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Running Head: AN EVALUATION OF A WEIGHT MANAGEMENT PROGRAM

Final DNP Project Report

An Evaluation of an Innovative Weight Management Program in a Primary Care Setting

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Fall 2017

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Dedication

I dedicate this project work to my husband Tony and my daughter Rachel. Thank you for your patience during those times when I had to complete assignments and could not cook dinner, catch a movie, or just spend time with you. I believe that I have shown you both what it looks like to work hard to reach your goals and now the time has paid off. I am finished with school and can devote all of my free time to you.

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Abstract

Background- Kentucky ranks third in the nation for childhood overweight and obesity. .

Consumption of high dietary fat, excessive use of electronics, low levels of physical activity and consumption of sugar filled drinks are modifiable behaviors believed to be the biggest culprits behind these statistics.

Purpose- The purpose of this evaluation was to assess the implementation of the 5-2-1-0 plan in the management of childhood overweight or obesity within an urban primary care clinic.

Methods- After initiation of the program by the clinic focused interviews with the primary care providers were conducted to evaluate barriers and benefits to using the program. The interviews were conducted 6 weeks after the program was initiated.

Results- Several themes were identified from the providers' interview regarding the 5-2-1-0 program. The program required changes in the clinic processes which were difficult to establish as an automatic habit when rooming the patient. Overall the program was viewed as helpful in reminding providers to address weight, was simple to use and had measurable goals.

Conclusion- The program, though beneficial to providers and patients, requires changes within the clinic which can be cumbersome. There needs to be constant reinforcement of using the 5-2-1-0 tools until they become part of a provider's routine care. Once established, measurable results of using the program can be evaluated.

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An Evaluation of an Innovative Weight Management Program in a Primary Care Setting

Childhood obesity is a growing epidemic in the United States having doubled in children and quadrupled in adolescents in the last 30 years. This alarming growth rate contributes to the development of chronic disease at a younger age (Healthy People 2020, 2015). This is tragic to the population health of the U.S. causing financial instability and increasing healthcare cost. Early detection and treatment of childhood obesity is necessary due to the potentially lifelong negative consequences. The purpose of this project is to evaluate the pilot implementation of the essentials of prevention, assessment, and management of childhood obesity. The 5-2-1-0 program is well recognized for its approach to promoting current and future participation in lifestyle changes (5210 Let's Go, 2015). Through assessment, ongoing counseling, and education, parents and overweight children are taught healthy habits which can lead to an improvement in overall quality of life.

Background

Overweight and obesity in children and adolescents are growing at alarming rates. In the last 30 years obesity has doubled in children aged 2 to 11, and quadrupled in adolescents aged 12 to 17. This growing epidemic affects more than 30% of young people, making it the most common chronic disease of childhood (Healthy People 2020, 2015). Kentucky ranks third in the nation behind Mississippi and Alabama with approximately 15% of children overweight and 17% obese (Kentucky Cabinet for Health and Human Services, 2010). Of that appalling figure, 21% of those children are from Louisville, Kentucky (CDC, 2013).

Obesity leads to increased risk factors for cardiovascular diseases such as hyperlipidemia and hypertension, along with carrying the potential to cause stroke and type 2 diabetes. Obese

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children are at greater risk for developing bone and joint disorders, sleep apnea, and psychological issues such as poor self-esteem and depression as a result of being bullied ("Healthy People 2020," 2015). Approximately 50% of obese children will become obese adults, highlighting the importance of addressing weight concerns in the pediatric population. Consumption of high dietary fat, watching four or more hours of television each day, excessive use of electronics or video games, low levels of physical activity and consumption of sugar filled drinks are modifiable behaviors believed to be the biggest culprits behind these statistics (5210 Let's Go, 2015).

Purpose

There was an expressed interest from a primary care office associated with a large healthcare organization to implement a program that could help address childhood obesity. The providers are specialized in family medicine and advocate for preventive medicine. From a number of weight management programs available the primary care office chose the 5-2-1-0 plan which focuses on parents willingness to change the health habits of their child. A key intervention is using motivational interviewing to help parents identify what could be modified to reduce obesity.

