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Fit living in progress – fighting lifelong obesity patterns (FLIP-FLOP): A nurse practitioner delivered intervention

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ABSTRACT

Purpose: To evaluate the feasibility and outcomes of a nurse practitioner (NP) delivered program, which targets obesity, in a real-world primary care setting.
Method: A small, descriptive study was conducted in a clinic for low-income patients. Sixteen adult participants, who are obese, attended 5 individual primary care office visits, occurring every 2 weeks over 12-weeks. The NP healthcare provider delivered pre-planned behavioral interventions at each visit. Data comprised the Health Promoting Lifestyle Profile II (HPLP II), additional surveys and physical measures.
Results: Participants reported improvement in health responsibility, physical activity, nutrition, spiritual growth, stress management and motivation for healthy living ($p < 0.05$). Diastolic blood pressure declined ($p < 0.05$). Systolic blood pressure and body mass index declined non-significantly.
Conclusion: Additional research is necessary to determine success of the program over time with larger numbers of diverse participants, healthcare providers and primary care practice sites.

1. Background

Obesity is a preventable condition. Within the United States, more than one-third of adults are obese, maintaining a body mass index (BMI) of 30 or greater (Ogden, Carroll, Kit, & Flegal, 2012). Regardless of the cause of obesity, the health consequences and subsequent morbidity and mortality associated with the condition are a major threat to public health. Co-morbid conditions result in direct and indirect costs of approximately $147 billion per year in the United States (U.S.) (Finkelstein, Trogdon, Cohen, & Dietz, 2009). Obesity associated physical and economic burden have created a significant societal crisis, prompting several divisions of the U.S. government to get involved in the fight against escalating rates of obesity.

The Office of the Surgeon General (US). (2010) and *Healthy People 2020* (USDHHS, 2014) have repeatedly called for healthcare providers to increase the frequency of primary care office visits with patients suffering from obesity in order to deliver meaningful, evidence-based counseling on weight reduction, diet and physical activity. Despite these recommendations, less than one-third of adult patients with obesity received weight-related counseling during office visits with healthcare providers (Hsiao, Cherry, Beatty, & Rechtsteiner, 2010; Ogden et al., 2012). This paper describes an obesity intervention program designed to address this recommendation and problem in a real-world, natural primary care setting.

2. Review of the literature

Behavior change is necessary to influence a patient's management of his or her weight. Variations of Rosenstock's classic health belief model (HBM) and Ajzen's influential theory of planned behavior (TPB) are used extensively to frame treatment interventions targeting obesity (Ajzen, 1991; Nejad, Wertheim, & Greenwood, 2005; Rosenstock, Strecher, & Becker, 1988). The HBM promotes self-efficacy through perception of benefits and barriers, which provide cues to action. The TPB explores relationships between attitudes and behaviors. Additional ideologies that have been incorporated successfully with the HBM and TPB include: self-assessment; short-term goal setting; goal commitment; feedback; and tracking (Bodenheimer & Handley, 2009; Enwald & Huotari, 2010).

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Obesity programs that focus on behavioral change consistently report that highly motivated participants attain better results (Yaskin, Toner, & Goldfarb, 2009). Two consecutive sentinel meta-analyses of adaptations of motivational interviewing (MI) identified statistically significant behavior change in shorter time frames, compared to traditional interviewing (Burke, 2003; Lundahl, Kunz, Brownell, Tolefson, & Burke, 2010). Motivational interviewing focuses on self-efficacy, whereas, traditional interviewing generally does not. Self-efficacy is represented by a person's belief in his/her ability to complete tasks and reach goals. Effectively utilizing MI in the medical setting requires healthcare providers to: 1) suppress the urge to tell the patient what to do; 2) allow the patient to lead the argument for change; 3) understand the patient's motivations 4) identify how the patient plans to change; 5) explore barriers the patient perceives; and 6) empower and support the patient's ability to change (Rollnick, Miller, & Butler, 2008).

Weight control is a component of optimal health. Efforts to make weight control more meaningful may include tying it to other health promoting behaviors, such as: engaging in daily exercise, getting adequate sleep, building and maintaining healthy relationships, and effective stress management. These health-promoting behaviors contribute to overall wellbeing, which can assist patients to achieve a long healthy life (USDHHS, 2014). A systematic review of the literature reveals that high-intensity behavioral counseling, which consists of two or more individual or group sessions per month for at least the first 3 months, has greater clinical effectiveness than the 3–6 month interval of traditional counseling in managing obesity (Tsai & Wadden, 2009).

