HOMESTYLES EXPRESS: A TELEPHONE COUNSELING-BASED CHILDHOOD OBESITY PREVENTION INTERVENTION FOR PARENTS OF PRESCHOOL-AGED CHILDREN

by

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ABSTRACT OF THE THESIS

HomeStyles Express: A Telephone Counseling-Based Childhood Obesity Prevention Intervention for Parents of Preschool-Aged Children

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The HomeStyles Express Program is a childhood obesity prevention intervention for parents of preschool aged children that incorporates Pediatric Weight Management Evidence-Based Nutrition Practice Guidelines from the Academy of Nutrition and Dietetics, formerly the American Dietetic Association. Participants (n=54) were female (100%), white (80%), and college graduates with a bachelor's degree or higher (82%). Participants were assigned into either the control (n=29) or treatment (n=25) groups and completed a baseline survey and follow-up survey online. Between the surveys, the treatment group participants received 1 of 8 different HomeStyles Guides approximately 1 week apart by email and spent about 15 minutes each week in a telephone counseling session with a trained dietetics/nutrition researcher. Participants in the treatment group of the HomeStyles Express Program reported significantly increased confidence for getting their children to eat fruits and vegetables and for buying healthy foods over time, as well as significantly greater physical activity levels for themselves and for their children and significantly fewer minutes per day of screentime for themselves over time. Participants rated the HomeStyles instructional Guides and the trained dietetics/nutrition researchers

highly. The HomeStyles Express Program was well received by participants and has the potential to assist mothers and their children in making weight-related parental and child cognitive and behavioral changes.

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CHAPTER ONE

INTRODUCTION

Obesity is a multifaceted and complex chronic disease defined for adults as having excess body fat with a body mass index (BMI) greater than 30 kg/m^2.[1,2] According to the Centers for Disease Control and Prevention, the prevalence of obesity among adults in the United States was 39.8% between 2015 and 2016.[3,4] Obesity is associated with many health risks, including high blood pressure, dyslipidemia, coronary heart disease, type 2 diabetes, cancers, osteoarthritis, and sleep apnea.[1] The medical spending associated with obesity and its comorbidities in the United States is estimated to be $147 billion annually.[5]

Obesity is also prevalent among American youth. Obesity among children is defined as a BMI greater than the 95^{th} percentile for children of the same age and gender.[6] Between 2015 and 2016, 18.5% of children between the ages of 2 to 19 years old, and 13.9% of preschool-aged children between the ages of 2 to 5 years old were obese.[3,4] Similar to adults, obesity in childhood is associated with multiple health consequences, including hyperlipidemia and glucose intolerance.[6] Obese children are also at increased risk for being obese during adulthood.[6] In addition to the physical health risks associated with obesity, social consequences such as discrimination and decreased socialization related to lower self-esteem are associated with obesity.[6]

The prevalence of obesity among American youth between 1999 to 2000 and 2015 to 2016 increased significantly.[3,4] There is an urgent need for interventions that target obesity prevention for children and adolescents. In 2007 and 2015, the Academy of

Nutrition and Dietetics (AND), formerly the American Dietetic Association, released Pediatric Weight Management Evidence-Based Nutrition Practice Guidelines providing major recommendations for the development of interventions aimed at the treatment of childhood obesity.[7,8] These guidelines were developed following a systematic review to summarize the existing evidence-based practice for pediatric weight management by nutrition professionals.[7,8]

Major recommendations from the AND include the inclusion of family participation in the development of obesity prevention interventions.[7,8] Parents play a crucial role in supporting the health and well-being of children as role models for their children's behavior and through their impact on the home environment.[9] Parents establish children's dietary and physical activity practices that influence lifelong behaviors to either foster or prevent overweight and obesity.[7] Existing pediatric obesity prevention programs incorporating parental participation are commonly associated with positive weight-related outcomes.[7,8,10] However, these programs are few, and more opportunities are needed to provide parents with the information, skills, and motivation they need to help their children grow up at healthy weights.

The HomeStyles Project was developed by experts in health and child development at Rutgers University, the University of Arizona, and Prevent Child Abuse New Jersey as a way to provide parents of preschool-aged children with the information, skills, and motivation they need to make changes to their behaviors, lifestyles, and home environments to support healthy body weights for their children.[11] The HomeStyles Project was developed with 12 easy-to-read Guides that provide evidenced-based

information on a range of nutrition and health-related topics including family mealtimes, portion sizes, food selectivity, fruit and vegetable intake, screentime, physical activity, and sleep.[11] In regards to the development of pediatric weight management programs, the AND recommends multi-component interventions that, in addition to diet and nutrition education, incorporate family-based behavioral modifications, such as through the use of Cognitive Behavioral Therapy.[7,12] For this reason, the HomeStyles project also incorporates behavior change strategies into the Guides derived from the Social Cognitive Theory, Motivational Interviewing, and Faith's Core Behavior Change Strategies.[11]

The HomeStyles Project was designed for parents to work independently through the Guides over the course of 15 to 18 months, which would permit ample time for behavior change and permit researchers to track child growth. A study of this length is a challenge for most families and is costly to implement. It is prudent to determine whether lifestyle changes associated with obesity prevention could be facilitated in less time. Thus, the purpose of this study was to determine whether a time-compressed version, called the HomeStyles Express Program, coupled with regular telephone counseling sessions could assist parents in making changes to their weight-related cognitions and behaviors, and the weight-related behaviors of their children.

CHAPTER TWO

REVIEW OF LITERATURE

This review of literature describes recommendations for childhood obesity prevention set by the Academy of Nutrition and Dietetics (AND), formerly the American Dietetic Association, as part of the 2007 and 2015 Pediatric Weight Management Evidence-Based Nutrition Practice Guidelines, as well as the use of telephone counseling in interventions targeting health behaviors. The following sections discuss each childhood obesity prevention recommendation, evidence to support its role in the prevention of childhood obesity, and the use of telephone counseling in targeting health behaviors.

CHILDHOOD OBESITY PREVENTION RECOMMENDATIONS

The prevalence of childhood obesity in the United States increased significantly between 1999 to 2000 and 2015 to 2016.[3,4] Obese children are at risk for multiple health and social consequences.[6] Effective obesity prevention interventions that target overweight and obese children and adolescents are vital for reducing the prevalence of obesity in the United States.

In 2007 and 2015, the AND released the Pediatric Weight Management Evidence-Based Nutrition Practice Guidelines for the assessment, treatment, monitoring and evaluation of childhood obesity.[7,8] These guidelines have been developed by a panel of experts appointed by the AND following a systematic review of the literature on childhood obesity. These evidence-based recommendations should be used by healthcare professionals and incorporated during the development of interventions targeting

childhood obesity. The following recommendations were made as part of the 2007 and 2015 Pediatric Weight Management Evidence-Based Nutrition Practice Guidelines.

Calorically sweetened beverages

Rates of overweight and obesity have been associated with increased rates of carbohydrate consumption, largely in the form of added sugars.[13] The consumption of added sugars has also been associated with increased rates of health consequences including cardiovascular disease and diabetes.[14] Although the percentage of total energy intake from added sugars in the United States decreased between 1990 to 2000 and 2007 to 2008 from 18% to 15%,[14] these estimates remain higher than key recommendations from the United States Department of Agriculture (USDA) 2015-2020 *Dietary Guidelines for Americans*.[15] These recommendations encourage individuals to consume less than 10 percent of calories per day from added sugars.[15]

The percentage of total energy intake from added sugar among children from 2005 to 2008 was 13.5% among preschool-aged boys and 13.1% among preschool-aged girls, 16.6% among 6 to 11 year old boys and 15.7% among 6 to 11 year old girls, and 17.5% among 12 to 19 year old boys and 16.6% among 12 to 19 year old girls.[16] Approximately 40% of these calories from added sugars can be attributed to beverage consumption.[16] Welsh et al. found the largest contributors of added sugars among children ages 2 to 5 years old to be calorically sweetened fruit-flavored drinks and sports drinks, and among children 6 to 19 years old non-diet sodas, or all carbonated beverages with added sugar.[17]

The AND Pediatric Weight Management Evidence-Based Nutrition Practice Guidelines includes the intake of calorically-sweetened beverages as one of the foods associated with pediatric overweight and obesity and recommends they be limited in children's diets.[7,8] Numerous studies support this recommendation and have found positive correlations between the consumption of sugar-sweetened beverages and increased BMI-for-age among children and adolescents.[17-19] The AND concludes that the intake of calorically-sweetened beverages is positively related to adiposity in children and that interventions targeting the treatment and/or prevention of pediatric obesity should include diet and nutrition education that helps to limit intake of calorically sweetened beverages.[7]

Family feeding behaviors

Inappropriate family feeding behaviors may be associated with an increased risk of childhood obesity.[7] Studies have provided evidence to support the finding that parents who attempt to control or restrict how much their children eat may impede children's inherent ability to regulate their own dietary intake, ignoring their internal hunger and satiety cues, especially when they are exposed to palatable foods that have been restricted in the past.[20,21] Children may become preoccupied with obtaining these restricted foods, exhibiting diminished self-control when finally allowed to make their own food choices.[20,21] This inability of children to regulate their own food intake has been associated with greater body fat stores,[20,21] so it is recommended that parents offer only healthy foods to their children, while allowing children to decide how much to eat.[22]

The AND Pediatric Weight Management Evidence-Based Nutrition Practice Guidelines includes family influence, such as parental control over child dietary intake and parental restriction of highly palatable foods,[23,24] as a factor associated with pediatric overweight and obesity.[7,8] Positive feeding practices should be taught to children from a young age to help children maintain healthy body weights throughout their lives and should be included during the development of programs focusing on the treatment and prevention of childhood obesity.

Breakfast skipping

The regular consumption of breakfast has been associated with many positive health benefits for children and adolescents, including the increased intake of essential nutrients[25,26] and lower body mass index compared to those who skip breakfast frequently.[26-28] Evidence indicates that individuals who regularly skip breakfast often fail to meet recommended daily intakes for calcium, vitamin C, folate, vitamin A, and magnesium when compared to those who eat breakfast regularly.[29] Cross-sectional data analysis from the National Health and Nutrition Examination Survey 1999-2006 found that among children aged 9 to 13 years and adolescents aged 14 to 18 years, 20% of children and 31.5% of adolescents regularly skipped breakfast.[27]

The AND Pediatric Weight Management Evidence-Based Nutrition Practice Guidelines includes breakfast skipping as a factor that may be associated with increased adiposity among children and adolescents.[7,8] Diet and nutrition education that emphasizes the importance of routine breakfast consumption should be incorporated during the

development of interventions targeting the treatment and/or prevention of pediatric obesity.

Portion sizes

The 2015-2020 Dietary Guidelines for Americans provide general recommendations regarding portion sizes for food groups such as ½ cup for cooked vegetables, beans, and fresh fruits, ¾ cup fruit juice, 1 slice of bread, ½ cup cooked rice or pasta, 6 ounces yogurt, and 3 ounces of protein.[15,30] Portion sizes of packaged and processed food items purchased in the United States have grown to exceed these standard portion recommendations set by the United States Department of Agriculture.[31,32] According to the National Institutes of Health, over the past few decades, the portion sizes of many commonly consumed food items has doubled, and even tripled in certain cases.[33] For example, 20 years ago a 6.5 ounce portion of soda providing 82 calories was commonly consumed, whereas now that portion is closer to 20 ounces providing 250 calories.[33] A bagel measuring 3" and providing 140 calories, is now more often 6" in diameter providing 350 calories.[33] Increased sizes of food portions have often been associated with increased energy consumption and obesity among children.[34,35,36]

The AND Pediatric Weight Management Evidence-Based Nutrition Practice Guidelines includes increased portion size as a factor that may be associated with increased adiposity among children and adolescents.[7,8] Nutrition education that instructs parents regarding how to serve recommended and age-appropriate food portion sizes to children and adolescents should be included as part of pediatric obesity treatment and/or prevention programs.

Dairy and calcium

The United States Department of Agriculture has set a daily recommendation of 2 cups of dairy for children between the ages of 2 to 3 years old, 2½ cups of dairy for children 4 to 8 years old, and 3 cups daily for adolescents between the ages of 9 to 18 years old.[37] Data analyzed from the 2001–2004 National Health and Nutrition Examination Survey indicated that 41% of children ages 2 to 3, 42% of children ages 4 to 8, 68% of males ages 9 to 13, 84% of females ages 9 to 13, 68% of males ages 14 to 18, and 92% of females ages 14 to 18 do not meet these recommended intakes of dairy.[38] Higher intakes of calcium and dairy products have been associated with lower body fat in children.[39,40]

The AND Pediatric Weight Management Evidence-Based Nutrition Practice Guidelines includes calcium intake as a factor that may be associated with increased adiposity among children and adolescents.[7,8] Pediatric obesity treatment and/or prevention programs should include nutrition education that encourages parents to offer their children calcium-rich dairy products over sugar-sweetened, energy dense beverage options.

Sedentary behaviors

A multinational study, conducted by the World Health Organization, found that the average number of hours school-aged children between the ages of 11-15 years spent participating in screentime behaviors, which includes both television watching and computer use, increased overall between 2002 and 2010.[41] Total daily screentime for boys and girls between 2002 and 2010 exceeded recommendations set by the American

Academy of Pediatrics that children should be limited to 2 hours or less of sedentary screentime daily.[42] Recommendations for preschool children (i.e., ages of 2 to 5 years) have been set even lower at 1 hour or less per day.[43] Screentime has been positively associated with adiposity and additional risk factors of metabolic syndrome, such as insulin resistance, among children.[44-46]

The AND Pediatric Weight Management Evidence-Based Nutrition Practice Guidelines includes excessive sedentary behaviors, such as television viewing, as a factor that may be associated with obesity among children and adolescents.[7,8] Pediatric obesity treatment and/or prevention programs should include nutrition education that encourages parents to limit screentime to less than 2 hours daily, so that children and adolescents may spend more time participating in physical activities.

Physical activity

Recommendations for physical activity have been set by the U.S. Department of Health and Human Services at 60 minutes daily of structured or unstructured physical activity, such as active playtime during recess, for children between the ages of 6 to 18 years old.**[47]** Recommendations for children between the ages of 3 and 5 years have been set by the National Association for Sport and Physical Education at 60 minutes of unstructured physical activity, in addition to 60 minutes of structured physical activity.**[48]** Low levels of physical activity have been associated with increased weight gain and overweight status among children and adolescents.**[49,50]** According to results of an analysis of the 2003-2004 National Health and Nutritional Examination Survey, only 42% of

children between the ages of 6 to 11 years and 8% of children between the ages of 12 to 15 years met physical activity recommendations on at least 5 days of the week.[51]

The AND Pediatric Weight Management Evidence-Based Nutrition Practice Guidelines includes inadequate physical activity as a factor that may be associated with obesity among children and adolescents.[7,8] Pediatric obesity treatment and/or prevention programs should include nutrition education that encourages families to engage in more structured physical activity and unstructured active playtime to support healthy body weights.

Eating out

Mealtimes are an important time for children to develop healthy eating habits by modeling the behaviors of their family.[52,53] Eating meals alone and eating foods outside of the home have been associated with an increased consumption of total energy, sugar, and fat, as well as obesity among children and adolescents.[52,54,55] Between the years 1977 to 1978 through 2003 to 2006, the contribution of total energy consumption among children and adolescents between the ages of 2 to 18 years old from fast-food restaurants increased from 2% to 13 % and from sit-down restaurants increased from 1% to 5%.[53]

The AND Pediatric Weight Management Evidence-Based Nutrition Practice Guidelines includes eating out as a factor that may be associated with obesity among children and adolescents.[7,8] Pediatric obesity treatment and/or prevention programs should include nutrition education that encourages families to eat meals together so that children and adolescents maintain healthy weights, while developing healthful eating behaviors for life.

Fruit and vegetable intake

The United States Department of Agriculture has set a daily recommendation of 1 cup of fruit and 1 cup of vegetables for children between the ages of 2 to 3 years old, 1½ cups of fruit and 1½ cups of vegetables for children 4 to 8 years old, and 1½ to 2 cups of fruit and 2 to 3 cups of vegetables daily for adolescents 9 to 18 years old.[56,57] Results of the National Health and Nutrition Examination Survey between the years 2007 to 2010 indicate that among children aged 1 to 18 years, 60% did not meet these recommendations for fruit and 93% did not meet these recommendations for vegetables.[58] Some evidence indicates that the consumption of fruits and vegetables may be negatively associated with overweight status and percent body fat.[59,60]

The AND Pediatric Weight Management Evidence-Based Nutrition Practice Guidelines includes intake of fruits and vegetables as a factor that may be inversely associated with obesity among children and adolescents.[7,8] Pediatric obesity treatment and/or prevention programs should include nutrition education that encourages families to eat fruits and vegetables more regularly.