The 5-2-1-0 plan is based on the good habits that we, as a society, have lost: eating fresh fruits and vegetables, entertainment as a family, playing actively, and keeping sweet drinks as treats (Kentucky Cabinet for Health and Human Services, 2010).). The 5-2-1-0 message consists of having 5 or more servings of fruit and vegetables daily; 2 hours or less of screen time daily; 1 hour of daily physical activity; and 0 sweet drinks. In addition to the clear, consistent 5-2-1-0 message, the plan includes key strategies for success, and is described as an easy and

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effective way to integrate healthful eating and physical activity into any home (5210 Let's Go, 2015).

The purpose of this evaluation study was to assess the providers' and medical assistants' use of the 5-2-1-0 plan in the management of childhood overweight or obesity in a primary care setting. This evaluation consisted of a focused interview with healthcare providers and their medical assistants. In the focused interview with providers, the following questions were addressed:

- Did you find using the 5-2-1-0 plan useful in the management of childhood overweight or obesity in the primary care setting? Please describe.
- Did utilizing the 5-2-1-0 plan change your practice? Please describe.
- Did you discover any barriers with implementing the 5-2-1-0 plan? Please describe.

In the focused interview with the medical assistants the following question was addressed:

- Did you encounter any barriers with implementing the 5-2-1-0 plan? Please describe.

Review of Literature

Overweight and obesity in childhood have a significant impact on physical and psychological health. The mechanism of obesity development is believed to be a disorder with multiple causes. Generally, it is assumed that overweight and obesity are a result of increased caloric and fat consumption, yet there is evidence to support excessive sugar intake from soft drinks, increased portion size, and decreased physical activity as being culprits in rising obesity

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rates. Environmental factors, lifestyle practices, and even culture also play pivotal roles in the rising prevalence (Sahoo et al., 2015).

Parental factors have a significant impact on their children's weight. Children learn by modeling parents' food preferences, intake, and willingness to try new foods. By offering a variety of different foods parents help children develop a desire for more healthful choices that provide better nutrition. Larger portions are also a problem as children offered more food tend to overeat. Researchers at the University of California, San Francisco have discovered up to 85 percent of parents push their kids to eat more, offering rewards and praise for taking a few more bites (Kuzernchak, n.d.). When a child pushes away the plate and claims to be full he/she should be believed. Otherwise, you start down the slippery slope of eating when not hungry. A University of Pennsylvania study found that many overweight 5 to 12 year olds have lost touch with their hunger cues (Kuzernchak, n.d.). Consuming larger portions contributes to an excessive caloric intake. This energy imbalance contributes to weight gain, and consequently obesity (Sahoo et al., 2015).

Mealtime structure suggests that families who eat together consume more healthy meals. Substituting made from scratch options for processed foods means that you know what is in the food and minimizes additives and surprises such as added sugar. However, changes in the family structure (dual-career and single-parent working) have increased the demand for processed foods and food away from home. Often working parents opt for fast foods as they are favored by children and are both convenient and inexpensive (Richards, n.d.). A November 2016 Statista survey found that 20 percent of U.S. consumers visited a fast food restaurant at least once a week and 18 percent visited several times per week ("The Statistics Portal," 2017).

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Foods served at fast food restaurants tend to contain higher calories with lower nutritional values (Richards, n.d.).

Sugar consumption has changed considerably during the last 30 years, as children are eating differently than they did before. In the past, sugar was a minor part of the diet yet now almost all processed foods (peanut butter, breakfast cereals, and canned foods) contain sugar or high fructose corn syrup. Sugary drinks, such as sodas, have become a mainstay of many diets (Richards, n.d.). Drinking one can of soda per day produces a weight gain of 15 lb. /year (Strasburger, 2011). Sugary drinks are not limited to sodas but include juices and other sweetened beverages. These drinks are less filling than food and can be consumed quickly resulting in higher caloric intake therefore contributing to overweight and obesity (Sahoo et al., 2015).

The basic physiology of weight change is well understood: weight is gained when energy intake exceeds energy expenditure. Maintaining a stable weight requires a delicate balance between energy intake and energy output. Very young children seem capable of adjusting their intake to match their outflow, but as children grow up, they seem to lose this apparently innate ability. The American Academy of Pediatrics (AAP) recommends children engage in one hour of physical activity per day (AAP, 2015). Yet, this activity recommendation is not met by over 50% of children (Sahoo et al., 2015).

