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The Implementation of a Behavioral Intervention Program in Obese Elderly Patients

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Introduction of the Problem

The obesity epidemic has reached an all-time high within the United States. The Centers for Disease Control and Prevention (CDC) states that 68% of adult Americans are either overweight or obese with 34% of them being obese (Rao et al., 2011). The older adult is living longer with chronic illnesses and physiological changes that may increase the risk of becoming overweight. Obesity has a positive correlation to the disease process of many chronic health conditions. Studies show that a higher BMI leads to numerous causes of death, including ischemic heart disease, stroke and cancers of the large intestine, kidney, endometrium, and post-menopausal breast (Whitlock et al., 2009). Despite the benefits of behavioral interventions, few primary care offices and clinics have established programs to support weight loss among elderly overweight and obese patients.

The main elements of a behavioral intervention program are to increase physical activity and improve dietary habits, both of which will result in weight loss. Evidence indicates that a combined behavioral change approach is more successful than physical activity change or dietary restriction alone in older adults. A meta-analysis by Johns, Hartmann-Boyce, Jebb, and Aveyard (2014) analyzed studies of weight loss in adults not just elderly and found that weight loss is short-term with diet only. On the other hand, combining weight loss, behavioral therapy and physical activity resulted in sustained weight loss (Johns, Hartmann-Boyce, Jebb, & Aveyard, 2014).

Physicians and nurse practitioners at a suburban clinic in St. Louis identified the need for a weight loss program for elderly who were on Medicare health plans. This clinic sees

approximately 30% of patients who are 65 years of age or older who are obese with comorbidities. The clinic where the project took place already had a weight loss program in place at a different location which enjoyed success. The need at this location seemed even greater due to the patient population age, demographics, and high rates of obesity linked morbidities such as diabetes, hypertension, heart disease and morbidity. The clinic where this project was implemented has a patient care population largely consisting of African American patients. A cross-sectional study of 133 obese elderly African American women in an urban area demonstrated that there is a relationship between obesity and poor physical performance (Newton, Cromwell, & Rogers, 2009)”

Literature Review

In 2015, the American Association of Clinical Endocrinologist (AACE) executive committee and board members mandated that clinical practice guidelines for overweight or obese patients be established using evidence-based medicine to improve patient outcomes (Garvey et al., 2016). According to AACE guidelines, interventions should include enhanced adherence to prescriptions for chronic diseases, reduced caloric intake through meal planning and increased physical activity (Garvey et al., 2016). Behavioral interventions include self-monitoring of weight, food intake and physical activity, setting clear reasonable goals, nutrition, physical activity, face to face group meetings, stimulus control, stress reduction, cognitive restructuring and psychological counseling. Renjilian et al. (2001) emphasized a theoretical framework on the importance of setting realistic attainable goals in a group treatment program for weight loss. In 2016, AACE reinforced the importance of self-monitoring and physical activity and recommended that behavioral lifestyle intervention be increased if patients do not achieve a 2.5% weight loss in the first month of treatment of treatment (Garvey et al., 2016).

Research has shown weight loss success with healthcare provider led behavior therapy. An observational retrospective study of 14,256 patients revealed that 26.7% were successful with weight loss and maintenance when managed by primary care providers who combined moderately high-protein diet, carbohydrate restriction, and behavioral therapy. (Lenoir, Maillot, Guilbot, & Ritz, 2015). The largest recent cohort study on the effect of behavioral intervention on weight loss was the physician led 2001-2012 Look AHEAD Study. This study followed 5145 obese diabetic patients over an 8 year period and demonstrated other key components of successful weight loss programs: physical activity, caloric restriction, social support, goal setting and tracking (Montez et al., 2014). In 2006, the study revealed a description of the lifestyle intervention and the evidence supporting it. Lifestyle intervention within the study included three phases. Phase I, lasted one year and focused on initial weight loss and activity goals. Phase II lasted two to four years and consisted of one or two visits every month with the primary care physician and contact by phone, mail or e-mail. Phase III, extended from years five to eight and participants were offered monthly on-site appointments (Montez et al., 2006). After conclusion of the study, 50% of the patients maintained greater than 5% weight loss and 40% of the patients had lost at least 10% of their initial weight (Montez et al., 2013).

The strength of the evidence shows that obesity rates are escalating through the United States, particularly in the elderly. Research on obese patients over the age of 65 demonstrate that provider led, goal oriented behavioral weight loss therapies with combined emphasis on both physical activity and dietary changes lead to weight loss. Studies on specific strategies to teach physical activity and good dietary practices are needed to determine which interventions are cost effective. Unfortunately, few studies span time frames longer than 12 months. The largest cohort study in recent times, the Look AHEAD study, demonstrated long term patient weight loss with

provider led interventions that focus on physical activity, caloric restriction, social support, goal setting and tracking. The project sought to mirror the Look AHEAD program.

Project Methods

The program was implemented in a primary care office that serves a large diverse metropolitan community in the Midwest. This primary care office had eight providers (five physicians and three family nurse practitioners) who had an average panel of 1500 patients, most of whom were African American. This program targeted obese patients in the practice who were 65 years of age or older and Medicare eligible. Approximately, 30-40% of patients at this practice had chronic health conditions such as diabetes, heart disease, hypertension and osteoarthritis exacerbated by obesity. A proposal to conduct research involving human subjects entitled “Human Subjects DNP Project,” was submitted and reviewed by the Institutional Review Board (IRB) at Southern Illinois University Edwardsville and found to be exempt from IRB review.