TELEPHONE COUNSELING

Studies have found that the inclusion of telephone counseling in interventions targeting health behavior change has proven successful in helping participants to make weight, dietary, and physical activity changes.[61-63] Compared with traditional face-to-face counseling, telephone counseling has been found to be equally effective in promoting desired intervention outcomes.[64-67] Telephone counseling has received attention for being

inexpensive, anonymous, and convenient for clients.[68] Telephone counseling has also been found to lower rates of attrition.[64]

CHAPTER THREE

METHODOLOGY

This study was approved by the Rutgers Institutional Review Board. All participants gave informed consent (Appendix A).

PURPOSE

The purposes of this study were to:

- describe the characteristics of parents who participated in an eight session, telephone counseling-based childhood obesity prevention intervention.
- determine the effect of the intervention on parental weight-related cognitions and behaviors.
- determine the effect of the intervention on children's weight-related behaviors.
- determine the satisfaction and acceptance of parents with the intervention.

SAMPLE

From July 2014 to November 2015, individuals were recruited to complete an online eligibility screener. To be eligible, participants had to be between 20 and 45 years of age, be the primary food gatekeeper for the household, be the parent of at least one child between the ages of 2 to 7 years old, have access to email and telephone, and speak English. Participants were recruited through the HomeStyles Randomized Controlled Trial. Eligibility criteria for the HomeStyles Randomized Controlled Trial included residency in New Jersey or Arizona, so participants that lived in other states within the

United States were given the opportunity to participate in HomeStyles Express. In addition, participants were recruited specifically for this study.

Participants were recruited by spoken communication and announcements that were placed on websites and sent electronically to workplaces and civil, religious, community, and parent groups that were preschool/school-based. Recruitment materials are in Appendix B.

STUDY DESIGN

Participants were assigned into the control or treatment group by alternating subjects between one group and the other. Both groups completed the baseline survey and follow-up survey online. Between the surveys, the treatment group participants received 1 of 8 different HomeStyles Guides approximately 1 week apart by email and spent about 15 minutes each week in a telephone counseling session with a trained dietetics/nutrition researcher. After completing the follow-up survey, the control group received the Guides and had an opportunity to chat with a trained researcher. Participants gave informed consent and were given a chance to win 1 of 10 $50 prizes.

INTERVENTION

The HomeStyles Express intervention included instructional HomeStyles Guides and telephone counseling sessions. The instructional Guides were developed based on childhood obesity prevention topics recommended by the Academy of Nutrition and Dietetics' (American Dietetic Association's) Evidence-Based Guidelines for Pediatric Weight Management.[7,8] Key behavior change strategies were also incorporated in the

HomeStyles Guides, as it has been shown that successful pediatric weight management interventions target behavior change, in addition to diet/nutrition and physical activity.[7,8]

Instructional Guides Theory and Strategies

Each of the 8 4-page HomeStyles Guides used in this study takes parents approximately 15 minutes to review. The Guides provide simple ideas from experts and parents for making small changes to home environments and lifestyle patterns that help children grow up at a healthy weights.[11] All of these Guides were developed based on an extensive literature review and findings from focus groups with parents of preschool children which explored parental perceptions of the Guide topics.[11]

The HomeStyles Guides were developed using Social Cognitive Theory and Faith's Core Behavior Change Strategies to Treat Childhood Obesity.[69,70,71] Social Cognitive Theory and Faith's Core Behavior Change Strategies support the idea that learning occurs with a dynamic interaction between a person's characteristics, their environment, and their behavior.[69,70,71] For example, parents can make small changes to their home environments that can help reduce the risk of excessive weight gain in their children. The behavior change strategies used in the Guides help parents focus on what is most important when trying to make changes, which includes having the knowledge necessary to make a change, believing that a change will result in the desired outcome, valuing the desired outcome, having self-confidence in the ability to make a change, seeing examples of how others have been successful in making changes, and setting goals to change behaviors.[11]

The HomeStyles Guides also were developed using Adult Learning Theory, which states that adults learn differently from children.[72] Adults are internally motivated, goal-oriented, and draw from life experience when learning new things.[72] When parents are given opportunities to reflect on their past and make decisions about why certain behavioral changes may benefit themselves and their families, they are more successful in meeting goals.[11]

Motivational interviewing principles were also incorporated into the HomeStyles Guides. Motivational interviewing uses an encouraging, nonjudgmental, and empathetic approach, along with the use of open-ended questions, reflective listening, and affirmation to help individuals explore barriers to change and set goals.[73] Patient or, in the case of HomeStyles Express, "parent" centered techniques and strategies help parents reflect on changes, resolve ambivalence, and ultimately implement these changes to raise healthier children.[11]

Instructional Guide Components

Each Guide has 7 sections. The first section titled, *Here's What the Experts Say*, presents evidence-based research supporting the obesity-prevention behaviors promoted in the Guide. The second section, *Kids Copy Their Parents,* reminds parents that they are their children's most important role models and that kids do many of the same things that they see their parents doing. This is based on the concept of observational learning, part of Social Cognitive Theory, in which new behaviors are learned through exposure to interpersonal displays of them.[69,71] In the *Take a Minute* section, Adult Learning Theory is incorporated as parents take the opportunity to reflect on past experiences to determine

why the lifestyle and behavioral changes discussed in the Guide may be important to them personally, and how they can use the Guide to make healthy changes for their family.[72] This section also incorporates motivational interviewing by having parents rate, on a scale from 1 to 10, how important a certain behavior is to them. In addition to exploring importance, parents are also asked to reflect on why they gave a particular rating, and what would have to be different for them to rate the behavior with higher importance. The section called *Here's What Other Parents Are Saying* provides quick tips and easy ideas that other families have used to achieve goals. This section employs concepts of the Social Cognitive Theory including increasing self-efficacy, or improving parental confidence in the ability to meet goals, and facilitating change, by encouraging positive outcome expectations and providing examples of how other families have been successful in making similar changes.[69,71] In the *Even More* section, additional tips and ideas are provided to help parents make changes to their home environments and lifestyles. The *Goal Setting* section helps parents set small, attainable goals to improve their home environments, lifestyles, and family health. This section incorporates constructs of the Social Cognitive Theory including self-efficacy, outcome expectations, facilitation, and especially self-regulation, or the use of goal-setting to make behavioral changes.[69,71] This section encourages families to choose easy goals first in order to improve their confidence in their ability to make a positive change. This section also employs motivational interviewing principles by giving parents the opportunity to assess how confident they are in their ability to successfully meet their goal by rating their confidence on a scale from 1 to 10.[73] Finally, the *Remember* section provides a summary

of the Guide, and uses the Social Cognitive Theory construct of self-efficacy by reminding families to set small, attainable goals.[69,71] Families are also reminded how important the changes they are making will be for the health of their family.

Instructional Guide Content

The content of each Guide focuses on one childhood obesity prevention food/nutrition or physical activity topic from the Academy of Nutrition and Dietetics' (American Dietetic Association's) Evidence-Based Guidelines for Pediatric Weight Management.[7,8] The Guides were distributed one at a time in the order shown below. Parents assigned to the treatment group received the Guides by email. Subsequent Guides were sent only after parents completed the telephone counseling session for the previous Guide.

- *Fuss Free Eating:* this Guide helps parents introduce nutritious foods to their children through the use of positive feeding practices. Goals of the Guide include reducing mealtime tantrums and teaching kids to enjoy eating more nutrient dense foods.[11] Teaching children positive feeding practices, such as by offering only healthy foods and allowing kids to decide how much to eat, helps kids maintain healthier weights.[20,21,22,23,24]
- *Best Drinks for Families*: this Guide helps families opt for healthier beverages, such as water and milk, while learning to limit sugary drink intake. High intakes of sugar-sweetened beverages are associated with increased body fat among children and adolescents.[17-19]

- *Breakfast the Right Start*: this Guide helps families make eating breakfast a regular habit. Eating breakfast, especially a cereal breakfast, helps children maintain healthier body weights.[26-28]
- *Right Sizing Portions*: this Guide helps parents serve age-appropriate food portion sizes. Large portions can lead to overeating and weight gain, whereas age-appropriate portions help kids grow normally and keep weights healthy.[34-36]
- *Family Mealtimes*: this Guide describes the benefits of eating together and helps families have positive family meals. Family mealtimes allow parents to teach their kids about healthy eating so that kids maintain a healthy weight as they get older.[52,53]
- *Fabulous Fruits and Veggies*: this Guide helps families to eat more fruits and vegetables. Children and adolescents who eat more fruits and vegetables tend to have healthier body weights.[59,60]
- *Play More Sit Less:* this Guide helps parents limit their children's daily screentime to less than 2 hours a day, while spending more time playing actively as a family. Too much screentime can result in kids getting too little physical activity and increases their risk for overweight and obesity.[44-46]
- *Time to Play*: this Guide helps families have more active playtime and physical activity. Children and adolescents with low levels of physical activity are more likely to have unhealthy body weights.[49,50]

Study Timeline

After completion of the informed consent and baseline survey, an initial email was sent to participants in the treatment group to schedule their first telephone counseling session. If the participant did not respond or call within 72 hours, a second email reminder was sent. This was continued for 3 attempts, at which time it was assumed that the participant declined to participate further.

Once the first telephone counseling session was scheduled, an email confirmation was sent, along with a PDF of the first HomeStyles Guide. The telephone counseling session was scheduled for at least 1 week from the date that the PDF of the HomeStyles Guide was sent to allow families adequate time to read the Guide and begin to make changes based on the Guide content to their homes and lifestyles.

Counseling sessions were similarly scheduled for all 8 Guides for a total of 8 counseling sessions. There was one additional follow-up scheduled at week 10 for counseling session 8. Many participants needed to reschedule at various times, which was permitted beyond the 10 weeks for as long as a participant was corresponding and still interested in participating in the program. After all Guides and counseling sessions were completed, treatment group participants were invited to complete the follow-up survey.

Control group participants also completed the informed consent and baseline survey. They received weekly emails, reminding them when the follow up survey would be sent. Approximately 10 weeks after they completed the baseline survey, the control group participants were invited to complete the follow-up survey. Once the survey was completed, they were sent all 8 Guides and given the opportunity to schedule a

counseling session.

Telephone Counseling Sessions

Each telephone counseling session lasted approximately 15 minutes and was conducted by a trained dietetics/nutrition researcher. To ensure that a uniform protocol was followed during all telephone counseling sessions by research personnel, each researcher was trained to follow scripts that were developed for each Guide (Appendix C). These scripts incorporated motivational interviewing strategies and were based on recommendations from the Academy of Nutrition and Dietetics' (American Dietetic Association's) Evidence-Based Guidelines for Pediatric Weight Management[7,8] to include behavior change strategies in addition to diet/nutrition and physical activity concepts.

Motivational interviewing strategies were used during telephone counseling sessions to help families make changes to their home environments and lifestyles. The scripts mirrored the organization of the Guides themselves and were divided into these four steps:

- In Step 1, the researcher assessed current parent behaviors related to the Guide topic and potential barriers to change so that they could successfully guide parents in setting realistic and attainable goals. Before the session, the researcher prepared by reviewing parent responses on the baseline survey pertinent to the Guide that would be discussed in the session. For example, for the *Fuss Free Eating* Guide, baseline responses related to the parent's use of food rewards were reviewed. If the parent already engaged in the activity at baseline, the researcher was

instructed to say, “You stated in the survey that you do participate in [these] habits with your family. What are you doing after you have read the Guide?” If the parent did not report engaging in the activity at baseline, the researcher was instructed to say, “I’m glad you are participating in this Guide so that we can discuss [these] habits and why they are beneficial for you and your family to include in your daily routine.” Researchers were instructed to provide or elicit positive feedback for current positive behaviors and neutral feedback for behaviors that needed improvement. Researchers also helped assess importance and explore potential barriers to change using the *Take A Minute* portions of the Guides.

- In Step 2, the researcher asked the parent to reflect on the *Here’s What Other Parents Are Saying* section in the Guide and report his or her thoughts, such as whether the parent felt that the other families were experiencing challenges similar to his or her own and how the parent might incorporate tips and ideas from other parents into their own lives. Parents benefit and gain confidence when they see examples of how other families were able to successfully meet goals.[69,70] Open-ended and probing questions such as, “Do you think these families were experiencing similar challenges to yours?” and “How will you use their ideas to get your whole family to follow [these] behaviors?” were used to help individuals explore barriers to change and set goals.
- In Step 3, the researcher helped parents assess their motivation and confidence, or self-efficacy, with regard to the changes suggested in the Guides. Parents were

asked to think about possible goals related to the Guide that they may want to work on that week with their families. They were asked to rate how confident they were that their family could achieve the goals they set for that week. The researcher worked with the parent to set a goal the parent felt confident about achieving.

- In Step 4, the researcher summarized or restated the final goal set by the parent for the week, as well as helped the parent to brainstorm necessary steps to accomplish the goal.
- At the start of the subsequent counseling session, the parent's goal from the previous Guide was revisited. Parents were asked if they were successful in accomplishing their goal. If they reported "yes" the researcher asked how they were able to accomplish their goal. If they reported "no" the researcher asked what would need to change in the future so that they could accomplish their goal. The goal of revisiting previous goals was to improve self-efficacy by helping parents to reflect on ways that they can successfully meet their goals in the future.

INSTRUMENT

Participants completed the same online survey at baseline and follow-up. The survey used was originally developed for the HomeStyles Project.[11] The survey was comprised of valid, reliable scales and is described in detail elsewhere.[74] This section will briefly summarize the components of the survey pertinent to this study.

Component 1: Maternal Demographics and Health Status

This section of the survey collected demographic characteristics (e.g., age, race/ethnicity, educational level, employment status, food insecurity level, and family affluence level), BMI, weight status, and health status of participants. Health status was assessed using the Centers for Disease Control and Prevention's Health-Related Quality of Life questionnaire.[75,76]

Component 2: Family Meals and Mealtime Behaviors

This section of the survey assessed the family meal and child feeding behaviors of participants. These behaviors included how often family meals are eaten[77] and where family meals are typically consumed, such as at fast food restaurants, at home in front of the television, at home at the kitchen or dining room table, or in the car.[78-80] This section also includes scales to determine media device use during meals.[74,79,81] These scales are listed in Table 1.

Component 3: Maternal Feeding Practices

This section of the survey assessed parental feeding practices such as overt and covert control of child food intake,[82-87] pressure placed on children to eat,[87] use of food and non-food rewards,[82-84] and restriction of child food choices.[87] These scales are listed in Table 2.

Component 4: Participants' Self-Efficacy for Childhood Obesity Prevention Behaviors

This section of the survey assessed components of the Social Cognitive Theory among participants. Table 3 shows the scales included which focused on self-efficacy, or

confidence in their ability to meet goals, and outcome expectations for making health-related changes to their lifestyles and home environments.[88]

Table 1: Family Meals and Mealtime Behaviors

Scale Name	Number of Items	Answer Choices	Possible Score Range
Family Meal frequency/week[77]	3	0–7 days for breakfast, lunch, dinner; score is sum of 3 meals	0 to 21
Family Meal Location[78-80]			
In Car (days/week)	1	0-7 days	0-7
At Fast Food Restaurant (days/week)	1	0-7 days	0-7
At Dining Table (days/week)	1	0-7 days	0-7
In Front of TV (days/week)	1	0-7 days	0-7
Media Device Use at Family Meals (days/week)[74,79,81]	1	0-7 days	0-7
TV Use at Family Meals & Snacking Occasions (days/week)[74,79,81]	1	0-7 days	0-7
Family Meals are Planned[89]	2	5-point agreement rating[A]	1-5

[A]5-point Agreement Rating: strongly disagree, disagree, neither agree nor disagree, agree, strongly agree

Table 2: Maternal Feeding Practices

Scale Name	Number of Items	Answer Choices	Possible Score Range
Covertly Controls Child Food Intake[82-87]	1	5-point agreement rating[A]	1-5
Overtly Controls Child Food Intake[82-87]	4	5-point agreement rating[A]	1-5
Overtly Controls When Child Eats[82-87]	2	5-point agreement rating[A]	1-5
Pressures Child to Eat[87]	3	5-point agreement rating[A]	1-5
Uses Non-food Rewards[82,84]	2	5-point frequency rating[B]	1-5
Uses Food Rewards[82,84]	3	5-point frequency rating[B]	1-5
Restricts Child Food Choices[87]	2	5-point agreement rating[A]	1-5

[A]5-point Agreement Rating: strongly disagree, disagree, neither agree nor disagree, agree, strongly agree.
[B]5-point Frequency Rating: never, rarely, sometimes, most of the time, always.

