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Increasing Health-Promoting Behaviors and Health Education Efficacy Among Clinical Staff

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Abstract

Reducing rates of overweight and obesity is now an international health priority. Nonphysician clinical staff are uniquely well positioned to deliver or support the delivery of interventions to promote health behaviors in Americans. Yet levels of health-promoting behaviors among clinical staff are not higher than in the general population. Moreover, clinical staff often feel unprepared to encourage health-promoting behaviors among their patients. The Clinical Staff Health-Smart Behavior Program (CS-HSBP) is an employment site-based health promotion program to increase health-promoting behaviors among health care clinical staff members. The major aims of this study are to examine whether training clinical staff to implement the CS-HSBP with a group of peers increased (a) participants' engagement in health-promoting behaviors, and (b) participants' sense of efficacy at educating patients on health-promoting behaviors, the percentage of patients participants educated on health-promoting behaviors, and participants' sense of themselves as healthy lifestyle role models for their patients. Participants were 66 clinical staff members at a university-affiliated outpatient health center. Results indicate that the CS-HSBP was effective at increasing staff's engagement in health responsibility, healthy eating, and physical activity and also staff's perception of their capability of educating patients and their perception of themselves as role models to their patients. Results also show no significant effect of the program on stress management and the percentage of patients educated by clinical staff. Study limitations and implications for future implementation of clinical staff-focused wellness programs are discussed.

Keywords

clinical staff self-efficacy, clinical staff training, clinical staff wellness, patient education

Reducing the rates of overweight and obesity is now an international health concern (World Health Organization, 2015). Specifically in the United States, approximately 68.5% of adults are considered overweight or obese (Ogden, Carroll, Kit, & Flegal, 2014). Both overweight and obesity are associated with many chronic health conditions such as hypertension, coronary heart disease, stroke, and kidney disease (Flegal, Carroll, Ogden, & Curtin, 2010; National Heart, Lung, and Blood Institute, 2010). Obesity also has been linked to mental disorders such as depression and anxiety (Scott et al., 2008; Walsh, 2011). Additionally, obesity places a significant burden on the already financially strained American health care system. The average annual medical costs for an obese patient are significantly higher than for a patient with normal weight (Centers for Disease Control and Prevention [CDC], 2011a). Thus, there is recognition that research and actions are needed to reduce overweight and obesity in the United States and internationally (World Health Organization, 2015).

Research on obesity suggests that health-promoting lifestyle behaviors such as regular physical activity (Office of Disease Prevention and Health Promotion, 2015) and healthy eating (Benjamin, 2010; Centers for Disease Control and Prevention, 2013; Center for Nutrition Policy and Promotion, 2008; Ng et al., 2014;

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Office of Disease Prevention and Health Promotion, 2014; World Health Organization, 2015) are critically important in preventing and reducing overweight and obesity. Yet Americans continue to consume diets that do not meet current guidelines, and exercise less than recommended (Flegal et al., 2010). For example, in the United States, 67.5% of adults do not eat fruit at least two times a day, and almost 74% do not eat vegetables at least three times a day (CDC, 2011b). It is also the case that more than 80% of adults in the United States do not meet current federal guidelines for physical activity and muscle strengthening, and more than 35% report no leisure-time physical activity at all (CDC, 2011b).

Nonphysician clinical staff (e.g., nurses and physician assistants) are uniquely well positioned to deliver or support the delivery of interventions to promote healthy eating and physical activity in the United States. This is because the roles of these health professionals typically include providing health education and consultation for their patients (Chick, Negley, Sievers, & Tammel, 2012; Kemppainen, Tossavainen, & Turunen, 2013) and because these health professionals typically spend more time with patients than do physicians (Kemppainen et al., 2013). Clinical staff members view it as the responsibility of all staff members (and not just nurses or doctors) to provide education to patients (Alicea-Planas, Pose, & Smith, 2015). A study conducted by Tulloch, Fortier, and Hogg (2006) shows that advising provided by allied health care professionals alone or in conjunction with physicians leads to better long-term effects than advice provided by physicians alone.