The essential goal of this project was to implement a structured 8-week behavioral change weight loss program for elderly obese patients with chronic conditions. Providers met and established a goal of recruiting 20 program participants. Other goals were to have at least 75% of patients complete at least half of the sessions and to have each participant lose at least 8 pounds in 8 weeks.

A list of potential participants within the practice was compiled after chart review by the physician. Patients 65 years old or older on Medicare with a BMI > 30 kg/m² were identified. The physician compiled a list and gave it to the nurse practitioner leading the program. All patients were contacted by phone and/or mailed a letter regarding eligibility to participate in the program. Recruitment occurred over a three-week period in June 2018. A weight loss program

that focused on behavioral change through nutrition and exercise was implemented. Participants received a packet that included a pedometer, food journal and a booklet describing each session. Incentives included \$10 gift cards to Wal-Mart for patients who completed the entire program. Patients met with the nurse practitioner weekly in structured group sessions. During each session, handouts from the Look Ahead study were given to patients. The nurse practitioner led program took place over eight weeks from July 16th through September 8, 2018. Each week participants were led in discussion by a nurse practitioner about pedometer usage, goal setting and progress, journal review, food choices for the week and exercise regimen.

Evaluation

Thirteen elderly obese patients in age ranging from 65-75 were enrolled in the eight week program. Eleven patients were African American, and two patients were Caucasian. There were twelve female participants and one male. Each patient was weighed the first week and asked to discuss weight loss goals, past medical history, previous weight loss efforts and a list of frequent foods consumed regularly. At that time, they were given a pedometer, journal and guide to aid in calorie counting. The patient's BMIs ranged from 30 to 54. All participants established a personal weight loss goal of 2 lbs. per week during the program. Past medical histories included hypertension, diabetes, hyperlipidemia, depression, rheumatoid arthritis, osteoporosis, gastro esophageal reflux, asthma and vitamin D deficiency. Barriers preventing patients from losing weight included eating late, eating out at restaurants, back pain, weather and skipping breakfast. Previous weight loss efforts included walking, joining weight watchers, using dietary supplements or purchasing abdominal wraps. Others stated that they tried not eating breads or pastas.

In week one, 10 out of 13 (77%) of patients who initially enrolled, started the program. Three patients did not start because they were unable to complete the program. The second week three patients dropped out due to transportation issues. Another patient completed only three sessions due to transportation issues. There were six patients still enrolled in the program by week 4. A total 5 (46%) of patients that initially enrolled completed at least half of the program, instead of the intended goal of 75%.

Patients chose to lose weight in various ways. Two patients adopted a buddy system and counted calories. Materials from the Look AHEAD program were used to determine total daily expenditures and the calories needed each day to lose 1-2 lbs. per week. Another patient logged her food using a weight loss app on her phone. The other half of the class elected to discuss their eating habits weekly based on their memory. One patient consistently used the journal to log food. None of the patients consistently used the pedometer. The most steps recorded in a week by a patient were 5378. Individual weight loss ranged from 1-8 lbs. during the eight week sessions. Three of the patients increased their exercise regimen by walking or swimming. At the completion of the program 5 patients were present and all experienced weight loss.

One limitation of the program was the amount of time allotted for the enrollment of patients which was three weeks. As a result, the goal of 20 patients was not met. There were eight physicians within the practice. However, only three physicians had patients enrolled in the program. Program enrollment packets were given to physicians by the office manager at monthly physician meetings for 2 months prior to starting the program. Lack of in depth, one on one discussion about the program details by the nurse practitioner leading the program likely resulted in low enrollment. Therefore, in the future greater time should be spent educating providers about the details of the program and patient enrollment. Another limitation is the short length of

the program. It took several sessions for patients to feel accountable for their weight loss efforts and to find what worked for their lifestyle. Therefore, program length should be increased to at least twelve weeks. Gifts for patients for milestone accomplishments may have helped with retention in the program. Other limitations of the study included decreased enrollment due to lack of transportation and the inability to participate related to family obligations. Exercise limitations were due to joint and back pain related to aging.

Impact on Practice

The immediate impact on practice from this project was modest weight loss among participants. As the program progressed, physicians and nurses who did not directly participate in the project became interested in the program. The program demonstrated to patients and other healthcare providers at the clinic that weight loss programs among obese elderly patients can be successful. Information gained from this pilot has inspired the development of future weight loss programs at the clinic but with more robust recruiting, increased program length and more flexible scheduling. Longer program length is needed to determine if the patients who participated in the program maintained weight loss or continued to lose weight and if this resulted in improved disease management and disease prevention. Increased provider participation in patient recruitment, open enrollment, longer program length of a year or more, and addressing patient transportation issues is needed at the clinic for the program to be successful.

Conclusions

Research demonstrates that provider led group weight loss programs that focus on calorie tracking and restriction, physical activity, social support and goal setting results in long term weight loss. These elements were all present in the weight loss program implemented in this

project. Problems with the program included difficulty recruiting participants, high dropout rates, transportation issues and short program length. Participants who stayed with the program had modest weight loss indicating that the program itself can result in weight loss among elderly obese patients at this clinic. It is unknown if this program if conducted on a larger scale would be cost effective. Suggestions for future weight loss programs at this clinic would include greater engagement of providers to assist in recruiting larger numbers of patient participants, a longer recruiting period with open enrollment, assisting with patient transportation, and offering several group meeting times.

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