There are several factors that contribute to a lack of exercise: increased concern of safety in neighborhoods, elimination of recess and physical education from school curriculum, limited time for parents to provide outside or sports time, and the rise in video game popularity (Richards, n.d.). Opportunities to be physically active have declined in recent years along with safe environments in which to be active. Children in the 1970's were more likely to walk or bike

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to school each day, but a 2002 study revealed that 53% of children are now driven to school by parents (Sahoo et al., 2015). Of those parents 66% report they do so because their homes are too far away from the school. Other reasons given included no safe walking routes available, fear of predators, and convenience for the child. Opportunities for outdoor activities do not exist for children living in unsafe areas of the community (Sahoo et al., 2015).

Social media and television also leads to a more sedentary lifestyle. Each additional hour of television (TV) watched per day increases the prevalence of obesity by 2% (Sahoo et al., 2015). Television viewing among young children and adolescents has increased dramatically in recent years. This increased amount of time spent in sedentary behaviors has decreased the amount of time spent in physical activity. Research indicates the number of hours children spend watching TV correlates with their consumption of the most advertised goods, including sweetened cereals, candy, sweetened beverages, and salty snacks (Sahoo et al., 2015).

In 2009, the fast-food industry spent \$4.2 billion on advertising in all media. A study of 1638 hours of TV and nearly 9000 food ads found that young people see on average 12 to 21 food ads per day, for a total of 4400 to 7600 ads per year. Sadly they see fewer than 165 ads that promote fitness or good nutrition (Strasburger, 2011). Television is not the only negative influence children encounter. Internet use has exploded since the 1990's and this technology allows advertisers to reach children and adolescents in fun interactive ways. A study of the top five brands in eight different food and beverage categories found that each one had an internet website: 63% had advergames (games used to advertise the product), 50% had cartoon characters, and 58% had a designated children's area. Half of the websites urge children to ask their parents to buy the products, yet only 17% contained any nutritional information (Strasburger, 2011).

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The increase in childhood overweight and obesity can be tracked back to the 1980's and continues today (Sahoo et al., 2015). This period saw children's environments changing in multiple ways. During this time unhealthier foods and soft drinks were increasingly available.

Children consumed more pre-packaged and fast food as family structure changes drove up the demand for convenience. Declines in community environments made it more difficult for children to engage in safe unsupervised play leading to more sedentary activities of watching TV, playing video games, and computer usage. These developments have upset the balance of energy intake and expenditure. The challenge is to find the most effective way to change children's environment and restore the energy balance continuum (Sahoo et al., 2015).

The primary care practice may be the ideal site in which to identify overweight and obese children, educate parents and children about health risks, and establish and implement therapeutic interventions. The AAP recommends prevention and treatment of obesity in children and adolescents be provided within the primary care practice where they are seen for both health maintenance well child care (WCC) and sick care visits (AAP, 2015). There is no single or simple solution to solving the obesity epidemic.

Primary Care Providers (PCPs) do not all address the problem or evaluate and treat overweight children in ways consistent with expert recommendation (Wilfley, Kass, & Kolko, 2011). The US Preventative Task Force recommends children receive moderate-to-high intensity treatment including counseling and interventions targeted at diet and physical activity (Wilfley et al., 2011). The PCP must work in conjunction with parents and behavioral specialists, when available, to establish effective lifestyle interventions. To optimize support at home, all family members are encouraged to attend sessions (Wilfley et al., 2011).

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Childhood overweight and obesity are preventable. Interventions must be multifaceted and incorporate specific strategies to improve nutrition and promote activity for children (D'Auria, 2011). There are many high quality programs that provide up-to-date information about healthy behaviors to combat this growing epidemic. Programs must involve more than simple discussion of diet and exercise.

In 2010 the White House identified childhood overweight and obesity as a growing problem leading Michelle Obama to initiate a "Let's Move" program. The goal was to reduce childhood obesity rates from 20 percent to five percent by the year 2030 (D'Auria, 2011). Let's Move focuses on five pillars (Let's Move, n.d.):

- Creating a healthy start for children
- Empowering parents and caregivers
- Providing healthy foods in schools
- Improving access to healthy, affordable food
- Increasing physical activity.