Study findings related to specific weight reduction and diet/exercise programs implemented successfully by healthcare providers within primary care office visits are limited in the current literature (Kumanyika et al., 2011; Tsai & Wadden, 2009). The limited findings within natural primary care settings may be due to logistical and feasibility concerns (Kumanyika et al., 2011). One program that has been studied in this environment is *New Leaf…Choices for Healthy Living* (*New Leaf*). *New Leaf* includes a combination of high intensity evidence-based strategies, current nutritional guidelines and stand-alone, dividable modules (Ammerman, Keyserling, & Samuel-Hodge, 2007). Within a real-world, natural primary care setting, Keyserling et al. (2008) used the diet and exercise modules of the *New Leaf* program in a study of 236 women, ages 40–64. Participants demonstrated significant improvement in self-reported dietary consumption of fruits and vegetables, reduced dietary risk and increased physical activity over 6 months (Keyserling et al., 2008). Additionally, an adaptation of the *Diabetes Prevention Program* is currently being used in the *Think Health! Study*, which is underway within 5 real-world, natural primary care practice sites. The study is incorporating use of 13 physicians and 1 physician assistant as healthcare providers with primarily African American and Hispanic adult participants. First year results of the *Think Health! Study* is showing clinically significant weight loss in motivated attendees of the group that is receiving healthcare provider counseling every 4 months combined with use of a lifestyle coach (Kumanyika et al., 2012).

Studies conducted in primary care reflect that healthcare providers attempting to increase office visits with adult patients who are obese may benefit from incorporating program materials that are guided by conceptual frameworks, such as the health belief model and the theory of planned behavior, both of which have been shown to influence dieting behavior (Nejad et al., 2005). Motivational interviewing, goal setting and high intensity behavioral counseling may assist to yield meaningful interactions with patients, thereby influencing their adoption of health promoting behaviors, which may lead to reduction in weight (Yaskin et al., 2009).

3. Research questions

Questions to be answered: 1) What is the feasibility of a nurse practitioner (NP) delivering a series of meaningful, evidence-based high intensity behavioral interventions to adult patients who are obese within the confines of a 15 minute primary care office visit? 2) Will adult patients who are obese participate in high-intensity behavioral counseling, which includes bimonthly office visits scheduled over a 12-week period? 3) What are the health-promoting behaviors or physiological outcomes of participant's that complete the program?

4. Research methods

4.1. Design

A multi-visit, evidence-based behavioral intervention program titled *Fit Living in Progress – Fighting Lifelong Obesity Patterns (FLIP-FLOP)* was implemented and evaluated using a descriptive study design at a small primary care clinic serving low-income, uninsured patients in the southeastern U.S. The clinic was part of a large faith-based organization that provides a variety of services for the poor, such as distribution of food and clothing, homelessness solutions and disaster relief.

4.2. Sample

After approval by the university's institutional review board, study participants were screened and consented by the primary investigator. The program was implemented over a 6-month period in 2012. The office manager participated in the recruitment of a convenience sample by distributing recruitment brochures within the clinic and among other programs of the organization. Patients expressing interest were scheduled to meet with the primary investigator to obtain informed consent and assure adherence with the inclusion criteria. Inclusion criteria consisted of: uninsured; low income (defined as earning an income of up to 200% of the federal poverty level); age 18 or greater; not pregnant or lactating; literate in speaking and reading English and BMI of 30 or greater.

4.3. FLIP-FLOP program

The evidence-based *New Leaf* modules were selected as foundational materials for the *FLIP-FLOP* program, as they were based on components of the health belief model and the theory of planned behavior (Ammerman et al., 2007). Other factors that guided selection were: pre-divided modules, readability, appealing colorized content, southern flare, availability and affordability.

The *FLIP-FLOP* program consisted of 5 individual primary care office visits, scheduled every 2 weeks over a 12-week period during September through December 2012. At each of the 5 primary care office visits a family nurse practitioner (NP) provided 15 minutes of one-on-one high-intensity behavioral counseling. The NP followed a general template at each primary care visit which included provision of visit specific *New Leaf* materials, use of pre-scripted motivational interviewing (MI), assistance with SMART (specific, measurable, attainable, realistic, timely) goal setting, participation in a brief learning activity and specific phrases of encouragement (Table 1).

Goal setting with participants was assisted by use of the *New Leaf* tip sheets that corresponded with each module. Learning activity topics were selected based on review of the *New Leaf* module contents. A visit specific toolbox was created for each of the 5 primary care office visits to enhance the NP/patient experience during the learning activity. Contents of each of the 5 toolboxes were selected based on relevance to the topic, availability and familiarity to the patient population. Specific *New Leaf* materials, learning activities and toolbox contents utilized during each of the 5 primary care office visits are included in Table 2.

4.4. Survey instrument

The 52-item *Health-Promoting Lifestyle Profile II* (*HPLP-II)* survey was selected for pre- and post-program evaluation due to previous use in behavioral intervention studies measuring self-efficacy, a component