the intervention, 75% of participants in the control group reported they still felt “very confident” and 70% in the experimental group reported they still felt “quite confident” or “very confident.” The positive impact of the educational component might explain the change of “not confident” to a more confident stage in 20% of the participants after the intervention (Table.27).

No significant difference was found between the experimental and control groups before ($p\text{-value}=0.839$) and after ($p\text{-value}=0.945$) the intervention. The non-parametric Mann-Whitney test was used to evaluate if there was a significant difference between responses from the experimental and control groups. The non-parametric Wilcoxon Signed Rank test was used to evaluate if there was a significant difference in the experimental group responses before and after the intervention. No significant difference ($p\text{-value}=1$) was found before or after the intervention within the experimental group. Data from the control group was not evaluated due to the small sample size.

The high level of parents' confidence may reflect why 40% of parents in the experimental group responded their children eat more vegetables since the family event (Table. 19). However, the Chi-square test to evaluate if there is a relationship between parents' confidence and children's vegetable consumption couldn't be run due to the small sample size. Our results couldn't statistically confirm the findings by Koblinsky, Guthrie, and Lynch (1992) in which parents of the treatment group reported positive change in their family nutrition behaviors like cooking and planning a meal. Similarly, our results couldn't confirm the findings of the study by Marshak, De Silva, and Silberstein (1998) in which parents' attendance of nutrition education had a positive change in their self-efficacy.

Also, only 20% of the parents answered "not yet" when asked if their children eat more vegetables since the intervention. This response may suggest that parents are willing to try to give more vegetables to their children. Most parents of the experimental group didn't try the cabbage recipe provided in the family event. However, all participants responded that they did cook the cabbage at home, where they prepared the cabbage using their own recipes. According to Quan et al. (2000), low-income mothers with preschool children like to receive printed recipes. However, most of the participants from our research didn't prepare the recipe that was provided at the event. The lack of use of the recipe may be related to the lack of time that most parents perceived as a barrier, rather than a lack of self-efficacy to prepare a new recipe.

Research Question 4: Can parent education promote parent-child interaction to increase vegetable consumption by preschool children?

Mothers were the major responsible parent for feeding the child. However, the father was also responsible in some low-income households. According to the study by Reed (1996), Head Start mothers perceive the behavior of the male adult at home as an important influence on their children's eating behavior, even though mothers are the major responsible parent for feeding the children. Parent-child similarities in diet have been evaluated in several studies (Oliveria, et al., 1992; Skinner, et al., 1998; Carruth and Skinner, 2000). This positive correlation may reflect a direct modeling influence of parents in their children's eating behaviors.

Modeling has been described as the mean in which people learn a behavior by watching others (Nicklas, et al., 2001). A study indicates that children's acceptance to food followed their parents' example (Nicklas, et al., 2001). Our study tried to give easy ideas for parents to interact more with their children. It seems that letting children help in the preparation of meals is an easy practice that most parents were willing to do.

Eighty percent of experimental group parents reported they prepare vegetables with their children after the intervention (Table.28). Perhaps parents might be acting as role models and influencing their children to interact more with vegetables while they prepared vegetables together.

Table.28 Parent-child interaction about vegetables after the intervention: Experimental Group (Adapted from Table.21)

Variables	Responses	Experimental Group (n =10) (%)
Did you try to give more vegetables to your child?	Yes	90.0
	No	10.0
Did you do the activities with your child? (reinforcement material)	Yes	20.0
	No	10.0
	Not yet	60.0
	Not Applicable	10.0
Has our material help you to interact more with your child about vegetables?	Yes	100.0
	No	0.0
Have you prepare vegetables together?	Yes	80.0
	No	20.0
Have you let your child chose a vegetable at the store?	Yes	60.0
	No	40.0

One study provided evidence that parents' vegetable consumption is positively associated with their children's vegetable consumption. Family dinners may provide a good opportunity for children to observe their parents eating behaviors (Fisher, et al., 2002). Another study suggested that mothers' food dislikes have a negative influence on their children's eating behavior (Carruth and Skinner, 2000).

Another qualitative study revealed that children's interaction with food is influenced by their food experience through observation. Results from the same study indicate that preschool children mimicked eating habits and routines they had experienced at home (Matheson, Spranger, and Saxe, 2002). Perhaps parent-child interaction activities might affect children's attitudes about vegetables.

The recipes for children in the reinforcement material were only used by 20% of parents (Table.28). Perhaps the lack of time didn't let parents try a recipe specifically for their young children, and they prefer to interact with them preparing their normal meals.

According to the study by Reed (1996), Head Start mothers want better communication skills to interact better with their young children. Mealtime, grocery shopping and preparation activities were some of the situations in which mothers need better communication skills with their children. Results from our research might confirm the findings by Reed (1996) that most parents want new ways to interact more with their children. However there is no statistical evidence to support these results. Sixty percent of parents of the experimental group responded they let their children choose a vegetable in the store after the intervention (Table.28). Choosing a vegetable in the store might be an easy activity to practice.

Simple cooking practices might also be an interesting way to interact more with young children and an easy way for parents to act as positive role models in their children's vegetable cooking practices. The reason why parents practiced these two activities may be because it took a short time. These results may strengthen the findings of Reicks, Randall, and Haynes (1994), and Omar, Coleman, and Hoerr (2001), which

pointed out that low-income parents like easy and fun activities and recipes for young children. Moreover, the study by Omar, Coleman, and Hoerr (2001) in low-income populations also indicates that most parents are willing to do some activities with their children.

The family event might increase the willingness to try parent-child interaction activities that were taught in the event. Finally, all parents agreed that the educational information of the research helped them to interact more with their children about vegetables.

Twenty percent of parents indicated they did the activities (recipes for children) that were provided in the reinforcement material to interact with their children (Table.28). Even though most parents did not practice the parent-child interaction activities about vegetables from the reinforcement material, most parents responded they tried to give more vegetables to their child. This result could be consequences of barriers like “lack of time and energy” that many parents mentioned after the intervention.

It is important to note that 60% of parents from the experimental group read the reinforcement material (Table.17). Our results may confirm the findings by Weaver, Poehlitz, and Hutchinson (1999) in which newsletters were widely read by intervention participants. The results of our research may show us that handouts are still a practical and popular way to reach some parents. Similar findings revealed by Pestano-Binghay, Reis, and Walters (1993), indicate that handouts are some of the most convenient ways that parents like to receive information. Moreover, the research by Dunn et al. (1994) also indicates that parents mostly preferred information delivered by mail.

CONCLUSIONS

Vegetable consumption of Head Start families was revealed in this research. Availability of fresh vegetables in participants' kitchens (both experimental and control groups combined) ranged from two to eleven types of vegetables before the intervention, and from two to nine types after the intervention. Fifty percent of Hispanic families had six types of vegetables before the intervention and three types after the intervention.

Fresh vegetables available in 50% or more of the combined groups kitchens before the intervention were broccoli, carrots, lettuce, onion and potatoes. Hispanic families had the same types of vegetables in their kitchen with the exception of broccoli. After the intervention, broccoli, carrots and onions were available in 50% or more of the kitchens. Hispanic households reported the same vegetables in addition to cauliflower, lettuce, and potatoes.

Seventy-one percent of participants from both groups combined had frozen vegetables and 86% reported they had canned vegetables. Frozen corn and mixed vegetables were more likely available in both groups, while in Hispanic households mixed vegetables were more commonly available. Canned vegetables such as black beans, corn, and mixed vegetables were commonly available in both groups, while green beans and peas were more available in Hispanic's kitchens.

A daily vegetable consumption was reported by 64.3% of the parents, and by 77.8% of them indicated they eat vegetables 1 to 2 times a day. Vegetable consumption

practices indicate that children are consuming less types of vegetables rich in vitamin C and A than other less-nutrient dense vegetables. The Kid-co food record indicates that corn and potatoes were the vegetables commonly eaten by children. However, other vegetables such as broccoli, carrots, sweet potatoes and tomatoes were also eaten but in less proportion. Seventy-one percent of parents reported that their Head Start children eat vegetable every day either at home or at school. Dinner and lunch were the common meals in which children eat vegetables. However 57.1% of children also ate vegetables for snacks.

In regard to the awareness of the recommended number of vegetable servings needed by young children, 10% of participants of the experimental group responded with the correct recommendation (3 servings of vegetables everyday) before the intervention. After the intervention, 40% of the participants responded with the correct response. No significant difference was found between responses of the experimental and control group. Similarly, no significance difference was found between responses of the experimental group before and after the intervention.

Several barriers to increasing children's vegetable consumption were reported. Before the intervention, 40% of parents in the experimental group and 25% of parents in the control group reported "I can't get satisfactory vegetables," at least sometimes. "Too much time to prepare vegetables" was reported by 10% of participant in the experimental group and by 25% of parents in the control group; "I don't know how to prepare vegetables" was reported by 10% of parents in the experimental group and by 50% in the control group; "vegetables cost too much" by 50% of parents in the experimental group;

and “My child doesn’t like vegetables” was reported by 60% of parents in the experimental group and by 100% in the control group, at least sometimes.

After the intervention, parents in the experimental group still perceived barriers. “My child won’t eat vegetables” was reported by 10% of participants in the experimental group, “Not enough time to prepare vegetables” was reported by 30%, “Not enough energy to cook” was reported by 20% and “I don’t know how to prepare vegetables” was reported by 10%. However, 30% of participants in the experimental group reported that nothing is a barrier to increase their children’s vegetable consumption.

A high level of confidence in the ability to increase the amount of vegetables in their children’s meals was observed in most of the participants before and after the intervention. Seventy percent of parents in the experimental group reported “quite” or “very” confident before and after the intervention. All parents (100%) in the control group reported “quite” and “very” confident before the intervention and after the intervention 75% reported they felt “very confident.” However, responses of the control group were not a valid comparison due to the small sample size. No significant difference in parents’ confidence was found between responses of the control and the experimental group before and after the intervention. Also, no significant difference in parents’ confidence was found before and after the intervention in the experimental group.

In regard to the topic of parent-child interaction, 90% of participants in the experimental group reported they tried to give more vegetables to their child after the intervention. Eighty percent of parents in the experimental group indicated they let their children help to prepare vegetables after the intervention and 60% of parents reported

they let their children choose a vegetable in the store. These activities were discussed in the family event. However, only 20% of parents responded that they practiced the activities from the reinforcement material (preparing recipes with young children). Forty percent of parents reported that their children ate more vegetables after the family event.

In regard to the usefulness of the parent education program, 90% of participants in the experimental group considered the material useful for saving money on vegetables and 70% considered the material useful for preparing more vegetables with their child. However, only 20% of the participants responded that the material helped to save time. More ways to interact with young children about vegetables may produce an effect in vegetable consumption. It is important to consider that most parents were willing to do activities with their children. This topic could be an effective channel to reach more families.

LIMITATIONS

The study presents several limitations. The first limitation of the study is the small sample size of both control and experimental groups. No strong evidence was found in the study due to its size. The sample also was not randomly selected, so results may not be generalized to other populations of parents.

Another limitation to the study is the children's vegetable consumption baseline of the Head Start Food Record. This information only provides us with data about vegetables most commonly consumed by Head Start children in the end of summer and part of the fall. This seasonal condition may affect the children's vegetable consumption. It doesn't describe how frequently children eat each kind of vegetable.

Another limitation could be that parents who joined the Head Start program during or after fall 2002 may have changed their vegetable consumption due to the Head Start program involvement about nutrition. This means that the involvement of the Head Start program in nutrition topics may have influenced participants in their eating habits prior to the intervention.

RECOMMENDATIONS

Several recommendations can be suggested for a parent education program. Family events during the weekend should increase parents' chances to participate in the event. Family events with appealing activities such as games for children and a picnic may encourage parents to attend nutritional events. This kind of event should also be scheduled during the spring to have a high family attendance. The family event should also include more activities, so parents feel more appeal to attend. If the family event is scheduled during the evening, it is necessary to include more fun activities, so parents can be involved with the topic of the family event. Incentives (ingredients and cooking utensils) could be an effective way to recruit parents for a family event.

In regard to the parent education program protocol, more family events and delivery of reinforcement material should be included. The family events should be given twice a month, so that more parents can attend the event. The data collection at baseline (food record), and the development of the program also have to be done in the same season. Seasonal interventions could be an appealing way to approach vegetable consumption in low-income families. It is important to consider that low-income families' vegetable consumption could be related to seasonality and the cost of vegetables during their harvest season.

In regard to the information included in the parent education event, perhaps classes focused only one aspect of vegetables could be an effective way to reach low-income families. Parent education about the number of vegetable servings required by

children needs to be taught many times and in different ways and should be the exclusive topic in a class. In this class, the specific number of vegetable servings needed by young children has to be included many times throughout the classroom activity and handouts. Interactive activities such as choosing three servings of vegetables from a set of food models, and making games related to the three vegetable servings can be an easy way to approach the nutrition recommendation of three servings of vegetables everyday. This may be an effective way to provide nutrition information to low-income parents with low levels of literacy.

Make a recipe with all participants at the family event and let them try it may be an easy way to encourage parents to try new recipes at home. Easy ideas about how to add more vegetables to common recipes could be a simple approach to encourage families to eat more vegetables rather than try to encourage parents to try a new recipe. Incentive should be attached to the printed material to encourage parents to read the information. For example the handouts may have coupons for free ingredients.