Table 3: Mothers' Self-Efficacy for Childhood Obesity Prevention Behaviors

Scale Name	Number of Items	Answer Choices	Possible Score Range
Self-efficacy for keeping child's weight healthy[88]	1	5-point confidence rating[A]	1-5
Self-efficacy for letting child decide what to eat at meals[88]	1	5-point confidence rating[A]	1-5
Self-efficacy for getting child to eat breakfast[88]	1	5-point confidence rating[A]	1-5
Self-efficacy for getting child to eat fruits and vegetables[88]	1	5-point confidence rating[A]	1-5
Self-efficacy for getting child to drink fewer sugary drinks[88]	1	5-point confidence rating[A]	1-5
Self-efficacy for helping child to not overeat[88]	1	5-point confidence rating[A]	1-5
Self-efficacy for getting child to be physically active[88]	1	5-point confidence rating[A]	1-5
Self-efficacy for limiting child time with media devices[88]	1	5-point confidence rating[A]	1-5
Self-efficacy for limiting child screentime[88]	1	5-point confidence rating[A]	1-5
Self-efficacy for separating TV watching and eating[88]	1	5-point confidence rating[A]	1-5
Self-efficacy for getting child enough sleep[88]	1	5-point confidence rating[A]	1-5
Self-efficacy for engaging in moderate physical activity most days[88]	1	5-point confidence rating[A]	1-5
Self-efficacy for engaging in vigorous physical activity most days[88]	1	5-point confidence rating[A]	1-5
Self-efficacy for avoiding weight gain themselves[88]	1	5-point confidence rating[A]	1-5
Self-efficacy for buying healthy foods[88]	1	5-point confidence rating[A]	1-5

[A]5-point Confidence Rating: not at all confident, not confident, confident, quite confident, very confident.

Component 5: Physical Activity and Sedentary Time

This section of the survey assessed maternal and child physical activity level[81,90,91] and total screentime in minutes/day.[74,92] This section also assessed the value placed on physical activity for self and for child by participants.[93,94] These scales are listed in Table 4.

Component 6: Dietary Intake

This section of the survey assessed maternal and child dietary intake including daily servings of milk, fruit/vegetable juice, and sugar-sweetened beverages.[95-100] These scales are listed in Table 5.

DATA ANALYSIS

The aims of this study were to describe the characteristics of participants in a eight session, telephone counseling-based childhood obesity prevention intervention, as well as the effect of the intervention on maternal and child weight-related cognitions and behaviors, and participant satisfaction. The first step required for this study was to divide participants based on their categorization in the study: treatment and control. The second step was to calculate descriptive statistics (i.e., means and standard deviations) to describe the maternal demographic characteristics, family meals and mealtime behaviors, maternal feeding practices, maternal self-efficacy for childhood obesity prevention behaviors, physical activity and sedentary time, dietary intake, and for participants in the treatment group, their evaluation of Guide topic importance, participant confidence and success for meeting goals, treatment group's ratings of Guides reviewed and dietetics/nutrition researcher, average length of time between counseling sessions,

Table 4: Physical Activity and Sedentary Time

Scale Name	Number of Items	Answer Choices	Possible Score Range
Maternal Physical Activity Level[81,90,91]	3	8-point exercise scale[A]	0-42
Child Physical Activity Level[81,90,91]	3	8-point exercise scale[A]	0-42
Maternal Screentime (minutes/day)[74,92]	1	Minutes/day	0-1440
Child Screentime (minutes/day)[74,92]	1	Minutes/day	0-1440
Maternal Value Placed on Physical Activity for Self[93,94]	2	5-point agreement rating[B]	1-5
Maternal Value Placed on Physical Activity for Child[93,94]	2	5-point agreement rating[B]	1-5

[A]8-point Exercise Scale Days/week: 0, 1, 2, 3, 4, 5, 6, and 7.

[B]5-point Agreement Rating: strongly disagree, disagree, neither agree nor disagree, agree, strongly agree.

Table 5: Dietary Intake

Scale Name	Number of Items	Answer Choices	Possible Score Range
Maternal Milk (servings/day)[95-100]	1	9-point servings drank scale[A]	0-8
Child Milk (servings/day)[95-100]	1	9-point servings drank scale[A]	0-8
Maternal Fruit/Vegetable Juice (servings/day)[95-100]	2	9-point servings drank scale[A]	0-2.3
Child Fruit/Vegetable Juice (servings/day)[95-100]	2	9-point servings drank scale[A]	0-2.3
Maternal Sugar-Sweetened Beverages (servings/day)[95-100]	4	9-point servings drank scale[A]	0-4.6
Child Sugar-Sweetened Beverages (servings/day)[95-100]	2	9-point servings drank scale[A]	0-2.3

[A]9-point Beverage Servings Rating: <1 time/week, 1 day/week, 2 days/week, 3 days/week, 4 days/week, 5 days/week, 6 days/week, 7 days/week, >1 time/day

and average length of time to complete counseling sessions. The third step was to conduct t-tests to determine differences over time (i.e., from baseline to follow-up) for each study group separately. The fourth step was to conduct analysis of covariance (ANCOVA) to determine differences between treatment and control groups at follow-up controlling for baseline scores. Probability level was set at $p<0.05$.

Content Analysis of Counseling Sessions

Notes from the HomeStyles Express counseling sessions were analyzed by a researcher trained in qualitative content analysis.[101] Common themes were identified using standard methods[102] based on the responses of participants corresponding to questions asked by the trained dietetics/nutrition researcher during sessions. The most common themes were identified for each Guide regarding what behaviors participants were engaging in after reading the Guide, why they felt the Guide content was helpful for their families, and the final goals they set for their families.

CHAPTER FOUR

RESULTS

The purpose of this study was to determine the effect of the HomeStyles Express Program, coupled with regular telephone counseling sessions with a trained dietetics/nutrition researcher, on participants' lifestyles and behaviors associated with child obesity prevention. The effect of the intervention on parent and child weight-related cognitions and behaviors, as well as program satisfaction and acceptance, were explored. It was hypothesized that the 10-week HomeStyles Express Program intervention would permit ample time for weight-related parental and child cognitive and behavioral changes, and that the program would be well received by participants.

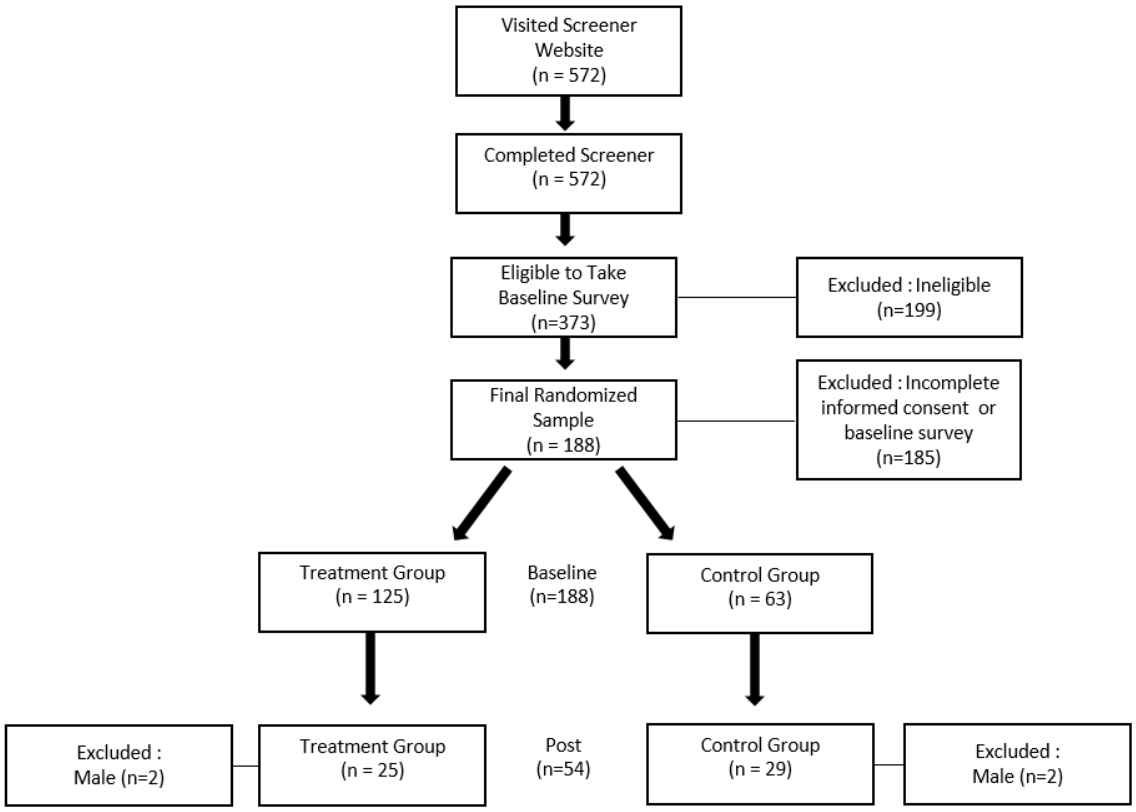
Sample

As seen in Figure 1, all of the 572 individuals who visited the screener website completed the screener. Of those participants who completed the screener, 199 were excluded due to not meeting one or more eligibility criteria (i.e., between 20 and 45 years of age, the primary food gatekeeper for the household, parent of at least 1 child between the ages of 2 to 7 years old, regular access to email and telephone, and speak English). Of the eligible participants, 188 completed the informed consent and the survey.

Participants were systematically assigned to treatment or control group as they signed up. However, the participant dropout rate within the treatment group was higher than expected.

Thus, to ensure adequate statistical power, once recruitment goals for the control group were met, all additional participants signing up for the study were assigned to the

Figure 1: Recruitment Study Sample



treatment group (n=125). This high rate of participant dropout was largely due to participant inability to commit to the weekly telephone counseling sessions due to competing interests. Fathers (n=4) were eliminated from the data set because there were too few male respondents and previous research indicates fathers have different behaviors than mothers.[103] A total of 54 participants completed the follow-up survey, of which 25 were in the treatment group and 29 in the control group.

Maternal Demographic Characteristics

Table 6 reports the demographic characteristics of participants. Participants in this study were 35.04±5.20SD years old and were primarily White (80%). They were predominately college educated (82%) with few having only some post-secondary education (13%). Most participants worked full-time (44%) or did not work (35%), with fewer working part-time (20%). Participants were also of moderate affluence and had low food insecurity risk. Participants reported that they had few days of poor physical and mental health. Additionally, most participants had a BMI that classified their weight status as normal (59%) or overweight (24%), and few obese (17%).

Family Meals and Mealtime Behaviors

Overall, Table 7 reports that participants had more than 13 meals each week as a family. Participants reported that about half of the family meals were eaten at a dining table.

Table 6: Maternal Demographic Characteristics, N=54

Characteristic	Total Sample (N=54) Mean±SD or N (%)	Treatment (n=25) Mean±SD or N (%)	Control (n=29) Mean±SD or N (%)	t-test* *p*
Age (years)	35.04±5.20	35.60±4.92	34.55±5.47	0.462
BMI	25.04±5.35	24.16±3.55	25.79±6.49	0.268
Weight Status				0.120
Underweight (BMI <18.5)	1 (1.9%)	1 (4.0%)	0 (0.0%)	
Normal weight (BMI 18.5 to 25)	32 (57.4%)	13 (52.0%)	18 (62.1%)	
Overweight (BMI 25 to <30)	13 (24.1%)	9 (36.0%)	4 (13.8%)	
Obese (BMI 30 to <35)	6 (11.1%)	2 (8.0%)	4 (13.8%)	
Obese (BMI ≥ 35)	3 (5.6%)	0 (0.0%)	3 (10.3%)	
Race/Ethnicity				0.276
White, non-Hispanic	43 (79.6%)	19 (76.0%)	24 (82.8%)	
Hispanic	4 (7.4%)	3 (12.0%)	1 (3.4%)	
Black, non-Hispanic	2 (3.7%)	1 (4.0%)	1 (3.4%)	
Asian Indian	1 (1.9%)	0 (0.0%)	1 (3.4%)	
Asian	2 (3.7%)	0 (0.0%)	2 (6.9%)	
Mixed	2 (3.7%)	2 (8.0%)	0 (0.0%)	
Education Level				0.163
High school	3 (5.6%)	2 (8.0%)	1 (3.4%)	
Some post-secondary education (college or technical school)	7 (13.0%)	1 (4.0%)	6 (20.7%)	
Bachelor's degree or higher	44 (81.5%)	22 (88.0%)	22 (75.9%)	
Maternal Paid Employment (hours/week)				0.772
Do not work	19 (35.2%)	9 (36.0%)	10 (34.5%)	
<30 hours/week	11 (20.4%)	6 (24.0%)	5 (17.2%)	
≥30 hours/week	24 (44.4%)	10 (40.0%)	14 (48.3%)	
Family Affluence Level[A]	6.24±1.61	6.20±1.71	6.28±1.56	0.391
Food Insecurity Level[B]	1.29±0.58	1.24±0.50	1.33±0.64	0.578
Health Related-Quality of Life[C]	2.52±3.82	1.81±3.06	3.13±4.32	0.199

*t-test indicate significant ($p<0.05$) differences between treatment/control group.
[A]Possible score range = 0 to 9; higher score indicates greater family affluence.
[B]Possible score range = 1 to 4; higher score indicates greater food insecurity.
[C]Possible score range = 0 to 30; higher score indicates poorer physical and mental health.

Table 7: Family Meals and Mealtime Behaviors, N=54

Scale Name	Baseline		Follow-up		t-test Treatment Pre vs. Post	t-test Control Pre vs. Post	ANCOVA
	Treatment (n=25)	Control (n=29)	Treatment (n=25)	Control (n=29)			
	Mean±SD	Mean±SD	Mean±SD	Mean±SD	*p**	*p**	*p#*
Family Meal frequency/week[A]	13.16±5.18	13.86±4.44	13.84±4.40	14.35±4.65	0.286	0.608	0.911
Family Meal Location							
At Dining Table (days/week)	6.20±1.61	6.10±1.86	6.44±1.16	5.90±1.74	0.265	0.483	0.121
In Car (days/week)	0.32±0.90	0.14±0.74	0.08±0.28	0.07±0.26	0.136	0.537	0.656
At Fast Food Restaurant (days/week)	0.44±0.92	0.17±0.47	0.36±0.57	0.07±0.26	0.574	0.083	0.047#
In Front of TV (days/week)	0.84±1.52	0.72±1.58	0.48±1.12	0.69±1.56	0.059	0.924	0.456
Media Device Use at Family Meals (days/week)	1.00±1.94	0.90±1.72	1.08±1.94	0.72±1.56	0.817	0.455	0.423
TV Use at Family Meals & Snacking Occasions (days/week)	1.80±2.40	2.35±2.62	1.32±2.06	1.41±2.15	0.090	0.009*	0.483
Family Meals are Planned[B]	3.89±0.86	3.78±0.93	4.05±0.71	3.75±0.93	0.294	0.739	0.153

*t-test indicate significant ($p<0.05$) differences between baseline to follow-up.

#ANCOVA indicate significant ($p<0.05$) main effects between treatment follow-up and control follow-up controlling for baseline scores.

[A]8-point Family meals/week: 0, 1, 2, 3, 4, 5, 6, and 7 days/week. Breakfast, lunch, and dinner scores are summed to create scale score; higher scale score indicates greater expression of trait. Possible score range = 0 to 21.

[B]5-point Agreement Rating: strongly disagree, disagree, neither agree nor disagree, agree, strongly agree. Higher score indicates greater expression of trait. Possible score range = 1 to 5.

Less than 2 family meals each week were eaten in less healthy locations, such as the car, at fast food restaurants, and in front of the television. Additionally, participants reported that media device (i.e., computer, tablet, video game, smart phone, or electronic educational device) use during family meals averaged 1 day or less each week. Television was watched during meals and snacking occasions about 2 days each week. Participants in the control and treatment groups also agreed that meals were planned.

Paired t-tests revealed that participants in the control group reported significantly less frequent use of TV at meal times over time (baseline vs. follow-up). No additional significant differences over time within treatment or control at follow-up were found, however both groups tended to lower their frequency of family meals in unhealthy locations, with the control group reporting fewer meals at fast food restaurants and the treatment group eating fewer meals in front of the television. ANCOVA with baseline scores as the covariate revealed no differences between the study groups (i.e., treatment and control) for any family meal behavior except frequency of eating family meals at fast food restaurants, with the control group's decline exceeding those of the treatment group.

Maternal Feeding Practices

Overall, Table 8 reports that participants tended to covertly control child food intake but were neutral regarding overt control of child food intake and when children eat. Participants disagreed that they pressured children to eat but agreed that they restricted children's food choices. Participants tended to not reward children for eating.