Let's Move advocates healthy eating habits promoted by families, schools, and communities. The initiative provides guidelines for parents to promote healthy eating habits for their entire family. For this program to work effectively the community needs to be involved. Schools must implement health programs, provide nutritious meals, and offer physical activity to students. Private businesses must make changes to encourage healthy habits for children ("Let's Move," n.d.). Walt Disney Corporation announced, in response to this initiative, it would no longer accept advertising from junk food during its programming (D'Arcy, 2012).

Another health promoting program published by the United States Department of Agriculture (USDA) Center for Nutrition Policy and Promotion, is "My Plate". My Plate

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depicts a place setting with a plate and glass divided into five food groups (USDA, 2017). The plate is divided into four sections that recommend holding 30 percent grains, 40 percent vegetables, 10 percent fruits, and 20 percent protein. The smaller circle represents dairy, such as a glass of milk or a cup of yogurt. These guidelines promote portion control as well as reduction in sodium and sugar intake (USDA, 2017).

My Plate is highly regarded due to the 50 percent emphasis on fruits and vegetables along with the simplicity and understandability of the plate image (USDA, 2017). Critics regard the protein section as unnecessary due to the availability of proteins from other food groups, however meat would not fit into any of the other groups. Additional critiques point to the icon being too simple, missing opportunities for dietary advice, such as distinguishing between healthy and unhealthy proteins and good or bad fats (USDA, 2017).

The program chosen by the primary care clinic, which is the focus of this project, is the 5-2-1-0 behavioral change program. It provides a way to expand health care providers' capacity to treat and prevent childhood obesity. The program encourages the adoption of healthy habits by nutrition education. Children are asked to participate by tracking four things: the number of fruits and vegetables they eat per day (5), hours of recreational screen time (2), hours of physical exercise (1), and the number of sweetened beverages drunk per day (0) (5210 Let's Go, 2015).

Motivational Interviewing (MI) can make this tough topic a more enjoyable conversation between the provider and patient/family. MI is not a technique but rather a collaborative, goal-oriented method of communication, with particular attention to the language of change (5210 Let's Go, 2015) . It is designed to strengthen motivation for and movement toward a specific goal by eliciting and exploring the person's own arguments for change. Research has

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demonstrated that the very first encounter matters and that MI can make a difference in just one 15 minute interaction (5210 Let's Go, 2015).

The use of evidence-based 5-2-1-0 interventions is associated with higher levels of parent knowledge and greater adoption of healthy behaviors necessary to prevent childhood obesity (Rogers et al., 2013). After initiating the 5-2-1-0 program in 65 practices in Maine, documentation of the patient's BMI percentile, blood pressure, and assessment of healthy habits improved from 30% to 60% during WCCs. The prevalence of overweight and obesity in young patients declined from 32.8% to 31.3% (5210 Let's Go, 2015).

Evidence based interventions, with statistically significant changes provide a good starting place that allows providers to address potential weight issues while focusing on overall health (5210 Let's Go, 2015). Yearly preventative health exams are encouraged for all children. This pilot project of evaluating the 5-2-1-0 program, during every WCC, will be the first step in helping primary care providers address overweight and obesity in the 2 to 17 year old. The purpose of this project was to evaluate a primary care offices' implementation of the 5-2-1-0 program and the feasibility of using this approach in a busy primary care office.

Methods

Setting

Norton Medical Group provides access to the largest network of primary care in the Greater Louisville area with over 700 providers. Norton Community Medical Associates (NCMA) are committed to educating patients on how to stay well by preventing illnesses and diseases. NCMA Hurstbourne (NCMAH) providers opted to use the 5-2-1-0 program in assisting parents with their children's weight. The program was initiated in September 2017 and implementation scheduled to be evaluated after four weeks.

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Design

Prior to the evaluation the clinicians and staff familiarized themselves with the 5-2-1-0 program. Posters were placed in examination rooms illustrating the four components of healthy behavior. These provided a focal point for discussion. Parents of children ages 2 to 9 and children ages 10 to 17 were asked to complete the Healthy Habits questionnaire (See Appendix A and B). This questionnaire was used to gather basic healthy lifestyle information from the parent/patient and became a permanent part of the medical record. The medical assistant was responsible for distributing the questionnaire to the parent/patient when rooming the patient. Using and reviewing the questionnaire was considered a powerful method for starting conversations around the difficult topic of weight. Providers also familiarized themselves with the use of MI, which is an intimate component of the 5-2-1-0 program.