More activities to promote parent-child interaction should be included in the nutrition classes and handouts. Games and paper activities could be appealing for children and easy to practice by low-income families. The inclusion of ideas on family behaviors at mealtime that give more ideas to families about how to interact with their children at mealtime should be considered in new material for low-income families. Mealtime could be a way that parents can promote activities about vegetables with their children. Snacks are also an effective way to promote vegetable consumption of young children.

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APPENDICES

APPENDIX. A
Pre-questionnaire: Control and Experimental Group
(English and Spanish versions)

Family Night Survey

1) Do you eat vegetables every day? (Circle one)

Yes

No

If yes, how many times each day do you eat vegetables? (Circle one)

1-2 times

3-4 times

More than 4 times

2) What fresh vegetables are in your kitchen this week? (Circle all that apply)

Lettuce

Broccoli

Carrots

Peppers

Onions

Others? _____

Cabbage

Potatoes

3) Do you have frozen vegetables in your kitchen this week?

Yes

No

Don't know

4) Do you have canned vegetables in your kitchen this week?

Yes

No

Don't know

5) Does your Head Start child eat vegetables every day-either at home or at school? (Circle one).

Yes

No

Don't know

6) When does your Head Start child eat vegetables? (Circle one answer for each)

For breakfast:

Yes

No

Don't know

For lunch:

Yes

No

Don't know

For dinner:

Yes

No

Don't know

For snacks:

Yes

No

Don't know

7) How many times each day SHOULD your Head Start child eat vegetables for good health? (Circle one)

0

1

2

3

4

5 times

Don't know

8) What things make it difficult for you to give vegetables to your child as often as you like? (Circle one answer for each)

a) I/We can't get satisfactory vegetables

Yes

No

Sometimes

b) It takes too much time to prepare vegetables

Yes

No

Sometimes

c) I/we don't know how to prepare vegetables

Yes

No

Sometimes

d) Vegetables cost too much

Yes

No

Sometimes

e) My child doesn't like vegetables

Yes

No

Sometimes

f) Other reasons _____

9) How confident are you that you can increase the amount of vegetables that your Head Start child eats? (Circle one)

Not confident Quite confident Somewhat confident Very confident

10) Where do you get information about vegetables? (Circle one answer for each)

Newspaper/magazine.....	Yes	No
Television/radio.....	Yes	No
Friends/relatives.....	Yes	No
Head Start/WIC and other programs.....	Yes	No
Other sources: _____		
I don't look for information.....	Yes	No

11) Who has the major responsibility for the feeding of your Head Start child? (Circle one)

Father Mother Other (list) _____

12) How are you related to your Head Start child? (Circle one)

Mother Father Grandmother Grandfather Other _____

13) What is your age? _____ years

14) How many children under 18 live with you? _____

15) What are their ages? _____

16) How would you describe your race? (Circle one)

American Indian or Alaska Native	White
Asian or Pacific Islander	Other _____
Black	

17) How would you describe your ethnicity? (Circle one)

Hispanic origin Not of Hispanic origin

18) What language do you usually speak at home? (Circle one)

English Spanish Other _____

19) How many years have you attended school? (Circle one)

6 years	Trade school	Other _____
7-11 years	Some college	
High school degree (12years)	College graduate	

Are you attending this program with another adult in your family? ____ Yes ____ No

If Yes, what is the number of their questionnaire? _____

We would like to phone you in the next month to ask more questions. Our call will take 10-15 minutes.

If you are attending Family Night with another adult, whom should we call?

Call me. _____
Your name

Call _____
Name of person

Phone number _____

Please tell us the best time to call, such as Monday 9-11 am, 7-9 pm.

Sunday _____ AM _____ PM

Monday _____ AM _____ PM

Tuesday _____ AM _____ PM

Wednesday _____ AM _____ PM

Thursday _____ AM _____ PM

Friday _____ AM _____ PM

Saturday _____ AM _____ PM

What language do you prefer to speak during the call? (Circle one)

English

Spanish

Other _____

Encuesta de la Noche Familiar

1) Come usted vegetales todos los días? (Marque una opción)

Sí	No
----	----

Si marcó Sí, cuantas veces come vegetales cada día? (Marque una opción)

1-2 veces	3-4 veces	Mas de 4 veces
-----------	-----------	----------------

2) Qué vegetales frescos tiene en su cocina esta semana? (Marque todos los que tenga)

Lechuga	Brócoli	Zanahoria
Pimientos	Cebollas	Otros? _____
Col	Papas	_____

3) Tiene en su cocina vegetales congelados esta semana?

Sí	No	No lo sé
----	----	----------

4) Tiene en su cocina vegetales enlatados esta semana?

Sí	No	No lo sé
----	----	----------

5) Come su niño Head Start vegetales todos los días en casa o en la escuela?
(Marque una opción).

Sí	No	No lo sé
----	----	----------

6) Cuándo tu niño Head Start come vegetales ? (Marque una respuesta en cada opción)

En el desayuno:	Sí	No	No lo sé
En el almuerzo:	Sí	No	No lo sé
En la cena:	Sí	No	No lo sé
En la merienda:	Sí	No	No lo sé

7) Cuántas veces al día su niño debe comer vegetales para estar saludable?
(Marque una opción).

0	1	2	3	4	5 veces	No lo sé
---	---	---	---	---	---------	----------

8) Qué cosas impiden que le des más vegetales a tu niño? (Marque una respuesta en cada opción)

a) No encuentro/encontrámos verduras accesibles	Sí	No	A veces
b) Demora mucho prepararlas	Sí	No	A veces
c) No sé /sabemos como preparar los vegetales	Sí	No	A veces
d) Los vegetales son muy caros	Sí	No	A veces
e) Mi hijo/hija no le gustan los vegetales	Sí	No	A veces
f) Otras razones _____			

- 9) Qué tan seguro se siente de que pueda aumentar la cantidad de vegetales que come su niño/niña?
(Marque una opción)

Nada seguro Muy poco seguro Algo seguro Muy seguro

- 10) De donde obtiene información acerca de verduras? (Marque una respuesta en cada opción)

Periódico / Revistas.....	Sí	No
Televisión / radio.....	Sí	No
Amigos / familiares.....	Sí	No
Head Start/WIC y otros programas.....	Sí	No
Otros medios _____		
Nunca busco información.....	Sí	No

- 11) Quién se encarga de la alimentación de su niño Head Start ? (Marque una opción).

Mamá Papá Otro _____

- 12) Quién está en contacto con su niño Head Start? (Marque una o más opciones).

Mamá Papá Abuela Abuelo Otro _____

- 13) Qué edad tiene usted? _____

- 14) Cuántos hijos menores de 18 años viven con usted? _____

- 15) Cuáles son sus edades? _____

- 16) Cómo calificaría su raza? (Marque una opción)

Indio Americano or Nativo de Alaska	Blanco
Asiático o de las Islas del Pacífico	Otro _____
Black/Negro	

- 17) Cómo calificaría su grupo étnico? (Marque una opción)

Origen Hispano No de origen Hispano

- 18) Qué idioma habla usted en su casa? (Marque una opción)

Ingles Español Otro _____

- 19) Cuántos años ha asistido a la escuela? (Marque una opción)

6 años	Escuela Técnica	Otro _____
7-11 años	Algunos años de Universidad	
Escuela completa(12años)	Graduado de Universidad	

Está usted atendiendo este evento en compañía de algún familiar adulto? ☐ Sí ☐ No

Si contestó Sí, cual es el número de cuestionario de esa persona? _____

Quisiéramos llamarlo el próximo mes para hacerle algunas preguntas. Nuestra llamada durará 10-15 minutos.

Si usted está asistiendo a este evento en compañía de otro adulto, a quién quisiera que se le llame?

Llámemme. _____
Su nombre

Llame a _____
Nombre de la persona

Número Telefónico _____

Por favor diganos la mejor hora para llamarlo, por ejemplo Lunes 9-11 am, 7-9 pm.

Domingo _____ AM _____ PM

Lunes _____ AM _____ PM

Martes _____ AM _____ PM

Miércoles _____ AM _____ PM

Jueves _____ AM _____ PM

Viernes _____ AM _____ PM

Sábado _____ AM _____ PM

Qué idioma desea que se le hable durante la llamada telefónica? (Marque una opción)

Inglés Español Otro _____

APPENDIX. B
Post-questionnaire: Control Group
(English and Spanish versions)

Vegetable Post (Phone) Survey – Lincoln

1) Have you made any changes in the type of snacks your child has eaten since the family event?

1 Yes

2 No

If yes, what types of changes?

2) What vegetables are in your kitchen this week?

3) Do you have any frozen vegetable?

4) Do you have any canned vegetable?

5) How many times each day should your Head Start child eat vegetables for good health...0, 1, 2, 3, 4, or 5 times?

0

1

2

3

4

5 times

Don't know

6) How confident are you that you can increase the amount of vegetables that your Head Start child eats...not confident, somewhat confident, quite confident, or very confident?

Not confident

Somewhat confident

Quite confident

Very confident

Not applicable

7) What things make it difficult for you to give vegetables to your child as often as you like?

Thank you for your participation in this study

Post-encuesta telefonica de vegetales – Lincoln

1) Ha echo algun cambio en el tipo de snacks que su niño desde que fue el evento familiar?

1 Si 2 No

Si respondio SI, Que tipo de cambios ha echo?

2) Que vegetables tiene en su cocina esta semana?

3) Tiene usted vegetales congelados?

4) Tiene usted vegetales enlatados?

5) Cuantas veces al dia su niño en Head Start come vegetales for que es saludable ...0, 1, 2, 3, 4, o 5 veces?

0 1 2 3 4 5 veces No lo sé

6) Que tan seguro se siente usted de que pueda aumentar la cantidad de vegetales que su niño Head Start child come....nada confident, somewhat confident, quite confident, or very confident?

Nada seguro

Muy poco seguro

Algo seguro

Muy seguro

Not applicable

7) Que cosas impiden que le des mas vegetales a tu niño?

Gracias por su participacion en este estudio

APPENDIX. C
Post-questionnaire: Experimental Group
(English and Spanish versions)

Vegetable Post (Phone) Survey - Riverside

1) What fresh vegetables are in your kitchen this week?

2) Do you have any frozen vegetable?

3) Do you have any canned vegetable?

4) How many times each day should your Head Start child eat vegetables for good health...0, 1, 2, 3, 4, or 5 times?

0 1 2 3 4 5 times Don't know

5) Have you tried to give more vegetables to your Head Start child since the family night program...yes or no?

Yes No

6) Did you prepare one of the cabbage recipes that you received at the family night...yes or no?

Yes No

6a) If no, in what other way did you use the cabbage?

7) Did you receive the bag of materials on vegetables that your child brought home from Head Start after the family night...yes, no or not sure?

Yes No Not sure

7a) If yes, have you read them...yes, no, or not yet?

Yes No Not yet

7b) If yes, did you prepare either of the broccoli recipes...yes, no or not yet?

Yes No Not yet

7c) If yes, did you do the activities with your child...yes, no or not yet?

Yes No Not yet

8) Has your Head Start child eaten more vegetables since the family night...yes, no or not yet?

Yes No Not yet

9) How confident are you that you can increase the amount of vegetables that your Head Start child eats...not confident, somewhat confident, quite confident, or very confident?

Not confident

Somewhat confident

Quite confident

Very confident

10) What things make it difficult for you to give vegetables to your child as often as you like?

11) Has our educational program helped you interact more with your Head Start child about vegetables?

Yes No Not sure

If yes, in what ways did you interact with your child?

11a) Have you prepared vegetables together?

Yes No

11b) Have you let your child choose a vegetable at the grocery store?

Yes No

11c) Other _____

12) Has our vegetable information helped you to save time when you prepare vegetables...yes, no or not sure?

Yes No Not sure

13) Has our vegetable information helped you to save money when you buy vegetables yes, no or not sure?

Yes No Not sure

14) Has our vegetable information helped you to prepare vegetables for your Head Start child...yes, no or not sure?

Yes No Not sure

15) Do you think other Head Start parents would like the information you received about vegetables?

Yes No Not sure

Encuesta Telefonica - Riverside

1) Que vegetales frescos tienes en tu cocina esta semana?

2) Que vegetales congelados tiene usted en su cocina?

3) Que vegetales enlatados tiene usted en su cocina?

4) Cuántas veces al día su niño debe comer vegetales para estar saludable...0, 1, 2, 3, 4, o 5 veces?

0 1 2 3 4 5 veces No lo sé

5) Después del evento familiar, Ha tratado usted de darle mas vegetales a su niño en Head Start ...Sí o No?

Sí No

6) Preparo la receta a base de col que recibio en el evento familiar...Si o No?

Sí No

6a) Si contesto No, en que otra forma utilizó la col?

7) Recibió usted la bolsa con material acerca de vegetales que su niño llevó a casa despues del evento familiar... Si, No, No lo sé?

Sí No No lo sé

7a) Si contesto Sí, la ha leído usted...si, no o aún no?

Sí No Aún no

7b) Si contesto Sí, ha preparado usted alguna receta con brócoli o espinaca o lechuga...Sí, No, Aún no?

Si No Aún no

7c) Si contesto Sí, ha tenido alguna actividad con su niño...Si, No, Aun no?

Sí No Aún no

8) Ha comido más vegetales tu niño desde que fue el evento familiar...Sí, No, Aún no?