Table 8: Maternal Feeding Practices, N=54

Scale Name	Baseline		Follow-up		t-test Treatment Pre vs. Post	t-test Control Pre vs. Post	ANCOVA
	Treatment (n=25)	Control (n=29)	Treatment (n=25)	Control (n=29)			
	Mean±SD	Mean±SD	Mean±SD	Mean±SD	*p**	*p**	*p#*
Covertly Controls Child Food Intake[A]	4.04±1.08	3.76±1.35	3.92±1.18	3.72±1.33	0.622	0.894	0.846
Overtly Controls Child Food Intake[A]	2.71±0.76	2.44±0.74	2.54±0.77	2.33±0.77	0.228	0.361	0.805
Overtly Controls When Child Eats[A]	3.34±0.87	3.72±0.73	3.22±1.00	3.72±0.86	0.620	1.000	0.189
Pressures Child to Eat[A]	2.09±0.93	1.90±0.79	1.81±0.73	1.99±0.97	0.131	0.523	0.170
Restricts Child Food Choices[A]	3.84±1.02	3.31±1.09	3.66±0.93	3.14±1.24	0.376	0.386	0.413
Uses Non-food Rewards[B]	1.98±0.92	2.16±0.99	2.30±1.00	2.40±1.11	0.069	0.310	0.959
Uses Food Rewards[B]	2.04±0.90	1.94±0.65	1.97±0.79	1.98±0.73	0.468	0.708	0.509

*t-test indicate significant ($p<0.05$) differences between baseline to follow-up.

#ANCOVA indicate significant ($p<0.05$) main effects between treatment follow-up and control follow-up controlling for baseline scores.

[A]5-point Agreement Rating: strongly disagree, disagree, neither agree nor disagree, agree, strongly agree. Higher score indicates greater expression of trait. Possible score range = 1 to 5.

[B]5-point Frequency Rating: never, rarely, sometimes, most of the time, always. Higher score indicates greater expression of trait. Possible score range = 1 to 5.

Paired t-tests revealed no significant differences across time for either the treatment or control group. ANCOVA with baseline scores as the covariate revealed no significant differences in maternal feeding practices between the study groups.

Mothers' Self-Efficacy for Childhood Obesity Prevention Behaviors

Results in Table 9 show that participants reported high confidence for keeping children's weight healthy, letting children decide what to eat at meals, getting children to eat breakfast, getting children to eat fruits and vegetables, getting children to drink fewer sugary drinks, helping children not to overeat, getting children to be physically active, limiting children's time with media devices, limiting children's screentime, separating television watching and eating, getting children enough sleep, engaging in moderate physical activity on most days, avoiding weight gain, and buying healthy food. Participants reported moderate-high confidence for avoiding weight gain themselves, and moderate confidence for engaging in vigorous physical activity on most days.

Paired t-tests revealed that participants in the treatment group reported significantly increased confidence for getting their children to eat fruits and vegetables and for buying healthy foods over time. No differences over time occurred in the control group. ANCOVA with baseline scores as the covariate also revealed a significant difference between groups in participants' self-efficacy for getting their children to eat fruits and vegetables and for buying healthy foods, with the treatment group reporting increased confidence for both traits.

Table 9: Mothers' Self-Efficacy for Childhood Obesity Prevention Behaviors, N=54

Scale Name	Baseline		Follow-up		t-test Treatment Pre vs. Post	t-test Control Pre vs. Post	ANCOVA
	Treatment (n=25)	Control (n=29)	Treatment (n=25)	Control (n=29)			
	Mean±SD	Mean±SD	Mean±SD	Mean±SD	*p**	*p**	*p#*
Self-efficacy for keeping child's weight healthy[A]	4.04±1.02	4.14±0.92	4.20±0.91	4.34±0.90	0.356	0.110	0.655
Self-efficacy for letting child decide how much to eat at meals[A]	3.80±1.26	3.86±0.95	4.08±1.08	4.00±1.07	0.215	0.403	0.630
Self-efficacy for getting child to eat breakfast[A]	4.64±0.81	4.45±0.95	4.96±0.20	4.69±0.60	0.073	0.199	0.051
Self-efficacy for getting child to eat fruits and vegetables[A]	3.84±1.21	3.83±1.17	4.64±0.70	3.83±1.20	0.003*	1.000	0.000#
Self-efficacy for getting child to drink fewer sugary drinks[A]	4.52±0.82	4.52±0.78	4.68±0.69	4.52±0.83	0.256	1.000	0.417
Self-efficacy for helping child to not overeat[A]	4.04±1.10	4.21±0.98	4.44±0.77	4.07±1.10	0.086	0.475	0.074
Self-efficacy for getting child to be physically active[A]	4.00±1.08	4.14±0.92	4.04±0.98	4.28±0.88	0.824	0.326	0.439
Self-efficacy for limiting child time with media devices[A]	4.20±1.00	3.90±1.05	4.28±0.89	4.03±1.05	0.603	0.475	0.735
Self-efficacy for limiting child screentime[A]	4.04±0.89	3.97±1.05	4.28±0.89	4.03±1.05	0.110	0.691	0.347

Table 9 continued: Mothers' Self-Efficacy for Childhood Obesity Prevention Behaviors, N=54

Scale Name	Baseline		Follow-up		t-test Treatment Pre vs. Post	t-test Control Pre vs. Post	ANCOVA
	Treatment (n=25)	Control (n=29)	Treatment (n=25)	Control (n=29)			
	Mean±SD	Mean±SD	Mean±SD	Mean±SD	*p**	*p**	*p#*
Self-efficacy for separating TV watching and eating[A]	3.80±1.19	3.62±1.24	4.16±1.03	3.86±1.24	0.083	0.147	0.435
Self-efficacy for getting child enough sleep[A]	4.04±0.89	4.07±0.84	4.20±1.04	3.97±0.98	0.294	0.415	0.182
Self-efficacy for engaging in moderate physical activity most days[A]	3.80±1.08	3.45±0.91	3.80±1.26	3.55±1.06	1.000	0.501	0.985
Self-efficacy for engaging in vigorous physical activity most days[A]	2.84±1.40	2.66±1.20	2.84±1.46	2.97±1.15	1.000	0.264	0.480
Self-efficacy for avoiding weight gain themselves[A]	3.44±1.12	2.97±1.21	3.56±1.23	3.24±1.19	0.478	0.103	0.854
Self-efficacy for buying healthy foods[A]	4.08±1.00	4.00±0.96	4.56±0.65	3.97±0.94	0.031*	0.832	0.007#

*t-test indicate significant ($p<0.05$) differences between baseline to follow-up.

#ANCOVA indicate significant ($p<0.05$) main effects between treatment follow-up and control follow-up controlling for baseline scores.

[A]5-point Confidence Rating: not at all confident, not confident, confident, quite confident, very confident. Higher score indicates greater expression of trait. Possible score range = 1 to 5.

Physical Activity and Sedentary Time

Overall, Table 10 reveals that participants reported low physical activity levels for themselves and moderate physical activity levels for their children. Screentime ranged from about 3 to 6 hours daily. Participants placed moderate value on physical activity for themselves and higher value on physical activity for children.

Paired t-tests revealed that participants in the treatment group reported significantly greater physical activity level for themselves and for their child, as well as fewer minutes/day of maternal screentime over time. Paired t-tests also revealed that control group participants increased the value that they placed on physical activity for themselves at the follow-up. ANCOVA with baseline scores as the covariate revealed no significant differences in physical activity and sedentary time between the study groups.

Dietary Intake

Results in Table 11 show that participants reported 1 serving or less of milk daily for themselves and for their children, less than 1 serving of fruit/vegetable juice daily for themselves and for their children, and less than 1 serving of sugar-sweetened beverages daily for themselves and for their children.

Paired t-tests revealed no significant differences over time for either the treatment or control group. ANCOVA with baseline scores as the covariate revealed no significant differences in dietary intake between the study groups.

Table 10: Physical Activity and Sedentary Time, N=54

Scale Name	Baseline		Follow-up		t-test Treatment Pre vs. Post	t-test Control Pre vs. Post	ANCOVA
	Treatment (n=25)	Control (n=29)	Treatment (n=25)	Control (n=29)			
	Mean±SD	Mean±SD	Mean±SD	Mean±SD	*p**	*p**	*p#*
Maternal Physical Activity Level[A]	16.52±9.54	20.24±10.21	20.48±11.69	21.76±10.87	0.035*	0.273	0.430
Child Physical Activity Level[A]	21.28±11.48	28.83±12.15	25.28±11.98	28.79±10.97	0.038*	0.989	0.953
Maternal Screentime (minutes/day)	286.80±230.81	225.52±188.61	175.20±108.66	241.03±241.43	0.015*	0.774	0.152
Child Screentime (minutes/day)	268.20±409.93	273.10±786.41	180.60±300.89	265.86±783.97	0.166	0.581	0.157
Maternal Value Placed on Physical Activity for Self[B]	3.38±1.39	2.98±1.15	3.22±1.39	3.29±1.15	0.356	0.048*	0.084
Maternal Value Placed on Physical Activity for Child[B]	3.98±0.78	4.17±0.75	3.88±0.88	4.19±0.74	0.422	0.905	0.300

*t-test indicate significant ($p<0.05$) differences between baseline to follow-up.

#ANCOVA indicate significant ($p<0.05$) main effects between treatment follow-up and control follow-up controlling for baseline scores.

[A]8-point Exercise Scale Days/week: 0, 1, 2, 3, 4, 5, 6, and 7. Days/week weighted by intensity of exercise (weighted as 1 for walking, 2 for moderate activity, and 3 for vigorous activity) and summed. Higher score indicates greater physical activity level. Possible score range = 0 to 42.

[B]5-point Agreement Rating: strongly disagree, disagree, neither agree nor disagree, agree, strongly agree. Higher score indicates greater expression of trait. Possible score range = 1 to 5.

Table 11: Dietary Intake, N=54

Scale Name	Baseline		Follow-up		t-test Treatment Pre vs. Post	t-test Control Pre vs. Post	ANCOVA
	Treatment (n=25)	Control (n=29)	Treatment (n=25)	Control (n=29)			
	Mean±SD	Mean±SD	Mean±SD	Mean±SD	*p**	*p**	*p#*
Maternal Milk (servings/day)[A]	0.37±0.41	0.56±0.47	0.42±0.42	0.59±0.50	0.232	0.734	0.705
Child Milk (servings/day)[A]	0.78±0.42	0.92±0.34	0.77±0.42	1.00±0.26	0.930	0.147	0.055
Maternal Fruit/Vegetable Juice (servings/day)[A]	0.29±0.49	0.24±0.38	0.38±0.57	0.34±0.49	0.325	0.108	0.994
Child Fruit/Vegetable Juice (servings/day)[A]	0.39±0.43	0.35±0.44	0.40±0.42	0.38±0.47	0.723	0.701	0.275
Maternal Sugar-Sweetened Beverages (servings/day)[A]	0.24±0.48	0.11±0.20	0.18±0.44	0.14±0.37	0.645	0.586	0.943
Child Sugar-Sweetened Beverages (servings/day)[A]	0.07±0.14	0.06±0.21	0.05±0.11	0.02±0.09	0.405	0.182	0.368

*t-test indicate significant ($p<0.05$) differences between baseline to follow-up.

#ANCOVA indicate significant ($p<0.05$) main effects between treatment follow-up and control follow-up controlling for baseline scores.

[A]9-point Beverage Servings Rating: <1 time/week, 1 day/week, 2 days/week, 3 days/week, 4 days/week, 5 days/week, 6 days/week, 7 days/week, >1 time/day. Possible score range = 0 to 1.

Content Analysis of Telephone Counseling Sessions

Fuss Free Eating Guide. Table 8 reveals that at the start of the intervention, participants reported that they rarely encouraged their children to eat by using food as a reward, or by using non-food rewards. Participants were more likely to restrict their children's food choices than to pressure their children to eat. Table 12 shows that participants viewed the concepts taught in the *Fuss Free Eating* Guide (e.g., building positive family feeding practices) to be very important. Content analysis of individual counseling sessions with participants on the *Fuss Free Eating* Guide summarized in Table 13 indicate that, after reading the Guide, many participants reported that they planned to stop using food bribes and would use more non-food rewards (e.g., reading an extra story before bed) to encourage good behavior. Some reported that they planned to offer their children a greater variety of foods and would stop forcing their children to finish the food on their plates. Participants identified weight management, the prevention of excessive calorie intake, and a greater acceptance of new foods as reasons why positive feeding practices are important. Goals set by many participants after reading the Guide were to introduce new fruits and vegetables to their children, eat more meals as a family, communicate more about positive feeding practices with their partners, and stop using food as rewards. Table 14 reveals that participants were very confident in their ability to meet these goals and at a subsequent counseling session, most reported that they successfully met the positive feeding practices goals they had set. Participants also highly rated this Guide (Table 15).

Table 12: Mother's Evaluation of Guide Topic Importance, N=25

Guide Name	Importance[A] Mean±SD
Fuss Free Eating	9.70±0.67
Best Drinks for Families	9.66±0.67
Breakfast the Right Start	9.80±0.55
Right Sizing Portions	8.74±1.30
Family Mealtimes	9.10±1.04
Fabulous Fruits and Veggies	9.90±0.28
Play More Sit Less	8.68±0.96
Time to Play	9.18±1.19

[A] Possible score range = 1 to 10; higher score indicates greater perceived importance for guide topic.

Table 13: Content Analysis of the Fuss Free Eating Counseling Sessions, N=25

Questions/Themes	Parent Quote
What are you doing now after you have read the Guide?	
Less forcing to finish plate	"[We] used to practice finishing the plate, but now [we're] not doing that… not eating everything is okay."
Increased variety and food options	"Offering more options, such as different veggies with chicken… if they don't want one type they have an alternative…"
Increase non-food rewards	"We have a reward jar that they pick from for good behavior… like reading a story, or spending extra time with mom and dad."
Why do you think positive feeding practices are important?	
Prevent excessive calorie intake	"I want her to be able to listen to her body and eat when she's hungry and stop when she's full."
Weight Management	"Good eating habits support better weight management…"
Greater acceptance of new foods	"Without them kids eat sweets instead of good food…"
What are some possible final goals for your family?	
Introduce fruits and vegetables	"Offer new fruits and vegetables at snack time… look on internet for recipes like veggies and hummus or roasted chickpeas…"
Increase family mealtimes	"…eat 3 meals as a family at the table…"
Increased communication about positive feeding practices	"[I will] sit down with [my] husband and daughter and talk about the habits [I] expect at mealtime."

Table 14: Participants' Confidence and Success for Meeting Goals Set, N=25

Guide Name	Number of participants who set goals	Confidence[A] Mean±SD	Goal Success[B] Mean±SD
Fuss Free Eating	24	8.92±1.31	1.83±0.55
Best Drinks for Families	23	9.04±1.20	1.61±0.71
Breakfast the Right Start	22	9.10±1.14	1.68±0.70
Right Sizing Portions	25	9.00±1.47	1.64±0.62
Family Mealtimes	23	8.56±1.58	1.65±0.56
Fabulous Fruits and Veggies	23	8.79±1.19	1.48±0.83
Play More Sit Less	23	9.20±1.02	1.52±0.77
Time to Play	23	8.67±1.34	1.78±0.59

[A] Possible score range = 1 to 10; higher score indicates greater confidence for meeting goal.
[B] Possible score range = 0 to 2; higher score indicates greater success for meeting goal.

Table 15: Treatment Group's Ratings of Guides Reviewed and Dietetics/Nutrition Researcher, N=25

Guide Name[A]	Guide Rating	Dietetics/Nutrition Researcher Rating
	Mean±SD	**Mean±SD**
Fuss Free Eating	4.20±0.89	4.32±0.85
Best Drinks for Families	4.16±0.90	4.24±1.01
Breakfast the Right Start	4.12±1.05	4.20±1.26
Right Sizing Portions	4.20±0.91	4.60±0.71
Family Mealtimes	4.24±0.83	4.44±0.82
Fabulous Fruits and Veggies	4.20±0.82	4.48±0.77
Play More Sit Less	4.13±0.81	4.20±1.04
Time to Play	4.00±0.84	4.12±1.05

[A] Possible score range = 1 to 5; higher scores indicates greater perceived rating.

Best Drinks for Families Guide. Results in Table 9 show that at the start of the intervention, participants felt very confident that they could get their children to drink fewer sugar-sweetened beverages. Table 12 reports that participants viewed limiting their family's consumption of sugary drinks as very important. Content analysis of the *Best Drinks* for Families counseling sessions shown in Table 16 revealed that after reading the *Best Drinks for Families* Guide, participants planned to reduce children's sugar-sweetened beverage consumption and offer more milk or water. Some planned to begin diluting their children's juice or providing flavored milk and water. Participants identified overweight and obesity, poor dental health, and excessive calorie intake as ways that sugary drinks can cause problems for parents and kids. Goals set by many participants after reading the Guide were to limit sugar-sweetened beverage intake, increase milk and water intake, and communicate the importance of decreasing sugar-sweetened beverages with partners and caregivers. Table 14 shows that participants were very confident in their ability to meet these goals and at a subsequent counseling session, most reported that they successfully met the positive drinking practices goals they had set. In addition, participants highly rated this Guide (Table 15).