Sample

The population included in this evaluation are the practice staff members that range in age from 22 to 62 years old. The anticipated sample size was 23 employees of the NCMAH office. Evaluation began after receiving IRB approval from both the University of Kentucky and Norton Healthcare. The evaluation was completed using a focused interview approach that included pediatric healthcare providers and staff. All NCMAH providers were asked to participate in the evaluation if they used the 5-2-1-0 program.

Subject Protection

The data collection began following IRB approval from the University of Kentucky review board and Norton Healthcare Office of Research Administration (NHORA). After obtaining informed consent all participating providers and staff were interviewed with all information de-identified. Participation was voluntary and assurance was given that all results

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would remain confidential. The providers were informed that they could skip any question they did not feel comfortable answering.

Research Procedures

There were two providers (one nurse practitioner and one physician) and one medical assistant from the primary care office who met study criteria and consented to participate in the focused interview. The interview, which took approximately 10 minutes, was scheduled at their convenience. It was conducted at the primary care office during business hours after consent was obtained. Participation was voluntary and all interview answers remained confidential.

Although four providers and 19 office staff were part of the implementation of the 5-2-1-0 program participation was limited to two providers and one medical assistant because they were the only eligible providers who volunteered to participate. At the end of four weeks, only one Healthy Habits questionnaire had been filled out limiting the evaluation process. After recognizing the problem with the low participation rate, at the PI's recommendation, the office manager transferred distribution of the questionnaire. From that point forward the registration staff was instructed to pass out the questionnaire when patients registered for their appointment. Another evaluation was then scheduled for two weeks after the implementation process changed. This change improved compliance with the process and 13 questionnaires were completed during the next two weeks.

Results

Interviews

Focused individual interviews were conducted with two providers and one medical assistant. One of the providers was a family practice physician and the other a family nurse practitioner. Both had conducted wellness visits using the 5-2-1-0 for the project population.

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Only the medical assistant assigned to the physician was willing to be interviewed. The other medical assistants' declined to be interviewed.

After interviewing the medical assistant a barrier was identified in having to incorporate a new rooming process. During the first month of implementation only one Healthy Habits questionnaire had been completed. This prompted the office manager, at the PI's recommendation, to transfer distribution of the questionnaire to the registration staff where compliance improved as 13 questionnaires had been completed in a 2 week period. This carved the medical assistant out from the process but added a new change for the registration desk. The medical assistant offered no further thoughts or concerns about the program.

From the providers view point there were no barriers to using the program. Several themes were identified from the providers' interview regarding the 5-2-1-0 program. First and foremost, the program with the use of the posters and Healthy Habits questionnaire increased their awareness of obesity. For example one stated, "It has made me more aware of childhood obesity and counseling guided toward change in behavior". In addition parents were also made more aware of the obesity epidemic.

The providers felt the program offered a simple way to discuss diet and exercise guidelines. The posters provided visual cues that triggered discussions about overall health. The information provided on the Healthy Habits questionnaire helped parents and children identify areas they could change to improve healthy behavior.

The participating providers appreciated the programs offering of measureable goals. For example, the providers felt that offering a more specific goal of increasing activity to one hour a day was obtainable and offered parents more guidance. Another advantage is the ability for

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follow up appointments to be more goal directed. A comment was made that the responsibility for follow up would lie with the parent in making and keeping future appointments.

Discussion

This project using the 5-2-1-0 program evaluated a pilot program focused on the management of childhood overweight and obesity. Primary care providers need tools and support to address childhood obesity in the primary care environment. The healthcare guideline: Prevention and Management of Obesity for Children and Adolescents from the Institute of Clinical Systems Improvements (ICSI) offers evidence based practice recommendations for providers. The focus of obesity prevention is through diet, exercise, and family involvement. The ICSI guideline recommends prevention strategies consisting of annual WCCs which include an assessment of diet, physical activity, and sedentary behavior. Prevention also includes limiting sugar filled drinks, 1 hour of physical activity per day, limiting screen time to 2 hours per day, and eating at least 5 servings of fruits and vegetables daily (National Guideline Clearinghouse, 2013).