Sí No Aún no

9) Qué tan seguro se siente de que pueda aumentar la cantidad de vegetales que come su niño/niña en Head Start.... Nada seguro, Muy poco seguro, Algo seguro, o Muy seguro

Nada seguro

Muy poco seguro

Algo seguro

Muy seguro

10) Que cosas impiden que le des mas vegetales ha tu niño?

11) Te ayudó nuestro programa educativo ha interactuar mas con tu niño en Head Start acerca de los vegetales?

Sí No No lo sé

Si contesto Sí, en que manera le ha ayudado a interactuar mas con su niño?

11a) Han preparado vegetales juntos?

Sí No

11b) Ha dejado que su niño escoja algun vegetal en el supermercado?

Sí No

11c) Otros _____

12) Te ha ayudado nuestra información a ahorrar tiempo cuando preparas vegetales ...si, no o no lo sé?

Sí No No lo sé

13) Te ha ayudado nuestra información a ahorrar dinero cuando compras vegetales ...si, no o no lo sé?

Sí No No lo sé

14) Te ha ayudado nuestra información a preparar más vegetales para tu niño en head Startsi, no o no lo sé?

Sí No No lo sé

15) Cree usted que otros padres quisieran recibir esta informacion ?

Sí No No lo sé

APPENDIX. D
Handout: “Healthy Snacking Everyday”
(English and Spanish versions)

Healthy Snacking everyday!!

What is a good healthy snack?



- Nutritious.
- Fun to eat.
- Tasty and appealing.
- Handy and quick to prepare.
- Smaller than a meal.



Do you know that...

- Children need small amounts of food throughout the day because their stomachs are small.
- Healthy snacks provide nutrients that your child needs everyday.



Healthy Snacks Tips:

- Keep healthy snacks in places where your child can reach them.
- Give your child a variety of healthy snacks.
- Offer snacks 2-3 hours before meals so that your child will be hungry for his/her meal.
- Let your child help you prepare a snack.
- Be a good model by eating healthy snacks with your child.



Bocadillos Saludables todos los días!



Como es un bocadillo saludable ?

- Nutritivo.
- Divertido de comer.
- Sabroso y atractivo.
- Práctico y fácil de preparar.
- Más pequeño que una comida.



Sabías que...

- Los niños necesitan pequeñas cantidades de comida durante el día porque sus estómagos son pequeños.
- Los bocadillos saludables le dan a tu niño los nutrientes que necesita durante el día.



Consejos para comer más Bocadillos Saludables:

- Dejar los bocadillos saludables al alcance de tu niño.
- Darle a tu niño variedad de bocadillos saludables.
- Ofrecer bocadillos 2-3 horas antes de las comidas, así tu niño tendrá hambre a la hora de la comida.
- Dejar que tu niño te ayude a preparar bocadillos.
- Dar el buen ejemplo comiendo bocadillos saludables.



Apple Smiles

Ingredients

Makes 1 serving

1 medium red apple



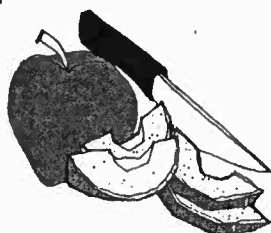
Peanut butter



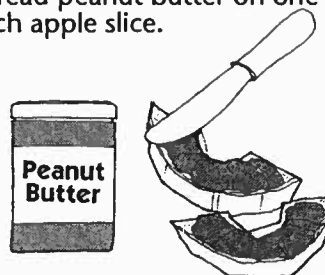
Yogurt-covered raisins



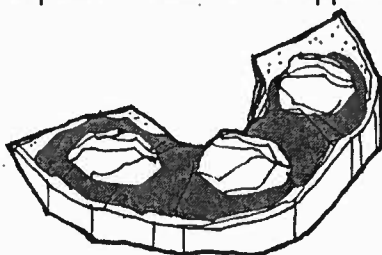
- 1** Cut apple into quarters. Remove core; cut quarters into 1/2-inch slices.



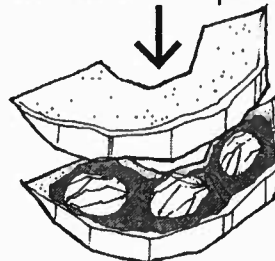
- 2** Spread peanut butter on one side of each apple slice.



- 3** Place 3 or 4 yogurt raisins on top of the peanut butter on one apple slice.



- 4** Top with another apple slice-peanut butter side down. Squeeze gently.



Apple Smiles give us:

Fiber Prevents constipation.



Builds and repairs skin, muscle and blood.



Makes red blood.



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Recipe source: 4-H EFNEP Snack Attack Curriculum, Multnomah County.

EM 8763 9/00

Original format created by Janice Smiley, MPA, Extension Educator, Adult and 4-H Nutrition, Multnomah County.

Adapted and translated for use with Spanish speaking audiences by Lynn Myers Steele, MPH, Extension Educator and Nutrition Assistants, Oregon Family Nutrition Program (OFNP), Hispanic Office, Multnomah County, 1993.

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Sonrisas de Manzana

Ingredientes

Hace 1 porción

1 manzana roja



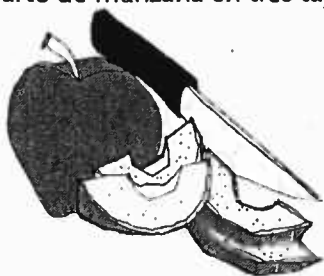
Crema de cacahuete



Uvas pasas cubiertos con yogur



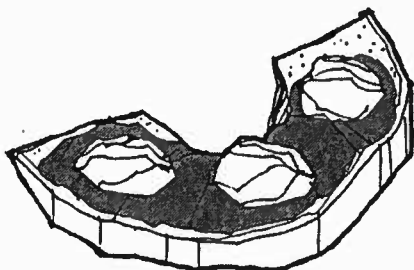
- 1** Corte la manzana en cuarto y remueva el corazón. Corte cada cuarto de manzana en tres tajadas.



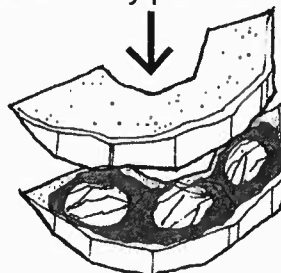
- 2** Ponga crema de cacahuete en uno de los lados de cada tajada de manzana.



- 3** Ponga 3 o 4 uvas pasas sobre la crema de cacahuete en una tajada.



- 4** Coloque otra tajada de manzana encima, con la crema de cacahuete sobre las uvas y presione suavemente.



Sonrisas de Manzana nos dan:

Fibra Para prevenir el estreñimiento.



PROTEÍNA

Forma y repara la piel, músculos y sangre.



Produce los glóbulos rojos.



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EXTENSION SERVICE

Origen de la receta: Currículo de 4-H EFNEP Snack Attack, Condado de Multnomah.

E M 8763 9/00

Formato original creado por Janice Smiley, MPA, Educadora de Extension, Programas de Nutrición para Adultos y jóvenes (4-H), Condado de Multnomah.

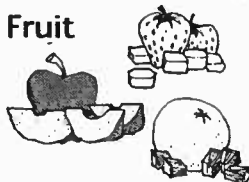
Adaptado y traducido para el uso con la comunidad de habla Hispana por Lynn Myers Steele, MPH, Educadora de Extension y los Asistentes de Nutrición, Programa de Nutrición para las Familias de Oregon (OFNP), Oficina Hispana, Condado de Multnomah, 1993.

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Yogurt Sundaes

Ingredients

Fruit



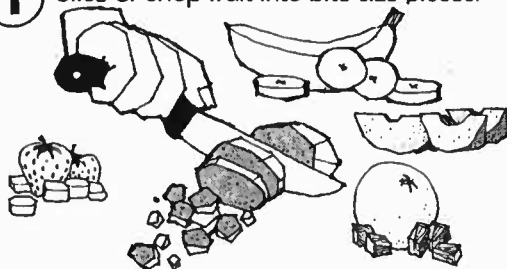
Granola



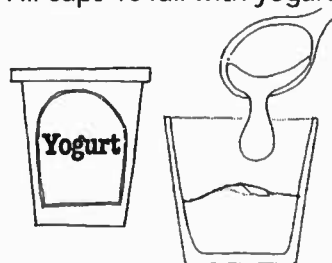
Yogurt



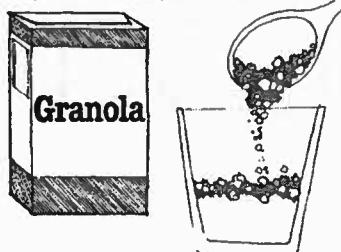
1 Slice or chop fruit into bite-size pieces.



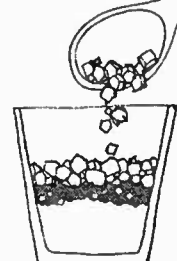
2 Fill cups $\frac{1}{3}$ full with yogurt.



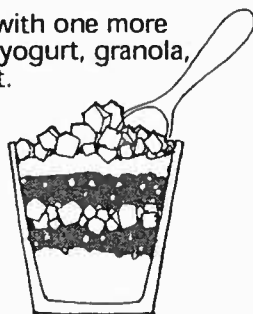
3 Top with a layer of granola...



4 ...and then add a layer of fruit.



5 Repeat with one more layer of yogurt, granola, and fruit.



Yogurt Sundaes provide our bodies:



Builds bones and teeth.



Keeps gums and blood vessels healthy.



Helps children grow; keeps skin and eyes healthy.



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Recipe source: Oregon 4-H EFNEP Curriculum

EM 8781 9/01

Original format created by Janica Smiley, MPA, Extension Educator, Adult and 4-H Nutrition, Multnomah County.

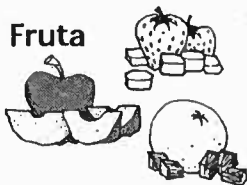
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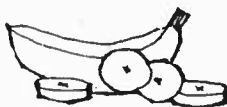
Yogur con Fruta

Ingredientes

Fruta



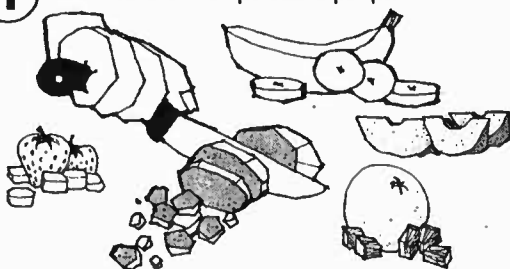
Granola



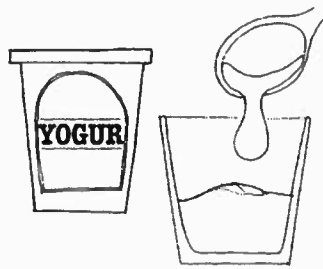
Yogur



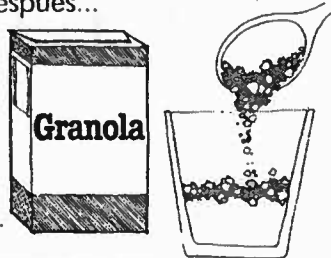
1 Corte la fruta en pedazos pequeños.



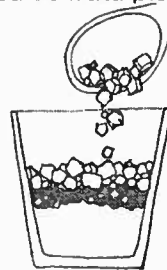
2 Llene un tercio del vaso con yogur.



3 Ponga una capa de granola y después...



4 ...una capa de fruta picada.



5 Repita las tres capas. Termine con nuez picada si quiere.



Coma Yogur con Fruta para obtener:

CALCIO Forma los huesos y los dientes.

VITAMINAS C Mantiene sanas las encías y las venas.

VITAMINAS A Ayuda en el crecimiento de los niños; mantiene la piel y los ojos sanos.

Origen de la receta: Currículo de 4-H EFNEP.

EM 8781 9/01

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APPENDIX. E
Handout: “Vegetables: A Healthy Harvest”
(English and Spanish versions)



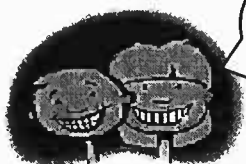
Vegetables: A Healthy Harvest



Vegetables:

- Taste great.
- Protect you from chronic illnesses like heart disease and cancer.
- Are high in vitamins and fiber.
- Are low in calories and fat.
- Keep your gums, skin and tissues healthy.
- Help prevent constipation.





How many vegetable servings do young children need to eat ?

**At least
“3”
servings of vegetables
each day**

Ways your family can eat more vegetables

- Serve strips of raw vegetables with low calorie dip.
- Eat a hearty vegetable soup.
- Add chopped vegetables to rice and grain dishes.
- Fill a taco or burrito with beans, cheese and diced vegetables.
- Have a garden salad with vegetables in season.
- Add chopped vegetables to eggs or omelette.
- Make a veggie sandwich with lettuce, tomato, onion and sprouts.



Look for these Oregon grown vegetables at your local market



Dark boxes show the vegetable growing season:

	June	July	August	Sept	Oct
Green Beans					
Broccoli					
Cabbage					
Carrots					
Cauliflower					
Corn					
Rutabaga					
Greens					
Lettuce					
Onion					
Peppers					
Potatoes					
Squash					

Save money:

- buy fresh vegetables during their growing season.
- buy canned or frozen vegetables at other times of the year.



Parent-child interaction



Let your child help you in the kitchen.

He/she can:

- Wash potatoes and carrots with a brush.
- Tear lettuce and spinach for salad.
- Snap green beans for cooking.