Clinical staff are also expected to be healthy role models for their patients (Kemppainen et al., 2013). Yet health patterns among clinical staff members are no better than in the general population. While there is a paucity of research referring to patterns of engagement in health-promoting behaviors among clinical staff members other than nurses, a study by Luckhaupt, Cohen, and Calvert (2014) shows that employment in the health care industry is associated with increased obesity prevalence. Nearly 50% of nurses are overweight or obese (Nahm et al., 2014). Nurses' patterns of physical activity, smoking, and dieting are not healthier than those of the general population (Albert, Butler, & Sorrell, 2014; Hensel, 2011; Letvak, 2014; Nahm, Warren, Zhu, An, & Brown, 2012; Schult, Awosika, Hodgson, & Dyrenforth, 2011; Zapka, Lemon, Magner, & Hale, 2009). Nurses often neglect to care for their own health (Nahm et al., 2014). For instance, a study by Chiou, Chiang, Huang, and Chien (2014) shows that nurses have worse health behaviors and less participation in health promotion activities than other health professionals. Even though clinical staff are aware of the expectation that they serve as role models for their patients with regard to engaging in health-promoting lifestyles as evidenced by having healthy weights, these staff sometimes feel unprepared and even resentful about having to meet these demands (Bastable, 2003; Hensel, 2011).

Health professionals who engage in a healthy lifestyle are more likely to counsel and screen patients for prevention-related behaviors (Abramson, Stein, Schaufele, Frates, & Rogan, 2000; Frank, Rothenberg, Lewis, & Belodoff, 2000). In other words, clinical staff are more likely to promote behaviors they practice themselves (Abramson et al., 2000; Frank et al., 2000; Googold, 2005). For example, a study by Abramson et al. (2000) found that health professionals who perform exercise more regularly are more likely to counsel their patients to exercise. A correlational study conducted by Hensel (2011) showed that nursing students who engage in healthier lifestyles, as compared to nursing students who engage in less healthier lifestyles, perceive themselves as more competent at providing health counseling and have a stronger sense of professional adequacy. If clinical staff members know that they are not engaging in health-promoting behaviors, including healthy eating and physical activity, they may avoid teaching their patients about engaging in these behaviors (Hensel, 2011; Rush, Kee, & Rice, 2005).

Purpose of the Study

The major aim of the present study was to examine whether training a group of clinical staff members to implement a health promotion program called the Clinical Staff Health-Smart Behavior Program (CS-HSBP) with a group of peer clinical staff members would increase levels of engagement in health-promoting behaviors (i.e., healthy eating, physical activity, health responsibility, and stress management) among both the trainers and the trainees. The CS-HSBP is a hospital-adapted version of the evidence-based Health-Smart Behavior Program (Tucker et al., 2014; Tucker et al., 2016). The trainers in the CS-HSBP were called Health Empowerment Coaches (HECs), and the health-promoting behaviors that are the target behaviors in this program were called health-smart behaviors.

The CS-HSBP is anchored in the health self-empowerment theory (Tucker, Butler, Loyuk, Desmond, & Surrency, 2009), which is a culturally sensitive theory that recognizes the intractable nature of most of the social, environmental, economic, and cultural determinants of health, and thus focuses on modifiable variables that enable individuals, groups, and communities to take charge of their health to the degree possible under whatever social determinants of health/conditions that may exist in their lives. Specifically, the health self-empowerment theory asserts that engagement in

health-smart behaviors is influenced by the following literature-based, modifiable, self-empowerment–oriented, cognitive-behavioral self-variables: health motivation, health self-efficacy, self-praise of health behaviors, health knowledge/responsibility, and coping strategies/skills for managing stress and depression—variables that often lead to over-/undereating and/or decreased physical activity (Tucker, Daly, & Herman, 2010; Tucker et al., 2009).

Working conditions characterized by limited decision making, increased workload, and consequent stress may negatively influence clinical staff members' engagement in health-smart behaviors and, therefore, health outcomes (Albert et al., 2014; Letvak, 2014; Nahm et al., 2014). Clinical staff members may possess knowledge and skills regarding health that they could potentially transmit to their patients. Yet limited motivation to engage in health-promoting behaviors (due to competing priorities), limited self-praise of health-promoting behaviors, limited adaptive coping styles to manage emotions that negatively affect health, limited responsibility for one's health, and/or limited health self-efficacy may detract clinical staff members from consistent engagement in health promotion activities. An increase in these self-empowerment variables in clinical staff could lead to increased health promotion and better patient health outcomes because we would be strengthening the "instruments to care" (i.e., nurses; McNeely, 2005).