The 5-2-1-0 program, developed by the Maine Youth Overweight Collaborative, is consistent with guidelines, offers a tool to help implement recommendations and is an effective and quick tool for assessment of overweight and obesity risk factors. It also provides the clinician a process to discuss strategies on how to improve diet and exercise while focusing on overall health instead of weight. The providers in this evaluation verified these exact factors as they utilized the 5-2-1-0 program. The primary interventions for success are healthy dietary intake and physical activity (5210 Let's Go, 2015).

Childhood overweight and obesity is a multifactorial problem. The first step toward a solution is for parents and health providers to demonstrate awareness of the risks of the problem.

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Parental perceptions of their children's weight play an important role in prevention and treatment, yet a recent study determined that a large portion (50.7%) underestimate the weight of their overweight/obese child (Lundahl, Kidwell, & Nelson, 2014). For parents to be involved in the prevention of childhood obesity they must first recognize and be concerned that their child is overweight. If parents are unable or unwilling to make this recognition they may lack the motivation to address the problem. Parents who believe their child is struggling with weight are more likely to model healthy behaviors. Those who underestimate or show lack of concern may influence their overweight child to regard their weight status as normal leading them to engage in further obesity causing behaviors (Lundahl et al., 2014).

A variety of explanations exist for underestimating weight. Parents simply resist labeling or stigmatizing their children. They overlook the excess weight because acknowledging it would require recognizing their own need to implement healthy lifestyle changes. Research also indicates parents do not consider their child to be overweight if he/she participates in physical activity, is not teased about their size, and has no obvious threatening health problems (Lundahl et al., 2014).

The alarming trends and risks associated with childhood obesity elevate the priority of screening, treating, and preventing childhood overweight and obesity for healthcare providers. Previous gap analysis, of the involved primary care practice, demonstrated that recorded BMI percentile is not utilized for a comprehensive management plan. Therefore improvement in provider assessment of excess weight is necessary. Lack of provider concern of a child's weight status has been identified as one of the strongest predictors for parental underestimation (Lundahl et al., 2014).). In the opinion of the participating providers' use of the 5-2-1-0 posters and questionnaire helped to raise their awareness of the obesity problem and provided them with

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the tools necessary to remedy misperceptions, encourage healthy eating, and increase physical activity in their patients.

The simplicity of using the 5-2-1-0 program was appreciated by the providers. Weight can be a charged issue and discussing healthy eating and active living with parents and children can be difficult. Use of the Healthy Habits questionnaire allowed the providers to switch the conversation from weight to healthy habits. Advice on proper nutrition and physical activity can be confusing, and at times overwhelming. The 5-2-1-0 program simplifies this information into four simple guidelines that are easy to remember. Incorporating 5-2-1-0 provides a simple, standardized, evidence-based approach for patients, families, and providers.

Goal setting has been shown to be an effective strategy for modifying dietary behavior and improving adherence to exercise, particularly when the patient and health care professional establish the goals together. The 5-2-1-0 program makes setting simple, measurable goals for changing physical activity and nutrition behaviors easy enough for young children to reach. Using the 5-2-1-0 model, along with recommendations from the CDC and AAP, providers are able to develop a management plan that centers on individualizing patient goals. This allows treatment and prevention to remain focused on overall health, lifestyle, and behaviors.

Finally, the challenges to instituting a new process in a clinic must be appreciated. Though the clinic providers were in agreement with the 5-2-1-0 program there were obvious problems with distributing the Healthy Habits questionnaire. Significant change is usually the result of many smaller changes that must be consistently reinforced. It is important to engage not only the medical and nursing staff but also the administrative staff. Using the team approach allows everyone to see value in the effort and have ownership over one or more of the steps. There is no need to wait until a goal is fully achieved before recognizing and celebrating

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progress. Even small steps are steps in the right direction. Evaluate the program components on a regular basis and identify areas that need improvement.

Limitations

Limitations must be considered when interpreting this project. It involved an evaluation of a pilot program from the perspective of the practice providers and staff. There is a lack of generalizability as the sample size is small and focused at one primary care office site. How feedback was gathered is also a limitation as there was no survey or interview guide. Certainly the short amount of time between implementation and evaluation accounted for the low participation rate among clinic providers. A richer evaluation would have been to include the perceptions of the registration staff, office manager, and other providers. This would have provided the ability to understand how the 5-2-1-0 program could be better utilized in the office. Although the above limitations do exist for this project, the positive response, from involved providers, indicate usage of the program should continue.