Grow vegetables in your garden.

Take your child to the grocery store or farmers' market and let him/her choose one kind of vegetable for a meal.



Take your child to see a farm or field so he/she can know where vegetables come from.

Vegetales: Una Cosecha Saludable



Los Vegetales:

- Son sabrosos.



- Nos protegen de enfermedades como las cardíacas y el cáncer.



- Son ricas en vitaminas y fibra.



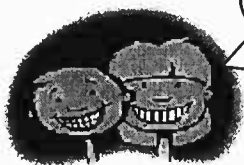
- Son bajas en calorías y en grasa.

- Mantienen las encías, piel y tejidos saludables.



- Previenen el estreñimiento.





**Cuántas porciones de
vegetales deben comer
nuestros niños ?**

**Por lo menos
“3”
porciones de
vegetales
cada día**

Formas para que tu familia coma más vegetales

- Servir ramitas de vegetales crudos con un dip bajo en calorías.
- Preparar sopa con vegetales.
- Agregar vegetales picados al arroz o a los fideos.
- Poner en el taco o burrito frijoles, queso y verduras picadas.
- Preparar una ensalada con verduras de la estación.
- Agregar verduras picadas a los huevos o omelette.
- Hacer un sandwich con lechuga, tomate, cebolla y germinados de verduras.



Busque verduras que crecen
en Oregon en su mercado local



Lo sombreado indica la temporada
de cosecha de las verduras:



	Junio	Julio	Agosto	Sept	Oct
Vainitas					
Brócoli					
Col					
Zanahorias					
Coliflor					
Maiz					
Rutabaga					
Espinaca					
Lechuga					
Cebolla					
Pimiento					
Papas					
Squash					



Ahorre dinero:

- comprando verduras durante la temporada de cosecha.
- comprando verduras enlatadas o congeladas durante fuera de temporada.



Interacción entre padres e hijos



Deje que su niño le ayude en la cocina.

El/ella pueden:

- Lavar las papas y zanahorias con una escobilla.
- Deshojar la lechuga o espinaca para la ensalada.
- Partir las vainitas para cocinarlas.



Plante verduras en su jardín.

Lleve a su niño al supermercado y deje que él o ella escoja una verdura para su comida.



Lleve de paseo a su niño a una granja o al campo, así sabrá de donde provienen las verduras

APPENDIX. F
Handouts series: “Cabbage,” “Broccoli” and “Leafy Greens”
(English and Spanish versions)

Cabbage



Vegetables: A Healthy Harvest

Buying/Storing



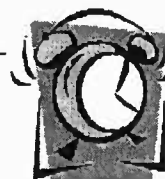
- Buy cabbage with well trimmed heads that are heavy for their size.
- Refrigerate red or green cabbage in an airtight plastic bag for up to 2 or 3 weeks. Wash before using it.

Money Saver



- Add some shredded cabbage to tossed salads when leafy greens cost a lot.
- Use cabbage in stir fry and pasta when it costs less than other vegetables.
- Purchase only the amount you will use within 2 to 3 weeks.

Time Saver



When making coleslaw:

- Shred cabbage up to 8 hours ahead of time.
- Refrigerate in an air-tight plastic bag.
- Mix with dressing shortly before serving.



Stove Top Casserole

- 1 tablespoon vegetable oil
- 1 small onion coarsely chopped
- 4 medium potatoes, peeled and sliced $\frac{1}{4}$ inch thick
- 1 $\frac{1}{2}$ cups chicken stock or canned chicken broth
- 2 cups shredded green cabbage
- 1 cup shredded cheese
- $\frac{1}{4}$ cup chopped nuts (optional)

Preparation

1. Heat oil in large skillet. Add onions and stir over medium heat until golden. Add potatoes and chicken stock. Cover tightly.
2. Cook on low heat until potatoes are almost tender.
3. Add cabbage, cover and simmer for another 5 minutes.
4. Sprinkle with cheese and nuts. Wait until cheese melts. (about 2 minutes)

Serves 4 to 6.

Kids' Corner

Help your child make this recipe:

Ants Nest Salad

- $\frac{1}{2}$ cup shredded cabbage or coleslaw (the nest)
- 2 tablespoons diced carrots (the treasure)
- 2 tablespoons raisins (the ants)

Preparation:

1. Make a *nest* of cabbage.
2. Tuck in the ants and treasure
3. Eat for lunch or snack.



Food Safety

Wash cabbage leaves thoroughly in a pan of clean water.

Refrigerate leftovers promptly.



Col

Vegetales: Una Cosecha Saludable

Comprando/Guardando



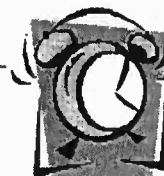
- **Compre** col que tenga las hojas bien cortadas y que sea pesada para su tamaño.
- **Refrigere** la col verde o roja dentro de una bolsa plástica bien sellada hasta por 2 a 3 semanas. Antes de usar lavarla.

Ahorrando Dinero



- **Agrega** un poco de col picada en ensaladas cuando la espinaca o lechuga cuesten mucho.
- **Use** col en la pasta o los guisos cuando cueste menos que otros vegetales.
- **Compre** solamente la cantidad necesaria que va ha usar durante 2 a 3 semanas.

Ahorrando Tiempo



Cuando prepare coleslaw:

- **Corte** la col hasta 8 horas antes de la comida.
- **Refrigere** la col en una bolsa plástica sellada.
- **Mezcle** la col picada con el aderezo antes de servir.



Cacerola de Verduras

- 1 cucharada de aceite vegetal
- 1 cebolla pequeña, picada
- 4 papas medianas, peladas y cortadas en rodajas de $\frac{1}{4}$ pulgada
- 1 $\frac{1}{2}$ taza de caldo de pollo (enlatado o hecho en casa)
- 2 tazas de col picada en tiras
- 1 taza de queso picado
- $\frac{1}{4}$ taza de nueces picadas (opcional)

Preparación

1. Caliente el aceite en una sartén. Añada las cebollas y dórelas a fuego mediano. Agregue las papas y el caldo de pollo y tape la olla.
 2. Mantenga a fuego bajo hasta que las papas estén casi suaves.
 3. Añada la col y cocine por 5 minutos.
 4. Echar el queso y las nueces hasta que el queso se derrita. (por 2 minutos)
- Rinde 4 a 6 porciones.

Esquina de los Niños

Ayude a su niño a preparar la receta:

Ensalada Nido de Hormiguitas

- $\frac{1}{2}$ taza col picada o coleslaw (el nido)
- 2 cucharadas zanahoria picada (el tesoro)
- 2 cucharadas de pasas (hormiguitas)



Preparación:

1. Hacer el *nido* con la col.
2. Esconda la pasas y zanahoria debajo de la col.
3. Sírvalo como snack o en la comida.



Sanidad en los alimentos

Lave bien las hojas de la col con agua limpia.

Refrigere los restos de col inmediatamente.



Broccoli

Vegetables:
A Healthy Harvest

Buying/Storing



- **Buy** broccoli with firm and tightly closed, deep green buds.
- **Refrigerate** unwashed broccoli in an airtight plastic bag for up to 1 week. If wet, it will spoil rapidly.

Money Saver



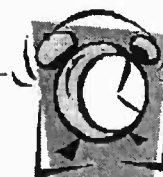
Peel the tender stems, slice thin and cook along with tops.

Stems can also be sliced in strips and used in soup.

Time Saver

Immediately after cooking, plunge broccoli into ice water until cold. Drain.

Refrigerate and use later in cold dishes or quickly reheat in hot water or microwave.



Broccoli and Cheese Topping for Baked-Potatoes

- 2 tablespoons butter
- 2 tablespoons flour
- $\frac{1}{4}$ teaspoon salt
- 1 cup milk (whole, 2%, 1%, skim)
- 1 cup chopped broccoli, steamed
- 1 cup cheese, grated
- 1 teaspoon prepared mustard
- 3-4 baked potatoes



Preparation

1. Melt butter in a sauce-pan over low heat.
2. Add flour and salt and blend until smooth 2-3 minutes.
3. Add milk all at once while stirring rapidly to prevent. Increase heat to medium.
4. Stir constantly until mixture thickens. Remove from heat when mixture bubbles.
5. To the cream sauce add cheese and mustard and stir until blended.
6. Split open baked potatoes and spoon topping over them.

Kids' Corner

Help your child make this recipe:

Broccoli & Cheese Rolls Ups

- 1 slice of bread
- $\frac{1}{2}$ thin slice of soft cheese
- $\frac{1}{4}$ cup cooked broccoli, chopped in small pieces

1. Cut the crust off some slices of bread with a plastic knife.
2. Flatten the bread with your hand or rolling pin.
3. Place cheese down the center of the bread and top with cooked broccoli.
4. Roll the bread up into a log and place the seam side down on a baking sheet.
5. Bake at 350° until cheese melts, (about 8 minutes).
6. Cool and cut into rounds.



Food Safety

Wash broccoli thoroughly in a pan of cool and clean water.

Refrigerate leftovers promptly.



Brócoli

Vegetales:
Una Cosecha Saludable

Comprando/Guardando



- **Compre** brócoli que tenga las ramas y el follaje bien, unido y verde.
- **Refrigere** el brócoli si lavar en una bolsa plástica sellada hasta por 1 semana. Si se le moja, se malogrará pronto.

Ahorrando Dinero



Pelar y cortar las ramas de brócoli en tiras para cocinarlas junto con el follaje.

Las ramas de brócoli tambien se pueden usar en las sopas.

Ahorrando Tiempo

Immediatamente después de cocinar el brócoli, sumérjalo en agua helada. Luego cuele las ramitas.

Refrigere y uselas en platos fríos o calientelas en e microondas o con agua caliente.



Crema de Brócoli y Queso para las Papas horneadas

- 2 cucharadas de mantequilla
- 2 cucharadas de harina
- $\frac{1}{4}$ cucharaditas de sal
- 1 taza de leche (entera, 2%, 1% o descremado)
- 1 taza de brócoli cocida y picada
- 1 taza de queso
- 1 cucharadita de mostaza
- 3-4 papas cocidas



Preparación

1. Derrita la mantequilla en una olla a fuego bajo.
2. Agregue la harina y mézclelos por 2-3 minutos.
3. Agregue la leche y mezcle rápidamente. Aumente a fuego mediano.
4. Mover constantemente hasta que espese. Retirar del fuego cuando empiece a hervir.
5. Agregue el queso y mostaza al gusto y mezclar bien.
6. Partir las papas cocidas y echar la crema sobre las papas

Esquina de los Niños

Ayude a su niño a preparar la receta:

Rollos de Queso y Brócoli

- 1 rebanado de pan
- $\frac{1}{2}$ tajada delgada de queso suave
- $\frac{1}{4}$ taza de brócoli cocido y picado finamente

1. Corte la corteza de pan con un cuchillo de plástico.
2. Aplane el pan con su mano o rodillo.
3. Coloque el queso en el centro del pan y encima coloque el brócoli cocido.
4. Enrolle el pan y colóquelo con la abertura hacia abajo, en una bandeja para hornear.
5. Hornee a 350° hasta que el queso se derrita, (cerca de 8 minutos).
6. Enfrie y córtelos en rodajas.



Sanidad en los alimentos

Lave bien el brócoli en un recipiente con agua fría y limpia.

Refrigere los restos de brócoli inmediatamente.



Vegetables:
A Healthy Harvest

Leafy Greens



Buying/Storing

Buy bright green, crisp, fresh looking greens.
Avoid wilted, yellowed and insect damaged leaves.

Refrigerate greens in an airtight plastic bag up to
3 or 4 days. If wet, they will spoil rapidly.



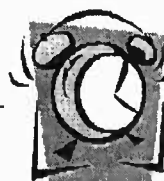
Money Saver

Purchase only the amount of greens you will use within
3 to 4 days.

Time Saver

Cook spinach ahead of time place in a sieve
to drain, and refrigerate.

Used it on soups, stir-fry and omelettes.



Chicken and Spinach Stir-Fry

- 4 chicken breasts, boned and skinned
- 4 teaspoons oil
- 1 medium onion, chopped
- 2 tablespoons fresh ginger (or 2 teaspoons ground ginger)
- 1 $\frac{1}{2}$ cups canned chicken broth
- 1 cup plain nonfat yogurt
- 2 tablespoons flour
- 1 10-ounce package frozen spinach, thawed and well drained

**Preparation**

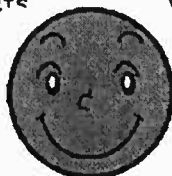
1. Cut chicken into $\frac{1}{4}$ inch pieces.
2. Heat oil in skillet. Stir fry chicken, onion and fresh ginger until chicken is brown.
3. Combine chicken broth, yogurt, flour (and ground ginger, if used) in a jar with a tight lid. Shake until flour is thoroughly mixed.
4. Add sauce to chicken mixture. Stir while cooking for 2 minutes.
5. Add spinach and continue cooking and stirring until sauce thickens. Add more water or broth if too thick. Serve over cooked rice or pasta

Kids' Corner

Help your child make this recipe:

In Your Face Salad

- 2 rounded pieces of beets
- 1 cooked egg
- 1 piece of carrot
- $\frac{1}{4}$ cup spinach
- $\frac{1}{4}$ cup cooked peas



1. Make a funny face salad with beets for cheeks, hard-cooked egg halves for eye balls, and a piece of carrot for nose,
2. Make a big smile made of peas, and lots of spinach for hair.