Breakfast the Right Start Guide. Table 9 reveals that at the start of the intervention, participants felt very confident that they could get their children to eat breakfast. Table 12 shows that participants viewed eating breakfast each morning with their family as very important. Content analysis of the *Breakfast the Right Start* counseling sessions shown in Table 17 found that after reading the Guide, many wanted to eat breakfast more often as a family and start planning breakfast meals. Participants identified energy, fueling

Table 16: Content Analysis of the Best Drinks for Families Counseling Sessions, N=25

Questions/Themes	Parent Quote
What are you doing now after you have read the Guide?	
Dilute juice	"When they do have juice, [we] dilute it halfway."
Flavor milk or water	"[We] replace juice with flavored milk or water with strawberries!"
Reduce sugar sweetened beverage Consumption	"We've been offering water instead of lemonade…"
What are some ways that drinking sugary drinks may cause problems for parents and kids?	
Overweight and obesity	"…leads to obesity and weight gain."
Poor dental health	"Too much sugar… ruins their teeth."
Excessive calorie intake	"[Sugar sweetened beverages) replace calcium and nutrients with empty calories."
What are some possible final goals for your family?	
Limit sugar sweetened beverage consumption	"To not give into juice as much. When he asks for juice, I'll try to redirect him."
Increase milk and water Consumption	"Try to get other drink options at preschool, like milk and water."
Increased communication about positive drinking practices	"[I will] talk with husband about the important of limiting sugary drinks…"

Table 17: Content Analysis of the Breakfast the Right Start Counseling Sessions, N=25

Questions/Themes	Parent Quote
What are you doing now after you have read the Guide?	
Eating breakfast as a family	"Now we sit down and eat together…"
Plan ahead	"I will do breakfast prep the night before… planning ahead is key…"
Why do you think breakfast is important?	
Provides energy for the day/fuels Metabolism	"It gives you the mental and physical energy that you need to get going…"
Improves mood and behavior	"It helps kids focus in school… I have noticed they do behave better…"
Quality time with family	"It's is an important time spent together as a family."
What are some possible final goals for your family?	
Choose healthy breakfast options	"I want to find whole grain cereals with less added sugar…"
Eating breakfast as a family	"We want to eat breakfast together as a family."
Increased communication about positive breakfast practices	"…talking to my husband and [my child] about how important [breakfast] is…"

metabolism, improved mood and behavior, and quality time spent with family as reasons why eating breakfast with their family is important. After reading the Guide, they set goals to offer children a greater variety of healthful options at breakfast, to eat breakfast together as a family more often, and to communicate the importance of breakfast to their families and partners. Table 14 indicates that participants were very confident in their ability to meet these goals and at subsequent counseling sessions, most reported successfully meeting goals. As shown in Table 15, participants rated this Guide highly.

Right Sizing Portions Guide. Table 9 reveals that at the start of the intervention, participants felt quite confident that they could let their children decide how much to eat at meals, yet would also take steps to keep their children from overeating. Table 12 indicates that participants viewed eating right sized food and beverage portions as important for their families. Table 18 shows results of the content analysis of the *Right Sizing Portions* counseling sessions. In addition to measuring age-appropriate portions, many reported that they would begin using smaller plates and allowing their children to serve themselves. Additionally, participants recognized that age-appropriate servings of food and drinks could help their families prevent excessive caloric intake and weight gain and improve eating habits. After reading *Right Sizing Portions*, many participants set goals to discuss the importance of age-appropriate portion sizes with their families, measure portions served at mealtimes, and involve their children by allowing them to serve themselves. Table 14 reveals that participants felt very confident in their ability to meet these goals and during a follow-up counseling session, most reported success. As shown in Table 15, participants rated this Guide highly.

Table 18: Content Analysis of the Right Sizing Portions Counseling Sessions, N=25

Questions/Themes	Parent Quote
How have you changed your portion sizes after reading this Guide?	
Age-appropriate portions	"We stopped eating right out the bag… [we're] portioning it out."
Smaller plates	"We do use kid sized plates for the kids and salad plates for ourselves."
Teach kids to serve themselves	"In the last few weeks, she's started serving herself."
What are some ways healthy size portions of food and drinks could help your family?	
Prevents excessive caloric Intake	"It helps us not to overeat and get too many calories."
Prevents weight gain	"It helps us keep our weights healthy."
Improved eating habits	"It helps us to develop habits of not overeating…"
What are some possible final goals for your family?	
Measure proper portions	"Use measuring cups/spoons to serve at least one meal."
Discuss the importance of proper portions with their family	"Family will sit down and learn about what are healthy-sized portions for different foods for kids."
Have children serve themselves	"Let [child] serve himself for at least one meal this week."

Family Mealtimes Guide. Results in Table 7 reveal that participants at baseline had more than 13 meals each week as a family, with about half of the family meals eaten at a dining table. Participants also reported that meals were planned. Table 12 indicates that participants perceived having family mealtimes together each day as very important. Table 19 shows the results of the content analysis of the Family Mealtimes counseling sessions. During the counseling session, participants reported that after reading the *Family Mealtimes* Guide, they planned to eat more meals as a family by improving their time management and communication with other family members. When asked for reasons why family mealtimes are important, participants frequently cited setting a good example for their children, better family communication and bonding time, reduced screentime, and the development of healthy habits. After reading the Guide, many participants reported that they intended to eat more meals together as a family, work on better time management, include their children in meal preparation, and communicate more with their family. Table 14 shows that participants felt very confident in their ability to meet these goals and most reported success during a follow-up counseling session. As shown in Table 15, mothers rated this Guide highly.

Fabulous Fruits and Veggies Guide. Table 9 reveals that at the start of the intervention participants were quite confident that they could get their children to eat fruits/vegetables. When asked how important eating fruits and vegetables was for their families, Table 12 indicates that participants found this to be very important. Table 20 shows the results of the content analysis of the counseling sessions, which indicated that after reading the Guide, many mothers began offering children greater varieties of fruits/vegetables,

Table 19: Content Analysis of the Family Mealtimes Counseling Sessions, N=25

Questions/Themes	Parent Quote
What are you doing now after you have read the Guide?	
Eating together as a family	"Eating meals together 3-4 times per week."
Improved time-management	"I'm going to try and incorporate planning menus better."
Improved communication	"We've just been trying to talk to more during meal times."
Why do you think family mealtimes are important?	
Kids copy their parents	"It's important role modeling for her so she has good eating and table habits."
Reduces screentime	"[We're] doing this to get better about tuning out from technology."
Supports healthy eating Behaviors	"…kids are more likely to eat healthy foods when we eat together."
What are some possible final goals for your family?	
More family meals	"Eat breakfast all together at least once this week."
Involve children in meal preparation	"Getting the kids to help with the food preparation…"
Increased communication with Family	"I started to be intentional about conversation starters at dinner…"

Table 20: Content Analysis of the Fabulous Fruits and Veggies Counseling Sessions, N=25

Questions/Themes	Parent Quote
What are you doing now after you have read the Guide?	
Offer fruits and veggies in a different way	"We pretend that the broccoli are little trees so he'll eat more…"
Offer a greater variety of fruits and Veggies	"I try to introduce them to new veggies, like asparagus."
Offer fruits and veggies more often	"I've started putting fruits and veggies out at breakfast and snack time."
How could eating more fruits and vegetables help your family?	
Weight management	"It helps them maintain the right weight."
Improved nutrition	"Eating more fruit and vegetables increases our fiber and nutrient intake."
Prevents overeating	"It will help them to feel fuller for longer."
What are some possible final goals for your family?	
Increase fruit and veggie Consumption	"We will eat more vegetables and increase the amount on our plates."
Offer a greater variety of fruits and Veggies	"I'll introduce a new fruit or veggie to them each week."
Increased communication with Family	"I will get my kids to understand why fruits and veggies are important."

offering fruits/vegetables more often or serving fruits/vegetables in new or creative ways. Participants identified weight management, improved nutrition, and improved satiety as ways that eating more fruits and vegetables could help their families. Some participants set goals to increase fruit and vegetable consumption, offer a greater variety of fruits and vegetables, and communicate the importance of fruit/vegetable consumption with other family members. Results in Table 14 show that participants felt very confident in their ability to meet these goals and most reported that they were successful in meeting these goals during a follow-up counseling session. As shown in Table 15, mothers rated this Guide highly.

Play More Sit Less Guide. Results from Table 9 indicate that participants at baseline were quite confident that they could get their children to be physically active and limit screentime for their children. Table 10 reveals that participants reported low physical activity levels for themselves and moderate physical activity levels for their children. Screentime ranged from about 3 to 6 hours. Table 12 shows that participants perceived limiting screentime for their families as important. Content analysis of the *Play More Sit Less* counseling sessions shown in Table 21 revealed that after reading the Guide, many mothers reported that they planned to limit screentime and encourage active playtime. Many reported that the Guide made them more aware of their screentime habits and increased their awareness of the benefits of reducing screentime and increasing active playtime. Participants identified improved sleep habits, increased family social interaction, and better overall health as ways that reducing screentime and increasing active playtime could help their families. Goals set by many mothers after reading the

Table 21: Content Analysis of the Play More Sit Less Counseling Sessions, N=25

Questions/Themes	Parent Quote
What are you doing now after you have read the Guide?	
Decrease screentime	"We want to try not to watch TV. We are tempted to turn it on, but one of the things in the guide, which is cool, is to make a list of things that we can try [instead]."
Increase active playtime	"We are trying to incorporate more movement. We got a dancing game, she [my daughter] really likes [it]."
Increased awareness	"Pay more attention to the amount of screen time we are getting."
What are some ways that reducing screentime and increasing active playtime could help your family?	
Improved sleep habits	"[They] sleep better when they move more…"
Increased family social Interaction	"I think the connection; when we are together we are connecting. Play allows for a lot of interactions and hanging out. Families use the TV as a babysitter, which is tempting, but you miss a lot of interaction."
Better overall health	"It makes them healthier and more active…"
What are some possible final goals for your family?	
Limit screentime	"Limit the amount of screen time to 1-2 hours per day. Will try to use a timer."
Encourage active playtime	"Will focus on active play and educational games before TV is enjoyed as a family."
Make a list of alternative activities to screentime	"[I] liked the idea of making a list of things to do instead of watching TV."

Guide were to actively limit screentime, encourage active play or alternative activities (e.g., story time) instead of screentime, communicate more about the importance of limiting screen time with their spouses, and plan a list of alternative activities to screentime. Table 14 reveals that participants were very confident in their ability to meet these goals and at a subsequent counseling session, most reported that they successfully met the positive feeding practices goals they had set. As shown in Table 15, mothers rated this Guide highly.

Time to Play Guide. Table 10 reveals that participants reported low physical activity levels for themselves and moderate physical activity levels for their children. Participants placed moderate value on physical activity for themselves and higher value on physical activity for children. Table 12 shows that participants viewed active play together as a family with high importance. Content analysis of counseling sessions related to the *Time to Play* Guide shown in Table 22 revealed that after reading the Guide, many reported intentions to limit screentime and increase active playtime, and had increased awareness regarding the benefits of active family play. Participants identified better sleep habits, weight management, and family bonding as benefits of active playtime for their families. Participants set goals to limit screentime, increase active playtime, and plan more family active play opportunities. Table 14 shows that participants felt very confident in their ability to meet these goals and most reported success during a follow-up counseling session. As shown in Table 15, mothers rated this Guide highly.

Table 22: Content Analysis of the Time to Play Counseling Sessions, N=25

Questions/Themes	Parent Quote
What are you doing now after you have read the Guide?	
Limit screentime	"We are cutting hours of watching TV."
Increase active play	"More active play; we had a pillow fight indoors, played tag- little things to keep her active."
More aware of the benefits	"I am more aware of how active playtime has … been helping [my] family."
What are some ways that active playtime could help your family?	
Better sleep habits	"When she runs around and does active play we get better rest."
Weight management	"It's important in terms of overall health benefits and managing weight."
Family bonding	"It helps us bond and at the same time kids are getting more activity."
What are some possible final goals for your family?	
Limit screentime	"Less than 30 minutes of TV each day… more physical activity."
Increase active play	"Try to get [my] son to really learn to ride his bike."
Plan more family active play Opportunities	"One hour of active playtime as a family on the weekend."

Time to Complete Study

Table 23 shows that from the baseline survey to the follow-up survey, participants in the treatment group took an average of 161.40±10.81 days to finish the program, with a range from 66 to 419 days. On average, the period between the participant's completion of the baseline survey and the first telephone counseling session was the longest with an average of 60.60±89.45 days and a range from 5 to 311 days. The average length of time between each telephone counseling session, and between the last telephone counseling follow-up call and the follow-up survey, was much shorter between 1 to 2 weeks. Table 24 shows that the average length of time to complete each counseling sessions was approximately 13 minutes.

Table 23: Average Length of Time (Days) Between Participant Telephone Counseling Sessions, N=25

HomeStyles Express Time Points	Average Days Mean±SD	Range of Days
Baseline Survey to Fuss Free Eating	60.60±89.45	5-311
Fuss Free Eating to Best Drinks for Families	8.76±3.97	7-21
Best Drinks for Families to Breakfast the Right Start	11.16±7.75	7-35
Breakfast the Right Start to Right Sizing Portions	12.04±10.31	6-53
Right Sizing Portions to Family Mealtimes	12.88±15.31	7-81
Family Mealtimes to Fabulous Fruits and Veggies	8.60±3.64	6-21
Fabulous Fruits and Veggies to Play More Sit Less	9.32±4.83	6-28
Play More Sit Less to Time to Play	17.92±33.46	5-175
Time to Play to Counseling Follow-Up Call	8.16±5.38	0-27
Counseling Follow-Up Call to Follow-Up Survey	11.96±18.60	0-64
Baseline Survey to Follow-up Survey (Treatment)	161.40±10.81	66-419
Baseline Survey to Follow-up Survey (Control)	107.27±48.49	49-224

Table 24: Average Length of Time (Minutes) to Complete Counseling Sessions, N=25

Guide Name	Length of Time Mean±SD
Fuss Free Eating	14.83±4.91
Best Drinks for Families	14.42±5.45
Breakfast the Right Start	13.42±4.53
Right Sizing Portions	13.90±4.70
Family Mealtimes	13.21±4.85
Fabulous Fruits and Veggies	14.59±6.15
Play More Sit Less	12.80±5.18
Time to Play	11.91±3.93

CHAPTER FIVE

DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

In this chapter, the findings of the HomeStyles Express Program will be discussed, along with the study limitations and strengths. Finally, recommendations for future research will be made.

The purpose of this study was to determine whether an eight session, telephone counseling-based childhood obesity prevention intervention called the HomeStyles Express Program could assist parents in making changes to their weight-related cognitions and behaviors, and the weight-related behaviors of their children. Participants in the treatment group of the HomeStyles Express Program reported significantly increased confidence for getting their children to eat fruits and vegetables and for buying healthy foods over time compared with the control group. Participants also reported significantly greater physical activity levels for themselves and for their children, as well as fewer minutes per day of screentime for themselves over time.

Weight-Related Cognitions and Behaviors of HomeStyles Express Participants and their Children Sample Characteristics

The treatment and control groups were similar demographically. However, HomeStyles Express participants differed from the overall U.S. population in several ways. For example, participation rates of fathers vs. mothers were not representative of the general population of the United States.[104] Of the 188 respondents who completed the baseline survey, only 4 respondents (approximately 2%) were male. Although research indicates that fathers are now spending significantly more time with their children on

workdays than 20 years ago, mothers still spend more time and are more likely to provide childcare.[105-107] This may explain why more mothers participated in the HomeStyles Express Program than fathers. Another possible contributor was that mothers in this study may have had more discretionary time in that one-third of the HomeStyles Express participants reported that they did not have paid employment and the majority listed their profession as either homemaker or stay-at-home mom. This is similar to the national average of 36% for women with children under 6 years old who report that they do not work.[108]

The percentage of participants who identified as non-Hispanic White was higher than the U.S. population of females between the ages of 26 to 45 years old (80% vs. 60%).[104] Concomitantly, percentages of participants identifying as Hispanic (7% vs. 18%), Black, non-Hispanic (4% vs. 14%), and Asian (4% vs. 7%) were lower than the demographic makeup of the United States.[104]

Additionally, participants in the HomeStyles Express Program were more highly educated than the general population of women 25 years and older. All HomeStyles Express participants reported having at least a high school diploma (100% vs. 90% nationally) and most reported having a Bachelor's degree or higher (82 vs. 34% nationally).[109] The differences in sex, ethnicity/race, and education level of HomeStyles Express participants indicate that findings may not be generalizable to the national population.