The secondary aim of this study was to determine, based on postimplementation data, if participating significantly increased participants' perceptions of (a) their capability of educating patients on health-smart behaviors (Patient Education Capability), (b) the percentage of patients they educated on health-smart behaviors (Percentage of Patients Educated), and (c) themselves as healthy lifestyle role models for their patients (Self as Role Model).

Method

Participants

Data for this study are a subset of the data collected in the CS-HSBP. Study participants (N = 66) were clinical staff members at a university-affiliated outpatient health center. Inclusion criteria were (a) being at least 18 years old and (b) being able to engage in moderate physical activity (i.e., walking for exercise outdoors or on a treadmill).

A total of 84 hospital staff members participated in the overall project. Eight of the 84 clinical staff participants volunteered to be trained as HECs who implemented the CS-HSBP, and the remaining 77 agreed to be program participants (i.e., trainees). Participants in this study include only clinical staff participants, that is, 53 nursing staff members and 13 staff members in other clinical roles (e.g., patient educator, nurse manager, patient care assistant, respiratory therapist, social worker, etc.).

Table 1. Participant Demographic Information (N = 66).

Characteristic	%
Race/ethnicity	
Hispanic	3.0
Non-Hispanic Black	15.2
Non-Hispanic White	54.5
Other	13.6
Did not report	10.7
Gender	
Male	15.2
Female	77.3
Did not report	7.6
Age (years)	
18-24	6.1
25-34	15.2
35-44	27.3
45-54	31.8
55-64	10.6
≥65	1.5
Educational attainment	
High school/GED	1.5
Some college/technical degree	10.6
College degree	48.5
Graduate/professional school	28.8
Did not report attainment	10.6
Employment status	
Full-time	86.4
Part-time	4.5
Did not report status	9.1

The majority (54.5%) of the participants were non-Hispanic White. Of these study participants, 15.2% were male, 77.3% were female, and 7.6% did not report sex. For additional demographic information, please see Table 1.

Measures

Participants in the project completed an assessment battery that consisted of six measures. For the purpose of this study, only three measures were used: (a) Clinical Staff Demographic and Health Information Questionnaire, (b) Health-Promoting Lifestyle Profile II (HPLP-II), and (c) Health Education Efficacy Questionnaire.

Clinical Staff Demographic and Health Information Questionnaire. This questionnaire was constructed by the principal investigators to obtain information about participants' sex, age, relationship status, race/ethnicity, highest level

of education, employment status, type of clinical position held at the clinic (i.e., clerical, nursing staff, provider, other), frequency of interaction with patients, household income, and health information (i.e., height, weight, dietary restrictions, and participation in weight loss programs during the duration of the study).

Health-Promoting Lifestyle Profile II (Walker, Sechrist, & Pender, 1987). This measure was used to assess the degree to which clinical staff participants engage in health-smart behaviors. Original subscales for this measure include health responsibility, exercise consistency, nutrition/healthy eating, stress management, interpersonal support, and self-actualization. For this study, however, only the first four listed subscales were used. Each item on this measure is rated on a 4-point scale, ranging from *never* to *routinely*. Higher scores indicate a higher level of participation in the measured health-smart behavior. A sample item on the Health Responsibility subscale is "Read or watch TV programs about improving health." A sample item on the Exercise Consistency subscale is "Follow a planned exercise program." A sample item on the Nutrition/Healthy Eating subscale is "Choose a diet low in fat, saturated fat, and cholesterol." A sample item on the stress management subscale is "Take some time for relaxation each day." For the sample in this study, Cronbach's alpha for the HPLP-II is .92.

The Health Education Efficacy Questionnaire was constructed by this study's research team to assess participants' perceived self-efficacy to educate their patients on health-smart behaviors. This instrument is divided into three subscales: (a) perceived self-efficacy to educate their patients on health-smart behaviors (Patient Education Capability), (b) percentage of patients educated on health-smart behaviors immediately after the end of the program (Percentage of Patients Educated), and (c) participants' self-perception of themselves as role models for their patients with regard to engaging in health-smart behaviors (Self as Role Model). Items on the Patient Education Capability subscale are rated on a 7-point Likert-type scale, with 1 = *not at all* and 7 = *always*. Items on the Percentage of Patients Educated subscale are rated on a 10-point Likert-type scale, from 0% to 100%. Items on the Self as Role Model subscale are rated on a 7-point Likert-type scale, from 1 = *strongly disagree* to 7 = *strongly agree*. A sample item on the Patient Education Capability subscale is "I am capable of providing information about nutrition." A sample item on the Percentage of Patients Educated subscale is "The percentage of patients I talk to about eating a healthy breakfast." A sample item on the Self as Role Model subscale is "I am a good role model to my patients in relation to healthy eating." For the sample used in the present study, Cronbach's alpha for the Health Education Efficacy Questionnaire is .96.