**Food Safety**

Wash greens thoroughly in a pan of cool, clean water. Pull the leaves apart to wash the inside ones as well.

Refrigerate leftovers promptly.



Vegetales:
Una Cosecha Saludable

Lechuga & Espinaca



Comprando/Guardando

Compre lechugas o espinacas de color verde, frescas y crujientes que no estén marchitas, amarillas o picadas por insectos.

Refrigere las hojas en bolsa plástica sellada por 3 o 4 días. Si se mojan se malograrán rápido.



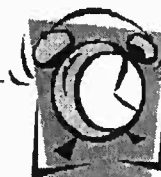
Ahorrando Dinero

Compre solo la cantidad necesaria de lechuga o espinaca para 3 o 4 días.

Ahorrando Tiempo

Cocine la espinaca con anterioridad, cuélela y refrigérela.

Usela en sopas, guisos y omelettes.



Pollo y Espinaca Salteada

- 4 pechuas de pollo, deshuesadas y sin piel
- 4 cucharaditas de aceite
- 1 cebolla mediana, picada
- 2 cucharadas gengibre fresco (o 2 cucharaditas de gengibre en polvo)
- 1 $\frac{1}{2}$ tazas de caldo de pollo enlatado
- 1 taza de yogurt descremado
- 2 cucharadas de harina
- 1 paquete de 10-onzas de espinaca congelada, drenada y descongelada

Preparación

1. Cortar el pollo en pedazos de $\frac{3}{4}$ pulgada.
2. Calentar el aceite en una sartén. Echar el pollo, cebolla y gengibre y mezclar hasta que el pollo se dore.
3. Mezclar el caldo de pollo, yogurt, harina (y gengibre si lo usa) en una vasija con tapa. Mover bien hasta que el harina esté disuelta.
4. Agregar la crema al pollo. Mezclar mientras se cocina por 2 minutos.
5. Agregar espinaca y cocinar. Mover hasta que la crema se espese. Agregar agua o caldo si la crema está muy espesa. Servir sobre el arroz o pasta



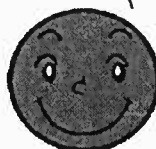
Esquina de los Niños

Ayude a su niño a preparar la receta:

Cara de ensalada

- 2 pedazos de betarraga
- 1 huevo duro
- 1 pedazo de zanahoria
- $\frac{1}{4}$ taza de espinaca
- $\frac{1}{4}$ taza de alverjitas

1. Haga una cara graciosa con la ensalada, con la betarraga haga los mejillas, con el huevo los ojos y la nariz con la zanahoria.
2. Haga una gran sonrisa con las arverjitas y mucho cabello con la espinaca.



Sanidad en los Alimentos

Lave bien las hojas con agua limpia y fría. Separe las hojas y lave del mismo modo en la parte interior
Refrigere los restos rápidamente.

APPENDIX. G
Family night presentation transparencies: Control Group
(English and Spanish versions)



Healthy snacking
everyday!!!



Bocadillos Saludables
todos los días!!!



Have any of you known
someone who believes
snacks aren't necessary
for small children ?

Children need small amount of food
through out the day to get
all nutrients they need.



Young children's
stomachs are about
the size of your fist.



Alguno de ustedes conoce a
alguien que piense que los
bocadillos no son necesarios
para los niños ?

Los niños necesitan pequeñas
cantidades de comida durante el
día para obtener los nutrientes que
necesitan.

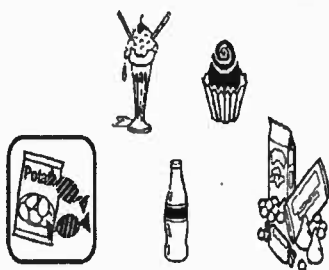


El estómago de los
niños es del tamaño
de tu puño.



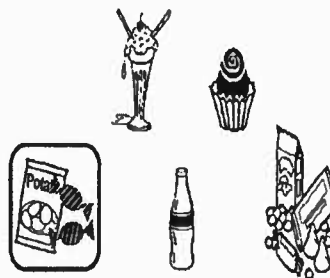
Snack choices that are high in fat and sugar provide many calories and few or no nutrients

"Empty Calories"



Bocadillos altos en grasa y azúcar tienen muchas calorías y muy pocos o ningún nutriente.

"Calorías Huecas"



Foods high in fat and sugar should be eaten occasionally
Eat them with **MODERATION**



It's ok to have a soft drink now and then
Drink them with **MODERATION**



Alimentos con alto contenido graso y de azúcar deben ser consumidos solo de vez en cuando.

Cómalos con **MODERACION**



Está bien tomar gaseosas de vez en cuando.

Tómelos con **MODERACION**



Snack time is an important part of your family's overall eating pattern.



Los bocadillos son una pieza importante en la alimentación de tu familia.



What you choose to eat will have a strong influence on what children will learn and the type of eating habits he/she will learn.

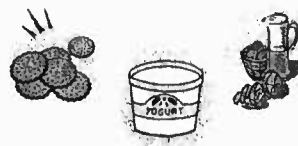


Lo que escojas para comer tendrá gran influencia en el tipo hábitos de consumo que tu niño aprenderá.





Try healthy snacking patterns
for you and your family.

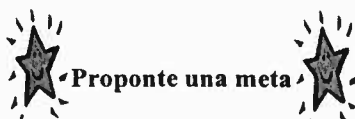


Prueba nuevas formas de
bocadillos saludables para ti y
tu familia.



Set a mini-goal

- Choose snacks from the 5 food groups
- Offer a new snack to children
- Substitute water instead of soft drink
- Read Nutrition Fact food label on your favorite snack and substitute a high fat version for a lower fat version



Proponte una meta

- Elige variedad de bocadillos saludables.
- Ofrecele a tu niño nuevos bocadillos saludables.
- Sustituye agua o jugos de frutas en vez de gaseosa.
- Lee la información nutricional de tu bocadillo favorito y sustitúyelo por uno con menos grasa y azúcar.



APPENDIX. H
Family night presentation transparencies: Experimental Group
(English and Spanish versions)



Vegetables: A Healthy Harvest



Vegetales: Una Cosecha Saludable



Why is it important to eat more vegetables?



- Protect you from chronic illnesses like heart disease and cancer.
- Are high in vitamins and fib
- Are low in calories and fat.
- Keep gums, skin and tissues healthy.
- Help prevent constipation.
- Taste great.



Porqué es importante comer vegetales?



- Te protegen de enfermedades crónicas como las cardíacas y el cáncer.
- Tienen muchas vitaminas y fibra
- Tienen pocas calorías y grasa.
- Mantienen las encías, piel y tejidos saludables.
- Ayudan a prevenir el estreñimiento.
- Son sabrosos.



How many vegetable servings do young children need to eat?



At least
"3"
servings of vegetables
each day

Cuántas porciones de vegetales necesitan los niños pequeños?



Por lo menos
"3"
porciones de vegetales
al día

What are the barriers to eating more vegetables?



- Too expensive
- Too time consuming
- Family doesn't like them
- Don't know how to fix them
- Take up too much room in the refrigerator

Cuáles son las barreras para no comer más vegetales?



- Son muy caras
- Demoran mucho en cocinar
- A mi familia no les gustan
- No sé cómo prepararlas
- Ocupan mucho espacio en la refrigeradora

But my child doesn't like vegetables!

- Stir fry some vegetables



- Serve raw vegetables with dip
- Hide vegetables in casseroles, meat loaf and spaghetti sauce



- Top vegetables with cheese

Pero a mi niño no le gustan los vegetales!

- Freir algunos vegetales



- Servir vegetales crudos con dip
- Esconda vegetales en las sopas, albondigas y salsa de spaghetti



- Ponga queso encima de los vegetales

But they cost too much!

- Buy fresh vegetables when they are in season and cost less.



- Frozen and canned vegetables often cost less



- Buy vegetables instead of expensive snacks as chips and soda



Pero cuestan mucho!

- Compre vegetales frescos cuando estén en estación y cuesten menos.



- Vegetales congelados y enlatados cuestan menos



- Compre vegetales en vez de bocadillos caros como las papas fritas y gaseosas



But I don't know how to use them !

- Add lettuce and tomato to a sandwich



- Add raw broccoli or cauliflower to a salad



- Shred carrot or cabbage and mix with your favorite meatball recipe



- Bake quick breads with added vegetables in them



Pero no sé como usarlos !

- Agrega lechuga y tomate a tu sandwich



- Agrega brócoli o coliflor cruda a la ensalada



- Rallar zanahoria o col y mézclalos en tu receta de albondigas



- Hornea panecillos rápidos con vegetales



But I don't know how to use them !

- Serve raw vegetables with low calorie dip.

- Add chopped vegetables to rice and pasta.



- Add chopped vegetables to eggs or omelette.



- Add frozen and canned vegetables to canned soup for lunch



Pero no sé como usarlos !

- Sirve vegetales crudos con dip bajo en calorías.

- Agrega vegetales picados al arroz o a los fideos.



- Agrega vegetales picados a los huevos o omelette.



- Agrega vegetales congelados o enlatados a tu sopa.



But they take too long to prepare !



- Wash and store them ahead of time in containers, except for leafy greens



- Frozen and canned vegetables can be prepared quickly



Pero toman mucho tiempo prepararlos !



- Lava y guárdalos con anticipación en recipientes cerrados, menos lechuga y espinacas



- Vegetales congelados y enlatados pueden prepararse rápido



But others in the house won't eat them! They just go to waste

- The best way to make children eat more vegetables is for you to set the example



- Let your children help choose and fix vegetables



Pero en la casa no los comen! Se desperdician.

- La mejor manera de hacer que los niños coman más vegetales es dando el ejemplo

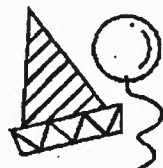


- Deje que su niño le ayude a escoger y preparar los vegetales



APPENDIX. I

**Recruitment materials: Fliers of the Control and Experimental Group
(English and Spanish versions)**



Family Night: Healthy snacking everyday!!!



Healthy snacks are important for young children.
We will give you some healthy snacks ideas.
Child care and refreshments will be provided.
The event will be in both English and Spanish.

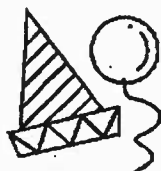


Time: 6:45 pm
Date: Thursday, February 13, 2003
Place: Kidco Head Start Program
Lincoln School



Presented by Ines Arroyo, OSU graduate student in
Nutrition and Food Management





Noche Familiar: Bocadillos Saludables todos los días!!!



Bocadillos saludables son importantes para su niño. Le daremos ideas para hacer bocadillos saludables.



Proporcionaremos guardería para su niño y refrescos. La presentación será dictada en Inglés y Español.



Hora: 6:45 pm

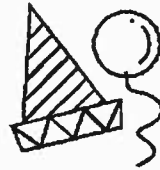
Día: Jueves 13 de Febrero, 2003

Lugar: Kidco Head Start Program

Colegio Lincoln



Presentado por Ines Arroyo, estudiante graduado de
Nutrición y Administración de Alimentos – OSU.



Family Night: Vegetables: A Healthy Harvest



Why is it important for children to eat vegetables? We will give you some ideas for encouraging your child to eat more vegetables.

Child care and refreshments will be provided.



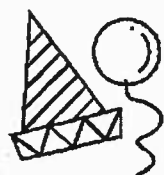
Time: 6:15 pm

Date: Thursday, February 20, 2003

Place: Kidco Head Start - Riverside



Presented by Ines Arroyo, OSU graduate student in
Nutrition and Food Management



Noche Familiar: Vegetales: Una Cosecha Saludable



Por qué es importante que su niño coma vegetales? Le daremos ideas para hacer que su niño coma más vegetales. Proporcionaremos guardería para su niño y refrescos. La presentación será dictada en Inglés y Español.



Hora: 6:15 pm

Dia: Jueves 20 de Febrero, 2003

Lugar: Kidco Head Start - Riverside



Presentado por Ines Arroyo, estudiante graduado de
Nutrición y Administración de Alimentos – OSU

APPENDIX. J

**Recruitment documents: Inform consent letter; inform consent statement and letter
for Kid-co Head Start parents of Control and Experimental Group
(English and Spanish versions)**

DEPARTMENT OF NUTRITION AND FOOD MANAGEMENT



OREGON STATE UNIVERSITY

108 Milam Hall - Corvallis, Oregon 97331-5103
Telephone 541-737-3561 Fax 541-737-6914

Letter of Consent

To: Kidco-Head Start Families at Lincoln School

We invite you to participate in a graduate student research project. Ines Arroyo an OSU graduate student in Nutrition and Food Management will teach Kidco-Head Start parents about healthy snacking at a family event.

We will ask you some questions about your child's vegetable consumption. This will take about 10 minutes; following the survey you will learn about healthy snacks.

We will ask for your phone number so we can call you in March for a 15-minute survey about foods that your child eats. The survey and other parts of the research will be available in both English and Spanish. Finally, your child will then learn about healthy foods in class and bring information home to you.

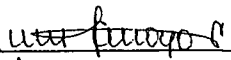
We would like your permission to look at the Food Record sheet that you completed when your child joined Kidco-Head Start. This information will help us to better understand the type of food that your child eats.

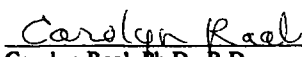
Your participation in our study is voluntary. If you choose not to participate, you will still receive educational material and your relationship with Kidco-Head Start will not be affected. It won't be a risk for you to answer the questions. You may choose not to answer questions that we will ask you. Your answers will help us to understand what your child eats.