Health Related-Quality of Life

Treatment and control participants reported that they had few days of poor physical and mental health. This may be because 26% of the treatment and control HomeStyles Express participants were in a health-related profession (i.e., dietetics, nursing, etc.). Studies regarding the behaviors of healthcare professionals have found them to have healthier diet and exercise behaviors than the general population.[110,111] HomeStyles Express control and treatment participants also reported that they were more highly educated than the general population and most participants identified as non-Hispanic White. These characteristics may contribute to their overall good health, as individuals who are more highly educated tend to be healthier than those with less education.[112-114] Overall health status of non-Hispanic Whites also tends to be better than most other racial/ethnic groups.[115] The sample characteristics described previously regarding participant paid employment, education level, and race/ethnicity offer further insights into why the maternal and child weight-related cognitions and behaviors reported by HomeStyles Express participants at baseline were already largely in line with the Academy of Nutrition and Dietetics' (American Dietetic Association's) Pediatric Weight Management Evidence-Based Nutrition Practice Guidelines.

Family Meals and Mealtime Behaviors

Overall, all HomeStyles Express participants ate family meals often and these meals tended to be consumed in healthier (e.g., at dining table) versus less healthy (e.g., fast food restaurant, in front of TV) locations. Results of the Project EAT study found that the majority of participants reported family meals 3 to 4 times weekly.[78] Conversely, both treatment and control participants in this study reported a much higher frequency of

family meals (greater than 13 meals/week) at both baseline and follow-up. This difference between studies may be because families in the Project Eat study[78] reported affluence levels lower than families in HomeStyles Express, in that family meal frequency and socio-economic status are positively correlated.[78] Another explanation is that the adolescents in the Project Eat study, who were between the ages of 11 to 18 years old, were older compared with children in the HomeStyles Express Program. Family meal frequency has been found to decrease as children get older.[116]

The frequency of family meals consumed at home also is inversely associated with BMI, while the frequency of family meals consumed at restaurants is positively associated with BMI.[117] At both baseline and follow-up, participants in the Home Styles Express treatment and control groups reported that less than 1 family meal each week was eaten at fast food restaurants, which is somewhat lower than the once per week most families report.[118] In contrast to the high rates of overweight and obesity in the U.S.,[3] most all of the HomeStyles Express participants classified their weight status as normal or slightly overweight. The high frequency of family meals consumed at home and the low frequency of family meals consumed at less healthful locations, including at fast food restaurants, may have contributed to the normal weight or slightly overweight status reported by both treatment and control HomeStyles Express participants.

In addition to frequent family meals eaten in healthy locations, study participants reported infrequent use of media devices at family meals. More frequent use of media devices during family meals by children and adolescents has been reported in the literature. In the Longitudinal Study of Child Development, approximately 25% of

children between the ages of 4 to 5 years old ate at least twice daily in front of the television.[119] Higher use of television during mealtimes has been associated with increased BMI among children, as well as decreased consumption of healthier foods, such as fruits and vegetables, and increased consumption of less healthful foods, such as energy dense snack foods and sugar-sweetened beverages.[119-121] Higher media use among children and adolescents during mealtimes is greater among parents who are Black or Asian, as well as among parents with lower education levels, which may explain the lower use of media devices reported among HomeStyles Express participants who were primarily white and highly educated.[121]

Participants in both the control and treatment groups planned family meals. A lack of meal planning has been identified by parents as a barrier to family meals.[122] Increased family meal frequency is positively associated with meal planning.[123] Children whose parents plan meals are also more likely to place value in family meals, which has been associated with more frequent meals with their families.[124] Family meals are associated with decreased obesity risk, and healthier food selections including increased consumption of fruits and vegetables, whole grains, calcium-rich foods, and decreased consumption of soft drinks.[52,125]

Although HomeStyles Express participants received instruction focusing on family meals, they did not differ at follow-up from the control group participants with regard to frequency of these meals, meal location, media device use at mealtime, or meal planning. This lack of difference in family meal frequency may be due to a ceiling effect in that both groups were eating an average of about 2 family meals per day. Given that

lunch is typically eaten away from home at workplaces or schools, this high rate of family meals indicates little room for additional improvements in this area. Similarly, families ate at a dining table nearly every day of the week and infrequently at less healthy locations thereby indicating little opportunity for improving these already frequent healthy behaviors. One area that may have room for improvement is meal planning behaviors. Although the treatment group improved these behaviors at follow-up, improvements were not significant. Future nutrition education interventions may benefit families by building stronger family meal planning attitudes and skills.

Maternal Feeding Practices

Overall, both treatment and control mothers reported using mostly recommended child feeding practices. Participants reported that they tended to not participate in many negative or non-recommended child feeding practices, such as pressuring children to eat or rewarding children for eating. One study examining the association between maternal personal characteristics and maternal child feeding practices found that greater household income was negatively associated with maternal pressuring of children to eat.[126] The moderate affluence level of HomeStyles Express participants may have contributed to the lack of maternal pressuring children to eat. Lower maternal education is also positively associated with the use of food rewards.[127] The high education level of study participants may have contributed to their tendency to not use food rewards with children.

HomeStyles Express participants indicated that they did restrict their children's food choices. This is in line with the Norwegian Mother and Child Cohort Study findings that maternal food restriction was positively associated with participants who described

their roles as "homemakers" and increased education status.[128] In addition to being highly educated, many of the HomeStyles Express participants who did not work described themselves as homemakers, which may explain the restrictions they place on children's food choices.

Participants were fairly neutral with regard to overtly controlling children's food intake and more likely to covertly control it. Research has found that parental covert control resulted in decreased consumption of unhealthy snacks among children and was negatively associated with parental BMI.[129] The mothers participating in HomeStyles Express classified their weight status as normal or slightly overweight, which may explain their greater use of covert control. Parental overt control was associated with an increased consumption of healthy snacks among children and was positively associated with parental affluence.[129] The mothers participating in HomeStyles Express only reported moderate affluence, which may explain their neutral use of overt control.

Although HomeStyles Express participants received instruction on positive feeding practices, they did not differ at follow-up from the control group of participants with regard to covert and overt control of child food intake, overt control of food timing, and use of pressure, restriction, and non-food or food rewards. This lack of difference may be due to their infrequent use of negative feeding practices at baseline, given that, although all participants tended to use covert control of child food intake and restriction, they were neutral with regard to other negative feeding practices. Participants in the treatment group did increase their use of non-food rewards at mealtime at follow-up, though not significantly. Given that inappropriate family feeding behaviors may be

associated with an increased risk of childhood obesity, future nutrition education programs may benefit families by encouraging them to focus on using positive feeding practices, such as not using covert control of child food intake, restriction, and rewards during meal times.[7]

Mothers' Self-Efficacy for Childhood Obesity Prevention Behaviors

Participants in the HomeStyles Express treatment group reported increased self-efficacy for nearly all childhood obesity prevention behaviors over time, with self-confidence for getting their children to eat fruits and vegetables and for buying healthy foods both reaching significance. These same two self-efficacy measures were significantly higher in the treatment group than control group at follow-up. On the other hand, the control group participants had variable changes in self-efficacy measures with some increasing, some remaining the same, and others decreasing. The consistent improvements in treatment participants may indicate that the motivational interviewing strategies and Social Cognitive Theory principles incorporated into the Guides effectively helped individuals resolve ambivalence towards making changes and increase their self-efficacy for doing so.[130] The increased self-efficacy of participants was similar to the PREFER trial, which found that weight loss was associated with increased self-efficacy related to changing eating behaviors among adults.[131] The Healthy Lifestyles Pilot Study, which applied motivational interviewing techniques with parents of overweight children, failed to find significant changes in BMI compared with a control group, however the majority of parents reported that the intervention helped them think about making changes to their family's eating behaviors—important first steps in achieving behavior

change.[132]

Physical Activity and Sedentary Time

HomeStyles Express participants reported low physical activity levels for themselves at baseline and follow-up. This is in line with results from the 2016 Healthy People initiative where only 19% of adult females met objectives for aerobic physical activity and muscle-strengthening activity.[133] Participants reported moderate physical activity levels for their children. Data from the 2005-2006 National Health and Nutrition Examination Survey reported that only 43% of children between the ages to 6 to 11 received 60 or more minutes of physical activity daily.[134] Studies indicated that this percentage may be closer to 50% among younger children between the ages of 2 to 6 years old.[135,136] Participation in the HomeStyles Express Program did however result in significantly greater reported physical activity levels for both treatment participants and their children at follow-up, however levels were not significantly different from the control group. This was likely due to the Social Cognitive Theory principles incorporated into the Guides, especially the notion that self-regulation skills, like goal setting, can increase the likelihood of behavior change.[69,71] Content analyses from the Play More Sit Less and Time to Play Guides found that many participants set goals to increase active playtime and plan more family active play opportunities, important steps toward actual behavior performance.

Results from the HomeStyles Express Program regarding the amount of screentime children got was only slightly higher than the 3 to 4 hours daily that the literature indicates is common among this age group.[137-139] Data from the Early

Childhood Longitudinal Study-Birth Cohort found similar screentime use among children in parental care only compared with children placed in childcare centers with parents who work full or part-time.[137] Participants in the HomeStyles Express Program who worked allowed their children to spend significantly less time engaged in screentime than participants who did not work (143.75±252.11 vs. 391.67±985.70). At follow-up, HomeStyles Express participants reported reduced screentime for themselves and for their children, with the decline being significant for themselves. Similarly to findings for physical activity, this was likely due to the self-regulation skills incorporated into the Guides.[69] Content analyses from the Play More Sit Less and Time to Play Guides found that many participants set goals to limit screentime and to make a list of alternative activities to screentime. Even with the declines in screentime, both treatment participants and children far exceeded daily screentime recommendations.[42,43]

Neither group changed with regard to value placed on children's physical activity level. Interestingly, control group participants significantly increased the value they placed on physical activity for themselves over time, whereas treatment participants did not change. This may have been due to unintentional survey effects, which studies show can influence participant behavior even if the survey provides no additional instruction regarding desired changes.[140]

HomeStyles Express participants received instruction regarding limiting their children's daily screentime and increasing active playtime and physical activity. Participants in the treatment group reported significantly greater physical activity levels for themselves and for their child, as well as fewer minutes/day of maternal screentime

over time; however, participants only reported low physical activity levels for themselves and moderate physical activity levels for their children and reported screentime exceeded daily recommendations. Given that inadequate physical activity and excessive screentime has been associated with an increased risk of childhood obesity, future nutrition education programs should continue to encourage mothers to limit screentime to less than 2 hours daily, so that children and adolescents may spend more time participating in physical activities.[7]

Dietary Intake

HomeStyles Express participants reported consuming less than or equal to 1 serving of milk, and less than 1 serving of fruit/vegetable juice and sugar-sweetened beverages daily for themselves and for their children. Research shows that parents shape the dietary practices of their children, so it would make sense that the dietary practices of the children in the HomeStyles Express Program would reflect the behaviors of their mothers.[9] The low reported daily intake is congruent with data from the National Health and Nutrition Examination Survey, which reported that between 2001 and 2010 the average daily intake of absolute beverage intake (which excluded water) by children between the ages of 2 to 19 years old decreased from 32.0 to 27.9 ounces daily, while low and zero calorie beverages increased from 0.2 to 1.3 ounces daily.[141] Total milk consumption during this time also decreased from 11.3 to 10.1 ounces daily, with more than 25% being reported as a sweetened variety.[141]

The American Academy of Pediatrics encourages children to drink milk and water, with 4 ounces of juice or less daily for children between the ages of 1 to 3 years,

and 6 ounces of juice or less daily for children between the ages of 4 to 6 years.[142] Recommendations also encourage individuals to consume less than 10 percent of calories per day from added sugars, including those found in sugar-sweetened beverages.[15] HomeStyles Express participants and their children appeared to be meeting fruit and sugar-sweetened beverage recommendations. During the Best Drinks for Families counseling sessions, many participants did report that water was the primary beverage of choice for themselves and for their children.

Of concern, however, is the low rate of milk intake. Milk and dairy recommendations set by the United States Department of Agriculture are 2 cups for children between the ages of 2 to 3 years old, 2½ cups for children 4 to 8 years old, and 3 cups for adolescents between the ages of 9 to 18 years old and adults 19+ years old.[37] Adequate milk and dairy intake has been associated with lower body fat in children.[39,40] Regarding best drinks for families, in addition to limiting sugar-sweetened beverage consumption, future nutrition education interventions should focus more on encouraging adequate milk consumption among children.

Telephone Counseling

The HomeStyles Express Program was designed as an eight session, telephone counseling-based childhood obesity prevention intervention. After completing a baseline survey, each week participants in the treatment group received 1 of 8 different HomeStyles Guides and participated in a 15-minute counseling session with a trained dietetics/nutrition researcher. The control group received the guides weekly and had an opportunity to chat with a trained researcher after completing the follow-up survey.

Participants in the treatment group evaluated the importance of all eight Guide topics highly. They also reported high confidence for meeting goals set during counseling sessions for all Guides and reported that they were successful in meeting these goals. They rated both the Guides and the trained dietetics/nutrition researcher highly. Despite their perceptions of goal success across all Guide topics, results from the follow-up survey found that mothers were still participating in some negative feeding practices, such as using covert control of child food intake, restriction, and rewards during mealtimes. Participants also reported low physical activity levels for themselves, moderate physical activity levels for their children, excessive screentime, and inadequate milk intake at follow-up. Although instilling participant confidence and self-efficacy, the short intervention period only allowed families to work on each Guide topic for a period of one week before moving on to the next. This may not have been an adequate amount of time to influence significant behavior change in identified problem areas.

Participants in both the control and treatment groups took longer than expected to move from the baseline survey to the follow-up survey. On average the treatment group took longer to complete the overall program than the control group. It also took a much longer time to move participants from the baseline survey to the initial counseling session than between the subsequent counseling sessions. The average length of time to complete each counseling session was between 12 and 15 minutes, as was expected. Short, convenient interventions requiring little effort tend to be preferred by participants, while overly structured programs were not ideal for participant retention.[143] In some studies, compliance among participants receiving telephone counseling has been low due to

reported conflicts that impede participation, or participants not taking session appointment times seriously due to physical separation from the counselor.[144,145] Although the HomeStyles Express Program was designed to be completed in 10 weeks, it is possible that, although the program may have been met with initial excitement, the time investment (i.e., completion of initial questionnaire, scheduling and completing counseling sessions) required for participating may have been perceived by participants as too demanding of their time and effort. In addition, it was difficult to schedule appointments with participants, despite open researcher schedules and availability on evenings and weekends. Future nutrition education interventions may consider shortening initial questionnaires to reduce the time spent by participants. Also, researchers may consider modifying their programs to allow participants to spend more time with topics that they report to be struggling with the most at baseline and allow participants to skip over topics that they already report meeting recommendations for.

Strengths

A strength of this study was the use of the HomeStyles Project survey,[11] which was comprised of valid and reliable scales.[74] Telephone counseling sessions with a trained dietetics/nutrition researcher were provided to participants in the treatment group. Counseling session scheduling was flexible and rescheduling was permitted beyond the 10 weeks for as long as a participant was corresponding and interested in participating with the program. Participants were very satisfied the program, rating both Guide content and their trained dietetics/nutrition researcher highly.

The HomeStyles Guides used were developed through extensive literature review and findings from focus groups with parents of preschool-aged children.[11] They were also developed based on childhood obesity prevention topics recommended by the Academy of Nutrition and Dietetics'(American Dietetic Association's) Evidence-Based Guidelines for Pediatric Weight Management.[7,8] The Guides also incorporated Social Cognitive Theory and Faith's Core Behavior Change Strategies to Treat Childhood Obesity, Adult Learning Theory, and motivational interviewing principles, which all help parents to successfully identify and achieve goals to improve their home environments, lifestyles, and family health.[69-73]

Limitations

One limitation of this study was the small sample size due to the higher than expected participant dropout rate in the treatment group. A total of 54 participants completed the follow-up survey, of which 25 were in the treatment group and 29 in the control group. A greater number of participants would have strengthened study findings. Some of the difficulty in retaining participants may have been due to the perceived time investment. The high rate of participant dropout was largely due to participant inability to initially commit to the weekly telephone counseling sessions due to competing interests. Despite a flexible counseling schedule offered by researchers, including evening and weekend appointments, the weekly program sessions may have been perceived by participants as too demanding of their time and effort.