Recommendations

The 5-2-1-0 program should provide parents and healthcare professionals with a memorable way to talk about the key evidence-based behaviors that reduce childhood obesity. Specific measures to improve practices at this project site are to consistently provide assessment, motivation, and improvement in healthy active living. The 5-2-1-0 program should be embedded into EPIC and this pilot project expanded to include all primary care practices that see children ages 2 to 17, with periodic points of evaluation. Shadow boxes that display the sugar, fat content, and nutritional information of popular beverages and fast food items should be placed in each patient waiting area, as recommended by the 5-2-1-0 program guidelines.

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Recognition is given, by the original creators of the program, to health care practices that complete the yearly Let's Go! survey and show they are implementing the clinical strategies of the health care program. Receiving this recognition status as a 'Site of Distinction' should be a goal for all clinics. All providers who perform WCC should participate in the program, and these providers must be supported to practice in an evidence based manner. This project provides the foundation to move the research focus to effective results of its use in the management and treatment of childhood obesity.

Conclusion

This provider evaluation of an evidence based program examined the use of the 5-2-1-0 program in the management and treatment of childhood overweight and obesity. The provider interviews offered an assessment of no barriers to using the program itself. Patient compliance in regards to follow up appointments was the only identified issue. Change can be difficult but with constant reinforcement it will soon become part of routine care. The providers appreciated the simplicity of following the 5-2-1-0 components which offered measurable goals. Both claim to have increased awareness of the childhood obesity epidemic and dedication to continued use of the program. With the findings in this project future research can be focused on the measurable results of its use. The research should be larger scale involving more primary care practices to provide more generalized results.

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Appendix A.

Healthy Habits Questionnaire Ages 2 – 9

Child's Name: _____

Age: _____ Today's Date: _____

1. How many servings of fruits or vegetables do you have a day? _____
One serving is most easily identified by the size of the palm of your hand.
2. How many times a week does your child eat dinner at the table together with the family? _____
3. How many times a week does your child eat breakfast? _____
4. How many times a week does your child eat takeout or fast food? _____
5. How much recreational (*outside of school work*) screen time does your child have daily? _____
6. Is there a television set or Internet-connected device in your child's bedroom? _____
7. How many hours does your child sleep each night? _____
8. How much time a day does your child spend being active? _____
(*faster breathing/heart rate or sweating*)?
9. How many 8-ounce servings of the following does your child drink a day?
100% juice _____ Whole milk _____
Water _____ Soda or punch _____
Fruit or sports drinks _____ Nonfat (skim), low fat (1%),
or reduced fat (2%) milk _____
10. Based on your answers, is there ONE thing you would like to help your child change now?
Please check one.
 Eat more fruits and vegetables.
 Eat less fast food/takeout.
 Drink less soda, juice, or punch.
 Drink more water.
 Spend less time watching TV/movies and playing video/computer games.
 Take the TV out of the bedroom.
 Be more active – get more exercise.
 Get more sleep.

Give the completed form to your clinician. **Thank you!!**

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Appendix B.

Healthy Habits Questionnaire Age 10 +

Your name: _____

Age: _____ Today's date: _____

1. How many servings of fruits or vegetables do you have a day? _____
One serving is most easily identified by the size of the palm of your hand.
2. How many times a week do you eat dinner at the table together with your family? _____
3. How many times a week do you eat breakfast? _____
4. How many times a week do you eat takeout or fast food? _____
5. How much recreational (*outside of school work*) screen time do you have daily? _____
6. Is there a television set or Internet-connected device in your bedroom? _____
7. How many hours do you sleep each night? _____
8. How much time a day do you spend being active? _____
(*faster breathing/heart rate or sweating*)?
9. How many 8-ounce servings of the following do you drink a day?
100% juice _____ Whole milk _____
Water _____ Soda or punch _____
Fruit or sports drinks _____ Nonfat (skim), low-fat (1%),
or reduced-fat (2%) milk _____
10. Based on your answers, is there ONE thing you would be interested in changing now?
Please check one.
 Eat more fruits and vegetables.
 Eat less fast food/takeout.
 Drink less soda, juice, or punch.
 Drink more water.
 Spend less time watching TV/movies and playing video/computer games.
 Take the TV out of the bedroom.
 Be more active—get more exercise.
 Get more sleep.

Please give the completed form to your clinician. **Thank you!!**