Your answers will be kept confidential to the extent permitted by law. We won't list your name when we summarize the answers of all Kidco-Head Start parents in our study. Your responses, your name and phone number will be destroyed after the research has been completed.

If you have questions about your rights as a research subject, please contact the OSU Institutional Review Board (IRB) Human Protections Administrator at (541) 737-3437.

Sincerely,


Ines Arroyo
Graduate student researcher
Nutrition and Food Management
Oregon State University
Phone: (541)-754-6482 (evenings)


Carolyn Raab Ph.D., R.D.
Professor,
Nutrition and Food Management
Oregon State University
Phone: (541)-737-1019 (daytime)

OSU IRB Approval Date: 2/1/03
Approval Expiration Date: 2/1/04

Informed Consent Statement

I agree to participate in the "Healthy Snacking" research project. I understand that I will complete a form that lists my telephone number and asks questions about my child's vegetable consumption. I will receive information about healthy foods for my child's diet and I understand that I will receive a telephone call in March to talk about how I used the information that I have received.

I understand that I may withdraw from the study at any time, and that all the information received will be mine to keep.

My signature below indicates that I understand the procedures described above and give my informed and voluntary consent to participate in the study.

Name of participant (please print)

Signature of participant

(Date)

W. A. Duoye

Signature of student researcher

2/13/2003

(Date)

OSU IRB Approval Date: 2/1/03
Approval Expiration Date: 2/1/04

DEPARTMENT OF NUTRITION AND FOOD MANAGEMENT



OREGON STATE UNIVERSITY

108 Milam Hall · Corvallis, Oregon 97331-5103
Telephone 541-737-3561 Fax 541-737-6914

Carta de Consentimiento

Para: Familias de Kidco-Head Start de la Escuela Lincoln

Los invitamos a participar en un proyecto de un estudiante graduado. Ines Arroyo estudiante graduado en Nutrición y Administración de Alimentos de OSU enseñará a los padres de Kidco-Head Start sobre bocadillos saludables en un evento familiar.

Nosotros le haremos algunas preguntas acerca del consumo de vegetales de su niño. Esto nos tomará cerca de 10 minutos; después de la encuesta usted aprenderá acerca de bocadillos saludables.

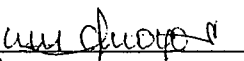
Le pediremos su número telefónico para llamarlo en Marzo para una encuesta de 15 minutos acerca de los alimentos que come su niño. La encuesta y otras partes de la investigación estarán disponibles en Inglés y Español. Finalmente, su niño aprenderá en clase sobre alimentos saludables y le llevará información a casa.

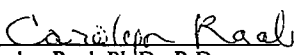
Quisiéramos su permiso para revisar la hoja de Registro de Alimentos que usted completó cuando su niño ingresó a Kidco-Head Start. Esta información nos ayudará a entender mejor el tipo de comida que su niño consume.

Su participación en nuestro estudio es voluntaria. Si usted decide no participar, usted igualmente recibirá material educativo y su relación con Kidco-Head Start no se verá afectada. Usted no sufrirá riesgo alguno al contestar nuestras preguntas. Usted podrá decidir si contesta o no las preguntas que le haremos. Sus respuestas nos ayudarán a entender que come su niño. Sus respuestas serán confidenciales como lo permite la ley. Nosotros no publicaremos su nombre, solo resumiremos todas las respuestas de los padres de Kidco-Head Start en nuestro estudio. Sus respuestas, nombres y número telefónico serán destruidos después de completado el estudio.

Si tiene alguna pregunta acerca de sus derechos como sujeto de estudio, favor de contactarse con el Administrador de Protección Humana del Consejo de Revisión Institucional OSU (IRB) al (541) 737-3437.

Sinceramente,


Ines Arroyo
Estudiante Graduado
Nutrición y Administración de Alimentos
Oregon State University
Teléfono: (541)-754-6482 (tardes)


Carolyn Raab Ph.D., R.D.
Professor,
Nutrición y Administración de Alimentos
Oregon State University
Teléfono: (541)-737-1019 (mañanas)

OSU IRB Approval Date: 2/1/03
Approval Expiration Date: 2/10/04

Declaración de Consentimiento

Yo acepto en participar en el proyecto "Bocadillos Saludables". He comprendido que debo completar la forma que pide mi número telefónico y responder preguntas acerca del consumo de vegetales en la dieta de mi niño. Yo recibiré información sobre alimentos saludables para la dieta de mi niño y comprendo que recibiré una llamada telefónica en Marzo para hablar acerca del uso de la información recibida.

Comprendo que puedo renunciar al estudio en cualquier momento y que toda la información que reciba será de mi pertenencia.

Mi firma indica que he comprendido todos los procedimientos descritos anteriormente y doy mi consentimiento voluntario para participar en el estudio.

Nombre del participante (letra imprenta)

Firma del participante

(Fecha)

Walter Quiroga

Firma del estudiante a cargo del estudio

2/13/2003

(Fecha)

OSU IRB Approval Date: 2/16/03
Approval Expiration Date: 2/16/04

DEPARTMENT OF NUTRITION AND FOOD MANAGEMENT



OREGON STATE UNIVERSITY
108 Milam Hall - Corvallis, Oregon 97331-5103
Telephone 541-737-3561 Fax 541-737-6914

Letter of Consent

To: Kidco-Head Start Families at Riverside

We invite you to participate in a graduate student research project. Ines Arroyo, an OSU graduate student in Nutrition and Food Management will teach Kidco-Head Start parents about ways to increase their child's vegetable consumption at a family event. Following this event, your child will then learn about vegetables in class and bring information home to you.

At the family event, we will ask you some questions about your child's vegetable consumption. This will take about 10 minutes; following the survey you will learn about ways to increase your child's vegetable consumption and sample varieties of vegetables.

We'll ask for your phone number so we can call you in March for a 15-minute survey about your use of the information that you will received. The survey and other parts of the research will be available in both English and Spanish.


We would like your permission to look at the Food Record sheet that you completed when your child joined Kidco-Head Start. This information will help us to better understand the types of food that your child eats.

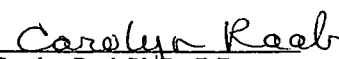
Your participation in our study is voluntary. If you choose not to participate, you will still receive educational material and your relationship with Kidco-Head Start will not be affected. It won't be a risk for you to answer the questions. You may choose not to answer questions that we will ask you. Your answers will help us to understand your child's vegetable consumption practices.

Your answers will be kept confidential to the extent permitted by law. Your name won't be on your questionnaire. We won't list your name when we summarize the answers of all Kidco-Head Start parents in our study. Your responses, your name and phone number will be destroyed after the research has been completed.

If you have questions about your rights as a research subject, please contact the OSU Institutional Review Board (IRB) Human Protections Administrator at (541) 737-3437.

Sincerely,


Ines Arroyo
Graduate student researcher
Nutrition and Food Management
Oregon State University
Phone: (541)-754-6482 (evenings)


Carolyn Raab Ph.D., R.D.
Professor,
Nutrition and Food Management
Oregon State University
Phone: (541)-737-1019 (daytime)

OSU IRB Approval Date: 2/11/03
Approval Expiration Date: 2/10/04

Informed Consent Statement

I agree to participate in the "Vegetables: A Healthy Harvest" research project. I understand that I will complete a form that lists my telephone number and asks questions about my child's vegetable consumption. I will receive information about vegetables and I understand that I will receive a telephone call in March to talk about how I used the information that I have received.

I understand that I may withdraw from the study at any time, and that all the information received will be mine to keep.

My signature below indicates that I understand the procedures described above and give my informed and voluntary consent to participate in the study.

Name of participant (please print)

Signature of participant

(Date)

Will Clayton

Signature of student researcher

2/20/2003

(Date)

OSU IRB Approval Date: 2/11/03
Approval Expiration Date: 2/11/04

DEPARTMENT OF NUTRITION AND FOOD MANAGEMENT



OREGON STATE UNIVERSITY

108 Milam Hall · Corvallis, Oregon 97331-5103
Telephone 541-737-3561 Fax 541-737-6914

Carta de Consentimiento

Para: Familias de Kidco-Head Start de Riverside

Los invitamos a participar en un proyecto de un estudiante graduado. Ines Arroyo estudiante graduado en Nutrición y Administración de Alimentos de OSU enseñará a los padres de Kidco-Head Start sobre maneras de aumentar el consumo de vegetales de su niño en un evento familiar. Posterior al evento, su niño aprenderá en clase acerca de vegetales y llevará información a casa.

En el evento familiar, nosotros le haremos algunas preguntas acerca del consumo de vegetales de su niño. Esto nos tomará cerca de 10 minutos; después de la encuesta usted aprenderá formas de incrementar el consumo de vegetales de su niño y degustará variedad de vegetales.

Le pediremos su número telefónico para una encuesta en Marzo de 15 minutos sobre el uso de la información recibida. La encuesta y otras partes del estudio estarán disponibles en Inglés y Español.

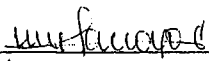
Quisiéramos su permiso para revisar la hoja de Registro de Alimentos que usted completó cuando su niño ingresó a Kidco-Head Start. Esta información nos ayudará a entender mejor el tipo de comida que su niño consume.

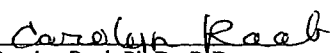
Su participación en el estudio es voluntaria. Si decide no participar, usted igualmente recibirá material educativo y su relación con Kidco-Head Start no se verá afectada. Usted no sufrirá riesgo alguno al contestar las preguntas. Usted podrá decidir si contesta o no las preguntas. Sus respuestas nos ayudarán a entender las prácticas de consumo de vegetales de su niño.

Sus respuestas serán confidenciales como lo permite la ley. Su nombre no estará en la encuesta. Nosotros no publicaremos su nombre, solo resumiremos todas las respuestas de los padres de Kidco-Head Start en nuestro estudio. Sus respuestas, nombres y número telefónico serán destruidos después de completado el estudio.

Si tiene alguna pregunta sobre sus derechos como sujeto de estudio, favor contactarse con el Administrador de Protección Humana del Consejo de Revisión Institucional OSU (IRB) al (541) 737-3437.

Sinceramente,


Ines Arroyo
Estudiante Graduado
Nutrición y Administración de Alimentos
Oregon State University
Teléfono: (541)-754-6482 (tardes)


Carolyn Raab Ph.D., R.D.
Professor,
Nutrición y Administración de Alimentos
Oregon State University
Teléfono: (541)-737-1019 (mañanas)

OSU IRB Approval Date: 2/1/03
Approval Expiration Date: 2/1/04

Declaración de Consentimiento

Yo acepto en participar en el proyecto "Vegetales: Una Cosecha Saludable". He comprendido que debo completar la forma que pide mi número telefónico y responder preguntas acerca del consumo de vegetales de mi niño. Yo recibiré información sobre vegetales y comprendo que recibiré una llamada telefónica en Marzo para hablar acerca del uso de la información recibida.

Comprendo que puedo renunciar al estudio en cualquier momento y que toda la información que reciba será de mi pertenencia.

Mi firma indica que he comprendido todos los procedimientos descritos anteriormente y doy mi consentimiento voluntario para participar en el estudio.

Nombre del participante (letra imprenta)

Firma del participante

(Fecha)

una dueno

Firma del estudiante a cargo del estudio

2/20/2003

(Fecha)

OSU IRB Approval Date: 2/11/03
Approval Expiration Date: 2/10/04

Dear Parents;

Vegetables are good for your family's health. The vitamins in vegetables keep your gums, skin, and eyes healthy. And eating vegetables can help to prevent illnesses such as heart disease and cancer. They are low in calories and tasty, too.

Is your Head Start child eating 3 serving of vegetables every day?

Young children need three servings of vegetables every day. Ines Arroyo, a graduate student in the Department of Nutrition and Food Management at Oregon State University, has been telling Head Start parents about ways to include vegetables in their child's diet.

The material in this bag gives you ideas for including broccoli and leafy greens in family meals. You could encourage your child to color the fruits and vegetables on the bag.

Enjoy!

Carolyn Raab
Extension Foods and Nutrition Specialist
Oregon State University

Queridos Padres;

Los vegetales son buenos para la salud de tu familia. Las vitaminas en los vegetales mantienen tus encías, piel y tejidos saludables. Comiendo vegetales puedes prevenir enfermedades como las cardíacas y el cancer. Son bajas en calorías y sabrosas también.

Está comiendo tu niño 3 porciones de vegetales cada día?

Los niños necesitan tres porciones de vegetales cada día. Ines Arroyo, una estudiante graduada del Departamento de Nutrición y Administración de Alimentos de Oregon State University, habló a los padres en Head Start acerca de maneras de incluir vegetales en la dieta de sus niños.

El material de la bolsa les dará ideas para incluir brócoli y espinacas en la comida de su familia. Usted puede hacer que su niño coloree las frutas y vegetales que aparecen en la bolsa.