The sample was also homogenous and was not representative of the national population. It is likely that the program attracted individuals to participate who were

already interested in or educated about the importance of pediatric weight management interventions. Participants were highly educated and many reported that they were employed in a health-related profession, which may in part explain why so many of their weight-related cognitions and behaviors at baseline were already in line with existing pediatric weight management recommendations.

Conclusions

Given the increasing prevalence of childhood obesity in the United States, effective obesity prevention interventions are vital. The HomeStyles Express Program was an eight session, telephone counseling-based pediatric weight management intervention designed to assist parents in making changes to their weight-related cognitions and behaviors, and the weight-related behaviors of their children. Participants in the treatment group of the HomeStyles Express Program reported significantly increased confidence in getting their children to eat fruits and vegetables and for buying healthy foods over time. Participants in the treatment group also reported significantly greater physical activity levels for themselves and for their children, as well as fewer minutes per day of screentime for themselves over time. Overall participants rated the HomeStyles Guides and the trained dietetics/nutrition researchers highly.

Although the data are not presented here, fewer changes were observed amongst participants in the HomeStyles Express Program than with the full length HomeStyles Randomized Control Trial. The relatively higher scores of the HomeStyles Express participants at baseline compared with the full length HomeStyles participants may have

exerted a ceiling effect, which limited their room for growth during the course of the program. Alternatively, the fewer changes could be the result of the shorter program.

Recommendations for Future Research

Further research is needed to determine the potential effects of a telephone counseling-based childhood obesity prevention intervention for a sample with more diverse demographic characteristics, as the HomeStyles Express sample was homogenous and was not representative of the national population. Participant satisfaction with the telephone counseling and trained dietetics/nutrition researchers was very high for those who completed the program, however further research is needed for developing strategies to increase participant retention and to further understand participant inability to initially commit to regular telephone counseling sessions. Interestingly, the value of the counseling sessions to participants may not have been as high as researchers anticipated it would be because the control group was offered the opportunity to have a counseling session at the end of the study, yet none took advantage of this opportunity.

Given that the telephone counseling sessions were viewed by some participants as too demanding of their time and effort, which is counterproductive for its use in a time-compressed obesity prevention intervention, further research is needed to determine what type of obesity prevention interventions would pair most effectively with the use of telephone counseling. Or, what type of support parents want and need to move through a nutrition intervention program efficiently.

Findings from the HomeStyles Express Program indicate that future nutrition education interventions should build stronger family meal planning attitudes and skills,

encourage families to focus on using positive feeding practices during meal times, encourage families to limit screentime to less than 2 hours daily so that children and adolescents may spend more time participating in physical activities, and encourage adequate milk consumption among children.

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Appendix A: HomeStyles Express Informed Consent

Participant Agreement Letter

Dear Parents of Preschoolers (ages 2 to 5 years),

Want healthier kids? This project is for you!

Researchers at Rutgers University are inviting approximately 300 parents of preschool children to join the HomeStyles Express Program.

Here is what HomeStyles families do. If you successfully complete the steps, you will have a chance to win 1 of 10 $50 prizes.

- **Step 1:** Spend about 20 minutes completing a survey today.
- **Step 2:** Review 8 brief guides to raise even healthier kids. Each guide takes about 15 minutes to review. After reviewing each guide, spend about 15 minutes chatting with a registered dietitian and nutritionist. These chats are free---this is a $200 value.
- **Step 3: Spend** about 30 minutes completing a survey in about 8 weeks. Some parents will complete Step 3 before Step 2.

Joining the HomeStyles Express project is voluntary, cost-free, and has little risk. All information you provide is confidential and won't be traceable to you. We may release you from the project if you are unwilling to comply with the spirit of the project. If your child is found to have health-related issues that are beyond the scope of this project, we will do our best to put you in contact with the appropriate professionals near your home.

If you have any questions about the HomeStyles project or your rights as a study participant, please contact me at 732-932-2382 or bredbenner@aesop.rutgers.edu. You

also may contact the Rutgers Office of Research and Sponsored Programs at 848-932-0150 or humansubjects@orsp.rutgers.edu.

If you agree to participate in the HomeStyles Express project, please click the AGREE button below. Please print a copy of this letter for your records. We look forward to your participation – we're sure you'll enjoy it!

Sincerely,

Carol Byrd-Bredbenner, PhD, RD, FAND

Professor/Extension Specialist

Appendix B: Recruitment Materials

Hey Parents of Preschoolers:

Want happier, healthier kids?

The HomeStyles *Express* Project
can help you with that!

HOMESTYLES

This project helps parents shape their homes and lifestyles to raise happy, healthy kids.

HomeStyles *Express* includes a series of 8 program guides that give you quick tips and fun ideas from experts and other parents to make small, simple changes at home. Parents will also have the opportunity to chat with a Registered Dietitian and Nutritionist about these changes for free —this is a $200 value. Then, each day, families spend a few minutes making simple changes. These changes could be calmer bedtime routines or fuss-free mealtimes.

To participate, parents need Internet access, plus email or phone. There is no charge! In fact, if parents try the simple changes and take surveys along the way, they have a chance to win 1 of 10 $50 prizes!

To sign up now, visit
tinyurl.com/HomeStylesGetStarted

Please share this announcement with other parents of preschoolers that you know!

Subject Line: HomeStyles: Help Us Get the Word Out!

Dear (Insert name of contact/organization here),

Rutgers University and the University of Arizona have worked together to develop a program called HomeStyles that helps parents to shape their homes and lifestyles to raise happier, healthier, safer kids! **We are still recruiting** and would love the opportunity to share some more information about the program with you!

HomeStyles is an online project that provides parents with quick, easy, no-cost changes to their home environments that help them raise healthier families.

Visit HealthyHomeStyles.com/educator to learn more.

We want to reach parents in as many ways as possible—through workplaces, child care centers, religious groups, after school activities, and community groups.

Please send the announcement below (also attached) to family, friends, co-workers, and your networks that reach parents.

Please let us know if you are interested in learning more, and we look forward to speaking with you!

Jennifer & Carol

Jennifer Martin-Biggers, MS, RD

Carol Byrd-Bredbenner, PhD, RD, FAND

Nutritional Sciences

Rutgers University

Office (732) 932-9827

HomeStyles Express Recruitment Facebook Advertisement

HealthyHomeStyles.com

Hey parents!
Want happier, healthier, safer kids?
Find out how!

HealthyHomeStyles.com

Hey parents!
Want happier, healthier, safer kids?
Find out how!

HealthyHomeStyles.com

Hey parents!
Want happier, healthier, safer kids?
Find out how!

HealthyHomeStyles.com

Hey parents of!
Want happier, healthier, safer kids?
Find out how!

HealthyHomeStyles.com

Hey parents!
Want happier, healthier, safer kids?
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Hey parents!
Want happier, healthier, safer kids?
Find out how!

Appendix C: HomeStyles Express Telephone Counseling Scripts

Fuss Free Eating Script

Date/Time: _____

Participant Name/ Number:_____

Date Participant Received Guide:_____

Time since last contact: _____

Length of contact:_____

Step 1: Assess

Refer to participant survey for information regarding fuss free eating habits.

You stated in the survey that you (do/do not) participate in these fussy eating habits with your family.

Ex: Reward kids with food

Ex: Don't allow your child to play with food

What are you doing now after you have read the Fuss Free Eating Guide?

That's great that fuss free feeding is already a part of your lifestyle! Let's talk about incorporating additional fuss free eating tips into your family life.

OR

For participants who respond that they engage in activities that contribute to fussy eating or have not changed their habits since taking the survey: *I'm glad that you are participating in this Guide so that we can discuss fuss free eating habits and why they are beneficial for you and your family to include in their daily routine.*

Why do you think positive feeding practices are important?

- Kids have fewer mealtime tantrums
- Kids learn to enjoy eating healthy foods
- Kids eat more healthy foods, like fruits and vegetables
- Kids have healthier weights

Why is having a healthy weight important?

- When weight is too high, kids may have high blood pressure, body fat and blood sugars, and may be treated unfairly at school.

On a scale of 1-10 (1 being not important and 10 being very important), how important is it to you that your family builds positive feeding practices?

What made you choose that number? (This will help identify personal challenges to completing individual goals)

What would have to be different for you to select an even higher number? (Segway into step 2 to provide examples on how to overcome the challenges they stated in previous question)

Step 2: Set Agenda

So we know that it is important to practice fuss free eating habits. When you read on page 3 of the Guide about how other families fit fuss free eating into their routine, what do you think?

Do you think these families were experiencing similar challenges to yours?

How will you use their ideas to get your whole family follow fuss free eating behaviors?

Do you have any additional ideas that you think may work to incorporate fuss free eating tips into your family's daily lives?

Step 3: Assess Motivation and Confidence

So based on the goals that other families have set on page 4 of the Guide, and knowing your own family, what do you think could be a goal for your family this week?

On a scale of 1 to 10 (a score of 1 means you are not sure; 10 means you are very sure), how sure are you that your family can achieve your goal this week?

If participant selected 9 or 10, proceed to Step 4.

If participant selected a number less than 9 or 10:

You chose the number_____. What made you choose that number?

Refer back to set agenda-agreeing on target behavior and re-assess so that participant feels 100% confident that they can follow through on target behavior selected OR work with the parent to set a new goal that is more achievable.

Step 4: Summarize and Probe Possible Changes

I'm glad that you are feeling confident and motivated to make fuss free eating a priority for your family!

So how do you think you can make your goal a reality this week? What steps do you need to take?

Restate goal.

Brainstorm steps to accomplish the goal.

How can I help you accomplish this goal?

Step 5: Schedule Follow-Up Phone Call

The next Guide you're scheduled for is _____.

I'll email you this Guide on _____.

Would you be available for a call to discuss how you did with this guide and the new guide on _____ or _____. What time works best for you?

Review of *Fuss Free Eating* Guide (5 minutes)

Congratulations on helping to improve your family's health by reviewing the Fuss Free Eating guide.

The last time we talked, your goal for the week was:_____.

Were you able to accomplish that goal?

Yes→*How did you accomplish your goal? How has fuss free eating improved your family's meal habits?*

No→*What needs to change so that you can accomplish this goal in the future?*

Best Drinks for Families Script

Date/Time: _____

Participant/Number: _____

Date Participant Received Guide: _____

Time since last contact: _____

Length of contact: _____

Step 1: Assess

Refer to participant survey for information regarding current drink intake.

You stated in the survey that your family drank sugary beverages_____ times during the week. What are you doing now after you have read the Best Drink for Families Guides?

That's great! I'm glad to hear that your family is in the habit of limiting sugary drinks to_____ times/week. How does it make you feel when you drink a sugary beverage?

OR

For participants who respond they are continuing to drink sugary beverages the same amount or more than before: *I'm glad that you are participating in this Guide so we can discuss why limiting sugary sweetened beverages is important for your family.*

What are some ways that drinking sugary drinks may cause problems for parents and kids?

- They get too few vitamins and minerals
- They get too much sugar

- They get more calories than they need
- May lead to weak bones, cavities, and too much body fat

Why is too much body fat a health concern?

- Puts pressure on bones and damages knee and hip joints.
- Excess fat may make it hard to breathe.
- Others may not treat heavy people fairly.
- Unfair treatment can cause eating and self-esteem problems that last a lifetime.

On a scale of 1-10 (1 being not important and 10 being very important), how important is it to you that your child(ren) limits their consumption of sugary drinks?

What made you choose that number? (This will help identify personal challenges to completing individual goals)

What would have to be different for you to select an even higher number? (Segway into step 2 to provide examples on how to overcome the challenges they stated in previous question)

Step 2: Set Agenda

So we know that it is important to limit sugary beverages. When you read on page 3 of the Guide about how other families limit these beverages, what do you think?

Do you think these families were experiencing similar challenges to yours?

How will you use their ideas to get your whole family limit sugary drinks?

Do you have any additional ideas that you think may work to limit your family's consumption of sugary drinks?

Step 3: Assess Motivation and Confidence

So based on the goals that other families have set on page 4 of the guide, and knowing your own family, what do you think could be a goal for your family this week? On a scale of 1 to 10 (a score of 1 means you are not sure; 10 means you are very sure), how sure are you that your family will achieve your goal this week?

If participant selected 9 or 10, proceed to Step 4.

If participant selected number less than 9 or 10:

You chose the number _____. What made you choose that number?

Refer back to set agenda-agreeing on target behavior and re-assess so that participant feels 100% confident that they can follow through on target behavior selected OR work with the parent to set a new goal that is more achievable.

Step 4: Summarize and Probe Possible Changes

I'm glad that you are feeling confident and motivated to make limiting sugary drinks a priority for your family!

So how do you think you can make your goal a reality this week? What steps do you need to take?

Restate goal.

Brainstorm steps to accomplish the goal.

How can I help you accomplish this goal?

Step 5: Schedule Follow-Up Phone Call

The next Guide you're scheduled for is _____.

I'll email you this Guide on _____.

Would you be available for a call to discuss how you did with this Guide and the new Guide on _____ or _____. What time works best for you?

Review of *Best Drinks for Families* Guide (5 minutes)

Congratulations on helping to improve your family's health by reviewing the Best Drinks for Families Guide.

The last time we talked, we agreed that your goal was:_____.

Were you able to accomplish that goal?

Yes→*How did you accomplish your goal? How does having your whole family limit sugary beverages make you feel?*

No→*What needs to change so that you can accomplish this goal in the future?*

Breakfast the Right Start Script

Date/Time: _____

Participant/Number: _____

Date Participant Received Guide: _____

Time since last contact: _____

Length of contact: _____

Step 1: Assess

Refer to participant survey for information regarding current breakfast intake.

You stated in the survey that your family ate breakfast _____ times during the week. What are you doing now after you have read the Breakfast Guide?

That's great! I'm glad to hear that your family is in the habit of eating breakfast ____ times/week. How does it make you feel when you don't eat breakfast in the morning?

For participants who respond they eat breakfast 0 times/week or the same as when they took the survey: *I'm glad that you are participating in this Guide so we can discuss why breakfast is beneficial for you and your family to include in their daily routine and how to make breakfast happen in a calm, time-sensitive manner.*

Why do you think breakfast is important?

- Helps kids do better in school
- Improves memory
- Provides energy

- Studies have shown that breakfast eaters get more nutrients than non-breakfast eaters
    - Why is this important?
    - We need nutrients like vitamins and minerals to help our bodies function normally. When we are lacking in certain nutrients, our body cannot function the way they were meant to.
- Breakfast eaters have healthier levels of cholesterol in their blood.
    - *Why is having a healthy blood cholesterol level important?* High cholesterol levels have been linked to several chronic diseases including diseases of the heart. Having healthy cholesterol levels in our blood allows our heart to function normally.
- Breakfast eaters have healthier body weights whereas breakfast skippers become hungrier and may overeat unhealthy foods later in the day which can contribute to weight gain.
    - *Why is having a healthy weight important?* Having a healthy body weight reduces risk of developing several chronic diseases and reduces physiological distress associated with bullying.

On a scale of 1-10 (1 being not important and 10 being very important), how important is it to you that your family eats breakfast each morning?

What made you choose that number? (This will help identify personal challenges to completing individual goals)

What would have to be different for you to select an even higher number?

(Segway into step 2 to provide examples on how to overcome the challenges they stated in previous question)

Step 2: Set Agenda

So we know that it is important to have breakfast. When you read on page 3 of the Guide about how other families fit breakfast into their busy lives, what did you think?

Do you think these families were experiencing similar challenges to yours?

How will you use their ideas to get your whole family to have breakfast every morning?

Do you have any additional ideas that you think may work to incorporate breakfast into your family's daily lives?

Step 3: Assess Motivation and Confidence

So based on the goals that other families have set on page 4 of the Guide, and knowing your own family, what do you think could be a goal for your family this week?

On a scale of 1 to 10 (a score of 1 means you are not sure; 10 means you are very sure), how sure are you that your family can achieve this goal this weekend?

If participant selected 9 or 10, proceed to Step 4.

If participant selected number less than 9 or 10:

You chose the number ___. What made you choose that number?

Refer back to set agenda-agreeing on target behavior and re-assess so that participant feels 100% confident that they can follow through on target behavior selected OR work with parent to set a new goal that is more achievable.

Step 4: Summarize and Probe Possible Changes

I'm glad that you are feeling confident and motivated to make breakfast a priority for your family!

So how do you think you can make your goal a reality this week? What steps do you need to take?

Restate goal.

Brainstorm steps to accomplish the goal.

How can I help you accomplish this goal?

Step 5: Schedule Follow-Up Phone Call

The next Guide you're scheduled for is ___.

I'll email you this Guide on _____.

Would you be available for a call to discuss how you did with this Guide and the new Guide on _____ or __. What time works best for you?

Review of *Breakfast the Right Start* Guide (5 minutes)

Congratulations on helping to improve your family's health by reviewing the Breakfast the Right Start Guide.