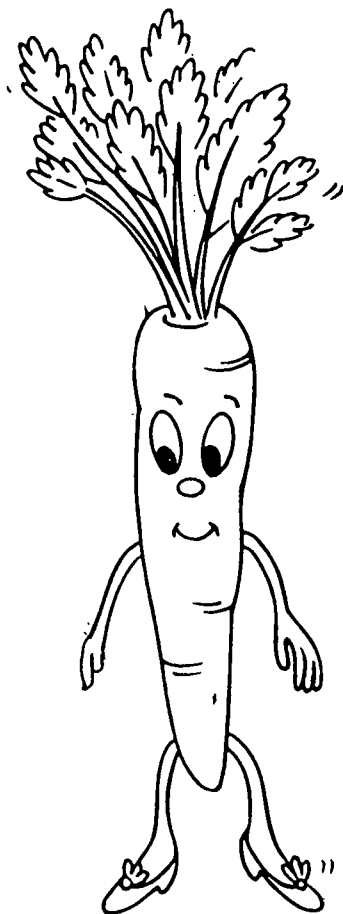
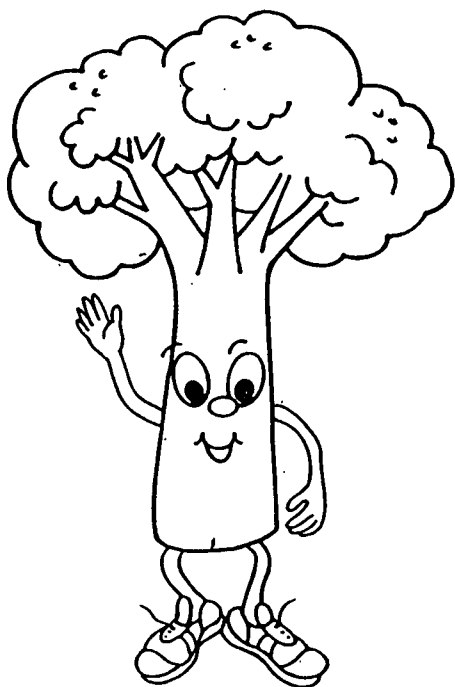
Disfrute!

Carolyn Raab
Especialista en Alimentos y Nutrición
Oregon State University

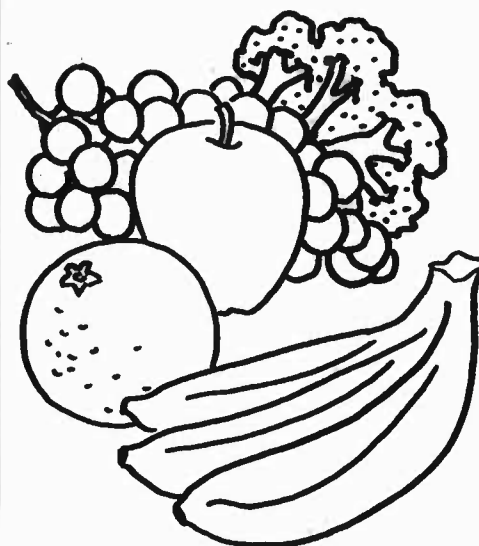


APPENDIX. K

Class activity materials: Broccoli and Carrot figures, and 5 A DAY Color Me Lunch Bag



What Color
Should They Be?



EAT 5 A DAY
for better health
www.5aday.com

APPENDIX. L

**Kid-co Head Start Food Record vegetables questions: Fall 2002
(New and old version/English and Spanish versions)**

Circle all foods in this column that your child has actually eaten in the last month	Mark the box that describes how often your child eats any food from each category				
VITAMIN C RICH VEGETABLES	My child eats vitamin C rich vegetables				
vegetables: asparagus, broccoli, brussel sprouts, cabbage, cauliflower, peppers, potato with skin, spinach, tomatoes, turnips	3 -4 times a day	1-2 times a day	3 -4 times a week	1-2 times a week	less than that
VITAMIN A RICH VEGETABLES	My child eats vitamin A rich vegetables				
vegetables: asparagus, broccoli, brussel sprouts, carrots, kale, mixed vegetables, pumpkin, spinach, squash, sweet potatoes, tomatoes	3 -4 times a day	1-2 times a day	3 -4 times a week	1-2 times a week	less than that
OTHER VEGETABLES	My child eats other vegetables				
artichokes, avocado, bean sprouts, beets, celery, corn, cucumbers, eggplant, green beans, lettuce, mushrooms, peas, potatoes, radishes, seaweed, turnips, zucchini	3 -4 times a day	1-2 times a day	3 -4 times a week	1-2 times a week	less than that

Marque los alimentos que su hijo/a haya comido en el ultimo mes.	Marque el casillero que mejor describa cuantas veces su hijo/a come de cada categoria				
VEGETALES RICOS EN VITAMINA C	Mi hijo/a come vegetales con vitamina C:				
vegetales: esparragos, brocoli, repollito de bruselas, repollo, coliflor, chiles, espinacas, tomate, papa con la cascara, nabos	3 -4 veces al dia	1-2 veces al dia	3 -4 veces semana	1-2 veces semana	menos que eso
VEGETALES RICOS EN VITAMINA A	Mi hijo/a come vegetales con vitamina A:				
vegetales: esparragos, brocoli, col de bruselas, zanahoria, col comun, vegetales mezclados, calabaza, espinaca, calabaza pequena, camote, tomate	3 -4 veces al dia	1-2 veces al dia	3 -4 veces semana	1-2 veces semana	menos que eso
OTROS VEGETALES	Mi hijo/a come otros vegetales:				
alcachofas, aguacate, betarragas, apio, elote, pepinos, berenjena, arveja, lechuga, hongos, papas, rabanito, algas, zucchini, nabos	3 -4 veces al dia	1-2 veces al dia	3 -4 veces semana	1-2 veces semana	menos que eso

Circle all foods in this column that your child has actually eaten in the last month	Mark the box that describes how often your child eats any food from each category		
VITAMIN C RICH VEGETABLES	My child eats vitamin C rich vegetables		
vegetables: asparagus, broccoli, brussel sprouts, cabbage, cauliflower, peppers, potato with skin, spinach, tomatoes, turnips	3 -4 times a day	1-2 times a day	less than that
VITAMIN A RICH VEGETABLES	My child eats vitamin A rich vegetables		
vegetables: asparagus, broccoli, brussel sprouts, carrots, kale, mixed vegetables, pumpkin, spinach, squash, sweet potatoes, tomatoes	3 -4 times a day	1-2 times a day	less than that
OTHER VEGETABLES	My child eats other vegetables		
artichokes, avocado, bean sprouts, beets, celery, corn, cucumbers, eggplant, green beans, lettuce, mushrooms, peas, potatoes, radishes, seaweed, turnips, zucchini	3 -4 times a day	1-2 times a day	less than that

Marque los alimentos que su hijo/a haya comido en el ultimo mes.	Marque el casillero que mejor describa cuantas veces su hijo/a come de cada categoria		
VEGETALES RICOS EN VITAMINA C	Mi hijo/a come vegetales con vitamina C:		
vegetales: esparragos, brocoli, repollito de bruselas, repollo, coliflor, chiles, espinacas, tomate, papa con la cascara, nabos	3 -4 veces al dia	1-2 veces al dia	menos que eso
VEGETALES RICOS EN VITAMINA A	Mi hijo/a come vegetales con vitamina A:		
vegetales: esparragos, brocoli, col de bruselas, zanahoria, col comun, vegetales mezclados, calabaza, espinaca, calabaza pequena, camote, tomate	3 -4 veces al dia	1-2 veces al dia	menos que eso
OTROS VEGETALES	Mi hijo/a come otros vegetales:		
alcachofas, aguacate, betarragas, apio, elote, pepinos, berenjena, arveja, lechuga, hongos, papas, rabanito, algas, zucchini, nabos	3 -4 veces al dia	1-2 veces al dia	menos que eso

APPENDIX. M**Data Tables**

Frequencies of responses: Pre-questionnaire (Control and Experimental Groups)

Frequencies of responses: Post-questionnaire (Control Group)

Frequencies of responses: Post-questionnaire (Experimental Group)

Percentages and frequencies of responses Kid-co Head Start Food Record 2002:

Control and Experimental Group combined (n=11)

Frequencies of responses: Pre-questionnaire (Control and Experimental Groups)

PREQ.1: Do you eat vegetables everyday?

PREQ.1 responses	Control Group (n=4)		Experimental Group (n=10)	
	Frequency	Percent	Frequency	Percent
Yes	2	50.0	7	70.0
No	2	50.0	3	30.0
No response	0	0.0	0	0.0
Total	4	100.0	10	100.0

PREQ1.a: If yes, how many times each day do you eat vegetables?

PREQ.1.a responses	Control Group (n=4)		Experimental Group (n=10)	
	Frequency	Percent	Frequency	Percent
1-2 times	2	50.0	6	60.0
3-4 times	2	50.0	1	10.0
More than 4	0	0.0	0	0.0
No response	0	0.0	3	30.0
Total	4	100.0	10	100.0

PREQ.3: Do you have frozen vegetables in your kitchen this week?

PREQ.3 responses	Control Group (n=4)		Experimental Group (n=10)	
	Frequency	Percent	Frequency	Percent
Yes	3	75.0	7	70.0
No	1	25.0	3	30.0
Don't know	0	0.0	0	0.0
Total	4	100.0	10	100.0

PREQ.4: Do you have canned vegetables in your kitchen this week?

PREQ.4 responses	Control Group (n=4)		Experimental Group (n=10)	
	Frequency	Percent	Frequency	Percent
Yes	3	75.0	9	90.0
No	1	25.0	1	10.0
Don't know	0	0.0	0	0.0
Total	4	100.0	10	100.0

PREQ.5: Does your Head Start child eat vegetables everyday-either at home or at school?

PREQ.5 responses	Control Group (n=4)		Experimental Group (n=10)	
	Frequency	Percent	Frequency	Percent
Yes	4	100.0	6	60.0
No	0	0.0	2	20.0
Don't know	0	0.0	2	20.0
Total	4	100.0	10	100.0

PREQ.6.a: Does your Head Start child eat vegetables for breakfast?

PREQ.6.a. responses	Control Group (n=4)		Experimental Group (n=10)	
	Frequency	Percent	Frequency	Percent
Yes	1	25.0	1	10.0
No	3	75.0	7	70.0
Don't know	0	0.0	1	10.0
No response	0	0.0	1	10.0
Total	4	100.0	10	100.0

PREQ.6.b: Does your Head Start child eat vegetables for lunch?

PREQ.6.b. responses	Control Group (n=4)		Experimental Group (n=10)	
	Frequency	Percent	Frequency	Percent
Yes	4	100.0	7	70.0
No	0	0.0	2	20.0
Don't know	0	0.0	1	10.0
Total	4	100.0	10	100.0

PREQ.6.c: Does your Head Start child eat vegetables for dinner?

PREQ.6.c. responses	Control Group (n=4)		Experimental Group (n=10)	
	Frequency	Percent	Frequency	Percent
Yes	4	100.0	9	90.0
No	0	0.0	1	10.0
Don't know	0	0.0	0	0.0
Total	4	100.0	10	100.0

PREQ.6.d: Does your Head Start child eat vegetables for snacks?

PREQ.6.d. responses	Control Group (n=4)		Experimental Group (n=10)	
	Frequency	Percent	Frequency	Percent
Yes	2	50.0	6	60.0
No	2	50.0	4	40.0
Don't know	0	0.0	0	0.0
Total	4	100.0	10	100.0

PREQ.7: How many times each day should your Head Start child eat vegetables for good health?

PREQ.7 responses	Control Group (n=4)		Experimental Group (n=10)	
	Frequency	Percent	Frequency	Percent
0	0	0.0	0	0.0
1	0	0.0	0	0.0
2	1	25.0	2	20.0
3	1	25.0	1	10.0
4	1	25.0	1	10.0
5	0	0.0	1	10.0
Don't know	1	25.0	5	50.0
Total	4	100.0	10	100.0

PREQ.8.a: Thing make it difficult to you to give vegetables to your child as often as you like: I can't get satisfactory vegetables

PREQ.8.a. responses	Control Group (n=4)		Experimental Group (n=10)	
	Frequency	Percent	Frequency	Percent
Yes	0	0.0	2	20.0
No	3	75.0	5	50.0
Sometimes	1	25.0	2	20.0
No response	0	0.0	1	10.0
Total	4	100	10	100

PREQ.8.b: Thing make it difficult to you to give vegetables to your child as often as you like: It takes too much time to prepare vegetables

PREQ.8.b. responses	Control Group (n=4)		Experimental Group (n=10)	
	Frequency	Percent	Frequency	Percent
Yes	0	0.0	1	10.0
No	3	75.0	8	80.0
Sometimes	1	25.0	0	0.0
No response	0	0.0	1	10.0
Total	4	100.0	10	100.0

PREQ.8.c: Thing make it difficult to you to give vegetables to your child as often as you like: I/We don't know how to prepare vegetables

PREQ.8.c. responses	Control Group (n=4)		Experimental Group (n=10)	
	Frequency	Percent	Frequency	Percent
Yes	1	25.0	1	10.0
No	2	50.0	8	80.0
Sometimes	1	25.0	0	0.0
No response	0	0.0	1	10.0
Total	4	100.0	10	100.0

PREQ.8.d: Thing make it difficult to you to give vegetables to your child as often as you like: Vegetables cost too much

PREQ.8.d. responses	Control Group (n=4)		Experimental Group (n=10)	
	Frequency	Percent	Frequency	Percent
Yes	0	0.0	1	10.0
No	4	100.0	4	40.0
Sometimes	0	0.0	4	40.0
No response	0	0.0	1	10.0
Total	4	100.0	10	100.0

PREQ.8.e: Thing make it difficult to you to give vegetables to your child as often as you like: My child doesn't like vegetables

PREQ.8.e. responses	Control Group (n=4)		Experimental Group (n=10)	
	Frequency	Percent	Frequency	Percent
Yes	0	0.0	2	20.0
No	0	0.0	3	30.0
Sometimes	4	100.0	4	40.0
No response	0	0.0	1	10.0
Total	4	100.0	10	100.0

PREQ.9: How confident are you that you can increase the amount of vegetables that your Head Start child eats?