The last time we talked, we agreed that your goal was:_____.

Were you able to accomplish that goal?

Yes→*How did you accomplish your goal? How does having your whole family eat breakfast make you feel?*

No→*What needs to change so that you can accomplish this goal in the future?*

Right Sizing Portion Script

Date/Time:

Participant/Number:

Date Participant Received Guide:

Time since last contact:

Length of contact:

Step 1: Assess

Do you feel as though you have changed your portion sizes after reading this guide?

Great! I'm glad to hear that this guide has already begun helping your family!

Let's talk about it some more so that you may get the most out of "Right Sizing Portions".

OR

For participants who respond they have not changed their portion sizes after reading the guide: *I'm glad that you are participating in this Guide so that we can discuss why "right sizing portions" is so important for you and your family.*

What are some ways healthy size portions of food and drinks could help your family?

- Correct portions help kids grow normally
- Healthy portions give kids and parents the nutrients they need
- Kids and parents get the right amount of calories to keep weights healthy

What foods are considered healthy foods?

- Low fat/fat free dairy-milk, yogurt, cheese
- Fruits and vegetables
- Lean meats, fish, chicken, turkey, beans, eggs, and other protein rich foods
- Whole grains-whole wheat bread, brown rice, non-sugary cereal, other grains

On a scale of 1-10 (1 being not important and 10 being very important), how important is it to you that your family eats right size food/drink portions?

What made you choose that number? (This will help identify personal challenge to completing individual goals)

What would have to be different for you to select an even higher number? (Segway into step 2 to provide examples on how to overcome the challenges they stated in previous question)

Step 2: Set Agenda

So we know that it is important to pay attention to portion sizes. When you read on page 3 of the guide about how other families monitor portions, what do you think?

Do you think these families were experiencing similar challenges to yours?

How will you use their ideas to adjust the portions you offer your family?

Do you have any additional ideas that you think may work to incorporate healthy portions into your family practices?

Step 3: Assess Motivation and Confidence

So based on the goals that other families have set on page 4 of the guide, and knowing your own family, what do you think could be a goal for your family this week?

On a scale of 1 to 10 (a score of 1 means you are not sure; 10 means you are very sure), how sure are you that your family will achieve your goal this week?

If participant selected 9 or 10, proceed to Step 4.

If participant selected a number less than 9 or 10:

You chose the number _____. What made you choose that number?

Refer back to set agenda-agreeing on target behavior and re-assess so that participant feels 100% confident that they can follow through on target behavior selected OR work with parent to set a new goal this is more achievable.

Step 4: Summarize and Probe Possible Changes

I'm glad that you are feeling confident and motivated to make right sizing portions of food/drink a priority for your family!

So how do you think you can make your goal a reality this week? What steps do you need to take?

Restate goal.

Brainstorm steps to accomplish the goal.

How can I help you accomplish this goal?

Step 5: Schedule Follow-Up Phone Call

The next Guide you're scheduled for is _____.

I'll email you this Guide on _____.

Would you be available for a call to discuss how you did with this guide and the new guide on _____ or _____. What time works best for you?

Review of *Right Sizing Portions* Guide (5 minutes)

Congratulations on helping to improve your family's health by reviewing the Right Sizing Portions guide.

The last time we talked, your goal for the week was: _____.

Were you able to accomplish that goal?

Yes→ *How did you accomplish your goal? How does having your whole family eat the correct size portions make you feel?*

No→ *What needs to change so that you can accomplish this goal in the future?*

Family Mealtimes Script

Date/Time:

Participant/Number:

Date Participant Received Guide:

Time since last contact:

Length of contact:

Step 1: Assess

Refer to participant survey for information regarding current family mealtime practices.

You stated in the survey that your family ate meals at the table _____ times during the week and _____ meals in (car, in front of TV, etc.) *times during the week. What are you doing now after you have read the Family Meal Times Guide?*

That's great! I'm glad to hear that your family is in the habit of eating meals at the table _____ times/week and have reduced eating meals (in the car, in front of the TV etc.). How does it make you feel when you eat your meals at the table verses somewhere else? (Skip next statement)

OR

For participants who respond they eat family meals at the table 0 times/week or the same as when they took the survey: *I'm glad that you are participating in this Guide so we can discuss why eating meals together and without distraction is*

beneficial for you and your family to include in their daily routine and how to make this happen in a calm, enjoyable manner.

Why do you think family mealtimes are important?

- Kids are happier and feel good about themselves.
- Kids feel more secure and closer to their families
- Kids do better in school
- Mealtime chat help kids learn how to say new words, make sentences, and listen
- Older kids are less likely to drink alcohol, smoke or use drugs
- Parents get to spend time with their children and learn about their day
- Parents get to teach kids about healthy eating
- Meals are healthier
- Teaches healthy eating habits
- Kids are less likely to be overweight

On a scale of 1 to 10 (1 being not sure; 10 being very sure), how important is it you that your family has mealtimes together each day?

*What made you choose that number? (*This will help identify personal challenges to completing individual goals).

*What would have to be different for you to select an even higher number? (*Segway into step 2 to provide examples on how to overcome the challenges they stated in previous question*).*

Step 2: Set Agenda

So we know that it is important to have family meals. When you read on page 3 of the Guide about how other families fit family mealtimes into their busy lives, what did you think?

Do you think these families have similar challenges to family mealtimes as you?

How will you use their ideas to get your whole family to have family mealtimes?

Do you have any additional ideas that you think may work to incorporate mealtimes into your family's daily lives?

Step 3: Assess Motivation and Confidence

So based on the goals that other families have set on page 4 of the Guide, and knowing your own family, what do you think could be a goal for your family this week?

On a scale of 1 to 10 (a score of 1 means you are not sure; 10 means you are very sure), how sure are you that your family will achieve this goal this week?

If participant selected 9 or 10, proceed to Step 4.

If participant selected number less than 9 or 10:

You chose the number _____. What made you choose that number?

Refer back to set agenda-agree on target behavior and re-assess so that participant feels 100% confident that they can follow through on target behavior selected OR work with parent to set a new goal that is more achievable.

Step 4: Summarize and Probe Possible Changes

I'm glad that you are feeling confident and motivated to make family mealtimes a priority!

So how do you think you can make your goal a reality this week? What steps do you need to take?

Restate goal.

Brainstorm steps to accomplish the goal.

How can I help you accomplish this goal?

Step 5: Schedule Follow-Up Phone Call

The next Guide you're scheduled for is _____.

I'll email you this Guide on _____.

Would you be available for a call to discuss how you did with this Guide and the new Guide on _____ or _____. What time works best for you?

Review of *Family Mealtimes* Guide (5 minutes)

Congratulations on helping to improve your family's health by reviewing the Family Mealtimes Guide.

The last time we talked, your goal for the week was:_____.

Were you able to accomplish that goal?

Yes→*How did you accomplish your goal? How does having family mealtimes make you feel?*

No→*What needs to change so that you can accomplish this goal in the future?*

Fabulous Fruits and Vegetables Script

Date/Time:

Participant/Number:

Date Participant Received Guide:

Time since last contact:

Length of contact:

Step 1: Assess

Refer to participant survey for information regarding current fruit and vegetable intake.

You stated in the survey that your family ate fruit _____times during the week and vegetables _____ times during the week. What are you doing now after you have read the Fabulous Fruits and Vegetables Guide?

That's great! I'm glad to hear that your family is in the habit of eating fruits and vegetables! How do you feel when you go a long time without eating fruits and vegetables?

OR

For participants who respond they eat fruits and vegetables 0 times/week or the same as when they took the survey: *I'm glad that you are participating in this Guide so we can discuss why fruits and vegetables are beneficial for you and your family to include in their daily routine and how to incorporate them in fun easy ways.*

How could eating more fruits and vegetables help your family?

- Families get more nutrients
- Parents and kids avoid being constipated
- Have less chance of getting heart disease, cancer, and diabetes
- Families get sick less often
- Parents and kids have healthy amounts of body fat

Why is excess body fat detrimental to your child's health?

- Too much body fat causes many health problems.
- It can damage the liver and other organs.
- Kids may not be able to grow as tall as they could.
- Excess body fat makes it easy to get off balance and fall.
- Sleep problems can occur when body fat is too high.

On a scale of 1-10 (1 being not important and 10 being very important), how important is it to you that your family eats fruits and vegetables daily?

What made you choose that number? (This will help identify personal challenges to completing individual goals)

What would have to be different for you to select an even higher number? (Segway into step 2 to provide examples on how to overcome the challenges they stated in previous question)

Step 2: Set Agenda

So we know that it is important to eat fruits and vegetables. When you read on page 3 of the Guide about how other families get fruits and vegetables into their diet regularly, what did you think?

Do you think these families were experiencing similar challenges to yours?

How will you use their ideas to get your whole family to eat more fruits and vegetables daily?

Do you have additional ideas about how to incorporate fruits and vegetables into your family's daily lives?

Step 3: Assess Motivation and Confidence

So based on the goals that other families have set on page 4 of the Guide, and knowing your family, what do you think could be a goal for your family this week?

On a scale of 1 to 10 (a score of 1 means you are not sure; 10 means you are very sure), how sure are you that your family will achieve this goal this week?

If participant selected 9 or 10, proceed to Step 4.

If participant selected number less than 9 or 10:

You chose the number _____. What made you choose that number?

Refer back to set agenda-agreeing on target behavior and re-assess so that participant feels 100% confident that they can follow through on target behavior selected OR work with parent to set a new goal that is more achievable.

Step 4: Summarize and Probe Possible Changes

I'm glad that you are feeling confident and motivated to make fruit and vegetable consumption a priority for your family!

So how do you think you can make your goal a reality this week? What steps do you need to take?

Restate goal

Brainstorm steps to accomplish the goal.

How can I help you accomplish this goal?

Step 5: Schedule Follow-Up Phone Call

The next Guide you're scheduled for is _____.

I'll email you this Guide on _____.

Would you be available for a call to discuss how you did with this Guide and the new Guide on _____ or _____, What time works best for you?

Review of *Fabulous Fruits and Vegetables* Guide (5 minutes):

Congratulations on helping to improve your family's health by reviewing the Fabulous Fruits and Vegetables Guide.

The last time we talked, your goal for the week was:_____.

Were you able to accomplish that goal?

Yes→*How did you accomplish your goal? How does having your whole family eat fruits and vegetables make you feel?*

No→*What needs to change so that you can accomplish this goal in the future?*

Play More Sit Less Script

Date/Time:

Participant/Number:

Date Participant Received Guide:

Time since last contact:

Length of contact:

Step 1: Assess

Refer to participant survey for information regarding current screen time patterns.

You stated in the survey that your family engages in _____ hours of screentime during the day and _____ hours of play. What are you doing now after you have read the Play More Sit Less Guide?

That's great! I'm glad to hear that your family is in the habit of limiting your screentime and engaging in active play. How does it make you feel when you watch more than 2 hours of TV per day? Less than 2 hours of TV per day?

OR

For participants who are engaging in the same (or more) amount of screentime as when they took the survey: *I'm glad that you are participating in this Guide so that we can discuss why limiting screentime is important for you and your family.*

What are some ways that getting more than 2 hours of screentime each day can cause problems for your family?

- They may have shorter attention spans and learning problems
- Many have poorer reading skills

- Children may misbehave more and have poorer social skills
- Most sleep poorly and feel tired
- Kids eat less healthy meals and snacks
- Children get too little physical activity
- Boys and girls gain excess body fat, which can lead to severe health problems

What are some ways that reducing screentime and increasing active playtime could help your family?

- Kids act up less
- They get along better with others
- Kids do better in school
- Healthier body weights
- Fewer health problems
- More time to spend together as family

On a scale of 1-10 (1 being not important and 10 being very important), how important is limiting your family's screen time important to you?

What made you choose that number? (This will help identify personal challenges to completing individual goals)

What would have to be different for you to select an even higher number? (Segway into step 2 to provide examples on how to overcome the challenges they stated in previous question)

Step 2: Set Agenda

So we know that it is important to limit screen time and increase active playtime. When you read on page 3 of the guide about how other families limit screen time and engage in active playtime, what do you think?

Do you think these families were experiencing similar challenges to yours?

How will you use their ideas to help your family have less screentime and more active playtime?

Do you have any additional ideas that you think may work to reduce screentime in your family's daily life?

Step 3: Assess Motivation and Confidence

So based on the goals that other families have set on page 4 of the guide, and knowing your own family, what do you think could be a goal for your family this week?

On a scale of 1 to 10 (a score of 1 means you are not sure; 10 means you are very sure), how sure are you that your family can achieve your goal this week?

If participant selected 9 or 10, proceed to Step 4.

If *participant selected number less than 9 or 10:*

You chose the number_____. What made you choose that number?

Refer back to set agenda-agreeing on target behavior and re-assess so that participant feels 100% confident that they can follow through on target behavior selected OR work with the parent to set a new goal that is more achievable.

Step 4: Summarize and Probe Possible Changes

I'm glad that you are feeling confident and motivated to make limiting screen time a priority for your family!

So how do you think you can make your goal a reality this week? What steps do you need to take?

Restate goal.

Brainstorm steps to accomplish the goal.

How can I help you accomplish this goal?

Step 5: Schedule Follow-Up Phone Call

The next Guide you're scheduled for is _____.

I'll email you this Guide on _____.

Would you be available for a call to discuss how you did with this Guide and the new Guide on _____ or _____. What time works best for you?

Review of *Play More Sit Less* Guide (5 minutes)

Congratulations on helping to improve your family's health by reviewing the Play More Sit Less Guide.

The last time we talked, your goal for the week was:_____.

Were you able to accomplish that goal?

Yes→*How did you accomplish your goal? How does having your family limit their screen time make you feel?*

No→*What needs to change so that you can accomplish this goal in the future?*

Time to Play Script

Date/Time:

Participant/Number:

Date Participant Received Guide:

Time since last contact:

Length of contact:

Step 1: Assess

Refer to participant survey for information regarding current physical activity/play practices.

You stated in the survey that your family engages in physical activity _____ times during the week. What are you doing now after you have read the Time to Play Guide? That's great! I'm glad to hear that your family is active _____ times/week. How does it make you feel when your family is physically active? (Skip next question)

OR

For participants who respond they are physically active 0 times/week or the same as when they took the survey: *I'm glad that you are participating in this Guide so we can discuss how physical activity and play time is beneficial for you and your family to include in your weekly schedule.*

What are some ways that active playtime could help your family (or does help your family)?

- Closer family bonds
- Feel better about themselves

- Sleep better
- Lower stress levels
- Fight off illness more easily
- Fewer health problems, like diabetes and heart disease
- More control over muscles used to run, jump, and play
- Stronger bones and muscles
- Healthier blood pressures
- Healthier body weights
- Healthier amounts of body fat

On a scale of 1-10 (1 being not important and 10 being very important), how important is it to you that your family is physically active each day?

What made you choose that number? (This will help identify personal challenges to completing individual goals)

What would have to be different for you to select an even higher number? (Segway into step 2 to provide examples on how to overcome the challenges they stated in previous question)

Step 2: Set Agenda

So we know that it is important to get enough active playtime. When you read on page 3 of the Guide about how other families fit play into their busy lives, what do you think?

Do you think these families were experiencing similar challenges to yours?

How will you use their ideas to have more active playtime with your family?

Do you have any additional ideas that you think may work to fit play into your family's routine?

Step 3: Assess Motivation and Confidence

So based on the goals that other families have set on page 4 of the Guide, and knowing your own family, what do you think could be a goal for your family this week?

On a scale of 1 to 10 (a score of 1 means you are not sure; 10 means you are very sure), how sure are you that your family can achieve your goal this weekend?

If participant selected 9 or 10, proceed to Step 4.

If participant selected number less than 9 or 10:

You chose the number _____. What made you choose that number?

Refer back to set agenda-agreeing on target behavior and re-assess so that participant feels 100% confident that they can follow through on target behavior selected OR work with parent to set a new goal that is more achievable.

Step 4: Summarize and Probe Possible Changes

I'm glad that you are feeling confident and motivated to make play time a priority for your family!

So how do you think you can make your goal a reality this week? What steps do you need to take?

Restate goal

Brainstorm steps to accomplish the goal.

How can I help you accomplish this goal?

Step 5: Schedule Follow-Up Phone Call

The next Guide you're scheduled for is _____.

I'll email you this Guide on _____.

Would you be available for a call to discuss how you did with this Guide and the new Guide on _____ or _____. What time works best for you?

Review of *Time to Play* Guide (5 minutes)

Congratulations on helping to improve your family's health by reviewing the Time to Play Guide.

The last time we talked, your goal for the week was:_____.

Were you able to accomplish that goal? _____

Yes→*How did you accomplish your goal? How does having your family play time make you feel?*

No→*What needs to change so that you can accomplish this goal in the future?*