PREQ.9 responses	Control Group (n=4)		Experimental Group (n=10)	
	Frequency	Percent	Frequency	Percent
Not confident	0	0.0	2	20.0
Somewhat confident	2	50.0	2	20.0
Quite confident	0	0.0	1	10.0
Very confident	2	50.0	5	50.0
No response	0	0.0	0	0.0
Total	4	100.0	10	100.0

PREQ.10.a: Information about vegetables: Newspaper/magazines

PREQ.10.a. responses	Control Group (n=4)		Experimental Group (n=10)	
	Frequency	Percent	Frequency	Percent
Yes	1	25.0	5	50.0
No	3	75.0	3	30.0
No response	0	0.0	2	20.0
Total	4	100.0	10	100.0

PREQ.10.b: Information about vegetables: Television/radio

PREQ.10.b. responses	Control Group (n=4)		Experimental Group (n=10)	
	Frequency	Percent	Frequency	Percent
Yes	1	25.0	4	40.0
No	3	75.0	5	50.0
No response	0	0.0	1	10.0
Total	4	100.0	10	100.0

PREQ.10.c: Information about vegetables: Friends/relatives

PREQ.10.c. responses	Control Group (n=4)		Experimental Group (n=10)	
	Frequency	Percent	Frequency	Percent
Yes	2	50.0	4	40.0
No	2	50.0	5	50.0
No response	0	0.0	1	10.0
Total	4	100.0	10	100.0

PREQ.10.d: Information about vegetables: Head Start/WIC and other programs

PREQ.10.d. responses	Control Group (n=4)		Experimental Group (n=10)	
	Frequency	Percent	Frequency	Percent
Yes	4	100.0	9	90.0
No	0	0.0	0	0.0
No response	0	0.0	1	10.0
Total	4	100.0	10	100.0

PREQ.10.e: Information about vegetables: I don't look for information

PREQ.10.e. responses	Control Group (n=4)		Experimental Group (n=10)	
	Frequency	Percent	Frequency	Percent
Yes	0	0.0	1	10.0
No	3	75.0	4	40.0
No response	1	25.0	5	50.0
Total	4	100.0	10	100.0

PREQ.11: Who has the major responsibility for the feeding of your Head Start child?

PREQ.11 responses	Control Group (n=4)		Experimental Group (n=10)	
	Frequency	Percent	Frequency	Percent
Father	0	0.0	2	20.0
Mother	4	100.0	5	50.0
Grandmother	0	0.0	1	10.0
Both, mother and step father	0	0.0	1	10.0
Mother and father	0	0.0	1	10.0
Don't know	0	0.0	0	0.0
Total	4	100.0	10	100.0

PREQ.12: How are you related to your Head Start child?

PREQ.12 responses	Control Group (n=4)		Experimental Group (n=10)	
	Frequency	Percent	Frequency	Percent
Father	0	0.0	0	0.0
Mother	4	100.0	9	90.0
Grandmother	0	0.0	1	10.0
Grandfather	0	0.0	0	0.0
Friend	0	0.0	0	0.0
Don't know	0	0.0	0	0.0
Total	4	100.0	10	100.0

PREQ.13: What is your age?

PREQ.13 responses	Control Group (n=4)		Experimental Group (n=10)	
	Frequency	Percent	Frequency	Percent
25	2	50.0	0	0.0
27	1	25.0	1	10.0
29	1	25.0	0	0.0
30	0	0.0	1	10.0
31	0	0.0	2	20.0
32	0	0.0	2	20.0
38	0	0.0	1	10.0
39	0	0.0	1	10.0
42	0	0.0	1	10.0
49	0	0.0	1	10.0
Total	4	100.0	10	100.0

PREQ.14: How many children under 18 live with you?

PREQ.14 responses	Control Group (n=4)		Experimental Group (n=10)	
	Frequency	Percent	Frequency	Percent
1	0	0.0	2	20.0
2	2	50.0	3	30.0
3	1	25.0	4	40.0
4	1	25.0	0	0.0
5	0	0.0	1	10.0
Total	4	100.0	10	100.0

PREQ.15: What are their ages?

PREQ.15 responses	Control Group (n = 4)		Experimental Group (n = 10)	
	Frequency	Percent	Frequency	Percent
15	0	0.0	1	4.0
14	0	0.0	1	4.0
13	0	0.0	1	4.0
12	0	0.0	1	4.0
10	0	0.0	2	8.0
8	0	0.0	4	16.0
7	0	0.0	1	4.0
6	0	0.0	1	4.0
5	4	36.4	4	16.0
4	3	27.3	6	24.0
3	0	0	0	0.0
2	2	18.2	3	12.0
1	0	0	0	0.0
9 months	1	9.1	0	0.0
7 months	1	9.1	0	0.0
Total	11	100.0	25	100.0

PREQ.16: How would you describe your race?

PREQ.16 responses	Control Group (n=4)		Experimental Group (n=10)	
	Frequency	Percent	Frequency	Percent
American Indian, Alaska native	0	0.0	0	0.0
Asian or pacific islander	0	0.0	0	0.0
Black	0	0.0	0	0.0
White	1	25.0	7	70.0
Hispanic	3	75.0	3	30.0
Total	4	100.0	10	100.0

PREQ.17: How would you describe your ethnicity?

PREQ.17 responses	Control Group (n=4)		Experimental Group (n=10)	
	Frequency	Percent	Frequency	Percent
Hispanic	3	75.0	3	30.0
Not of Hispanic origin	1	25.0	7	70.0
No response	0	0.0	0	0.0
Total	4	100.0	10	100.0

PREQ.18: What language do you usually speak at home?

PREQ.18 responses	Control Group (n=4)		Experimental Group (n=10)	
	Frequency	Percent	Frequency	Percent
English	1	25.0	7	70.0
Spanish	2	50.0	2	20.0
English / Spanish	1	25.0	1	10.0
Total	4	100.0	10	100.0

PREQ.19: How many years have you attended school?

PREQ.19 responses	Control Group (n=4)		Experimental Group (n=10)	
	Frequency	Percent	Frequency	Percent
6 yrs	1	25.0	1	10.0
7-11 yrs	1	25.0	3	30.0
High school degree	0	0.0	2	20.0
Trade school	0	0.0	1	10.0
Some college	1	25.0	2	20.0
College graduate	1	25.0	1	10.0
Total	4	100.0	10	100.0

Frequencies of responses: Post-questionnaire (Control Group)

POSTQ.1: Did you made any change in your type of snacks?

POSTQ.1 responses	Frequency	Percent
Yes	1	25.0
No	3	75.0
No response	0	0.0
Total	4	100.0

POSTQ5: How many times each day should your Head Start child ear vegetables for good health?

POSTQ.5 responses	Frequency	Percent
0	0	0.0
1	0	0.0
2	2	50.0
3	0	0.0
4	2	50.0
5	0	0.0
Don't know	0	0.0
Total	4	100.0

POSTQ.6: How confident are you to increase the amount of vegetable that your child eats?

POSTQ.6 responses	Frequency	Percent
Not confident	0	0.0
Somewhat confident	1	25.0
Quite confident	0	0.0
Very confident	3	75.0
No response	0	0.0
Total	4	100.0

Frequencies of responses: Post-questionnaire (Experimental Group)

POSTQ.4: How many times each day should your Head Start child eat vegetables for good health?

POSTQ.4 responses	Frequency	Percent
1	1	10.0
2	1	10.0
3	4	40.0
4	3	30.0
Don't know	1	10.0
Total	10	100.0

POSTQ.5: Have you tried to give more vegetables to your Head Start child since the family night program?

POSTQ.5 responses	Frequency	Percent
Yes	9	90.0
No	1	10.0
No Response	0	0.0
Total	10	100.0

POSTQ.6: Did you prepare one of the cabbage recipes that you received at the family night?

POSTQ.6 responses	Frequency	Percent
Yes	2	20.0
No	8	80.0
No Response	0	0.0
Total	10	100.0

POSTQ.6.a: If no, in what other way did you use the cabbage?

POSTQ.6.a responses	Frequency	Percent
Coleslaw	2	20.0
Soup	1	10.0
Own recipe	5	50.0
No Response	0	0.0
Missed response	2	20.0
Total	10	100.0

POSTQ.7: Did you receive the bag of materials on that your child brought home from Head Start after the family night?

POSTQ.7 responses	Frequency	Percent
Yes	9	90.0
No	1	10.0
Not sure	0	0.0
Total	10	100

POSTQ.7.a: If yes, have you read them?

POSTQ.7.a responses	Frequency	Percent
Yes	6	60.0
No	1	10.0
Not yet	2	20.0
No Response	0	0.0
Missed response	1	10.0
Total	10	100.0

POSTQ.7.b: If yes, did you prepare either of the broccoli recipes?

POSTQ.7.b responses	Frequency	Percent
Yes	2	20.0
No	1	10.0
Not yet	6	60.0
No Response	0	0.0
Missed response	1	10.0
Total	10	100.0

POSTQ.7.c: If yes, did you do the activities with your child?

POSTQ.7.c responses	Frequency	Percent
Yes	2	20.0
No	1	10.0
Not yet	6	60.0
No Response	0	0.0
Missed response	1	10.0
Total	10	100.0

POSTQ.8: Has your head start child eaten more vegetables since the family night?

POSTQ.8 responses	Frequency	Percent
Yes	4	40.0
No	4	40.0
Not yet	2	20.0
No Response	0	0.0
Total	10	100.0

POSTQ.9: How confident are you to increase the amount of vegetable that your child eats?

POSTQ.9 responses	Frequency	Percent
Not confident	0	0.0
Somewhat confident	3	30.0
Quite confident	3	30.0
Very confident	4	40.0
Total	10	100.0

POSTQ.10: Things make difficult to give more vegetables

POSTQ.10 responses	Frequency	Percent
Nothing	3	30.0
Child won't eat	1	10.0
Not enough time	3	30.0
Not enough energy to cook	2	20.0
Don't know how to prepare	1	10.0
Total	10	100.0

POSTQ.11: Has our educational material helped you to interact more with your Head Start child about vegetables?

POSTQ.11 responses	Frequency	Percent
Yes	10	100.0
No Response	0	0.0
Total	10	100.0

POSTQ11.a: Have you prepare vegetables together?

POSTQ11.a responses	Frequency	Percent
Yes	8	80.0
No	2	20.0
No Response	0	0.0
Total	10	100.0

POSTQ11.b: Have you let your child choose a vegetable at the grocery store?

POSTQ.11.b responses	Frequency	Percent
Yes	6	60.0
No	4	40.0
No Response	0	0.0
Total	10	100.0

POSTQ.11.c: Other ways to interact with your child

POSTQ.11.c responses	Frequency	Percent
Recognize the vegetables by its name	1	10.0
No response	9	90.0
Total	10	100.0

POSTQ.12: Has our vegetable information helped you to save time when you prepare vegetables?

POSTQ.12 responses	Frequency	Percent
Yes	2	20.0
No	1	10.0
Not sure	7	70.0
No Response	0	0.0
Total	10	100.0

POSTQ.13: Has our vegetable information helped you to save money when you buy vegetables?

POSTQ.13 responses	Frequency	Percent
Yes	9	90.0
Not sure	1	10.0
No Response	0	0.0
Total	10	100.0

POSTQ.14: Has our vegetable information helped you to prepare vegetables for your Head Start child?

POSTQ.14 responses	Frequency	Percent
Yes	7	70.0
Not sure	3	30.0
No Response	0	0.0
Total	10	100.0

POSTQ.15: Do you think other Head Start parents would like the information you received about vegetables?

POSTQ.15 responses	Frequency	Percent
Yes	8	80.0
Not sure	2	20.0
No Response	0	0.0
Total	10	100.0

**Percentages and frequencies of responses Kid-co Head Start Food Record 2002:
Control and Experimental group combined (n=11)**

Vegetables	Control and experimental Group combined (n = 11) %(N)				
	3 -4 times a day	1-2 times a day	3 -4 times a week	1-2 times a week	less than that
VITAMIN C RICH VEGETABLES					
vegetables: asparagus, broccoli, brussel sprouts, cabbage, cauliflower, peppers, potato with skin, spinach, tomatoes, turnips	0.0(0)	27.3(3)	54.5(6)	9.1(1)	9.1(1)
VITAMIN A RICH VEGETABLES					
vegetables: asparagus, broccoli, brussel sprouts, carrots, kale, mixed vegetables, pumpkin, spinach, squash, sweet potatoes, tomatoes	0.0(0)	36.4(4)	36.4(4)	27.3(3)	0.0(0)
OTHER VEGETABLES					
artichokes, avocado, bean sprouts, beets, celery, corn, cucumbers, eggplant, green beans, lettuce, mushrooms, peas, potatoes, radishes, seaweed, turnips, zucchini	0.0(0)	54.5(6)	45.4(5)	0.0(0)	0.0(0)