Procedure

Permission to conduct the larger study from which the data for the present study were obtained was received from the appropriate institutional review board. The larger study, which took place in 2011, had the following four phases: (a) participant recruitment, (b) baseline (preintervention) data collection, (c) implementation of the intervention program (i.e., the CS-HSBP), and (d) postintervention data collection. The baseline/preintervention data collection phase and the postintervention data collection phases, which involved administering a battery of questionnaires (see the earlier "Measures" section) to participants, occurred at the health care center were all of the participant clinical staff worked. Data collection was conducted in an anonymous way to encourage honest responding among participants. Because of the busy schedules of the participating clinical staff, several data collection sessions were arranged. Completed assessment batteries were dropped in a locked data collection box, and each included a code number created by the participant based on a set of questions. This set of questions was used at preintervention data collection and at postintervention data collection so that the two sets of data for each participant could be matched.

The Vice President of Nursing and Patient Services at the health care center where the study took place was involved in this study as a coinvestigator. The participation of the Vice President of Nursing and Patient Services was intentionally limited to providing suggestions before the start and during the course of the program on how to make the intervention more accessible for nurses. The Vice President of Nursing and Patient Services did not have access to staff data and did not attend program components (i.e., coaching sessions, DVD and Resource Guide discussions, and physical activity sessions). Participating clinical staff were also ensured that their choice to participate in the program would have no implications on their job (staff) performance evaluation.

Participant Recruitment and Assignment Phase. Clinical staff study participants were recruited at a large outpatient health care center that serves culturally diverse patients. The following participant recruitment strategies were used: (a) recruitment flyers were distributed via a listserv for the clinical staff at the health care center, (b) the Vice President of Nursing and Patient Services at the health care center sent e-mails to the clinical staff that invited these staff to participate in the larger study, and (c) the snowball technique was used whereby recruited clinical staff assisted in recruiting their peer clinical staff. The recruitment flyers and the e-mails listed participation criteria and invited staff who met these criteria to contact the research team to obtain more information regarding the study and to sign up to be study participants.

Those clinical staff who signed up to participate attended one of two meetings at their health care center at which the researchers further explained the study and asked attending clinical staff to sign informed consent forms in order to officially enroll in the larger study. At these sessions, clinical staff to be trained as and then to serve as HECs were also recruited after explaining the roles of the HECs. Eight HECs were needed and recruited.

The remainder of the clinical staff were told that they would be assigned to the intervention group or a wait-list control group by specialty clinic within the center. There were eight specialty clinics, of which four were randomly assigned to the intervention group and four to the control group. It was explained that the clinical staff at the specialty clinics that were assigned to the intervention group would begin the CS-HSBP within about 2 weeks following completion of an assessment battery. The clinical staff at the specialty clinics assigned to the control group were told that they would participate in a 1-day workshop version of the CS-HSBP program and that this workshop would occur about 7 weeks later (i.e., after implementation of the CS-HSBP with the clinical staff in the intervention group).

Additionally, it was explained at the participant recruitment and assignment meetings that (a) all study participation activities would all occur sometime during their work hours, and (b) study participants would receive a Health-Smart Clinical Staff certificate and pin from the Vice President of Nursing and Patient Services that would be presented at a free luncheon. The parts of the program implementation phase of the study were briefly reviewed.

Program Implementation Phase. This phase included three parts. Part 1 involved training the HECs; Part 2 involved planning with assistance from the HECs for program implementation regarding best times, locations, and number of replications for each program component; and Part 3 involved program implementation with peer clinical staff. Below are brief descriptions of the three parts of the program implementation phase.

Part 1. HECs participated in an 8-hour CS-HSBP HEC training conducted by the research team. A coach training and program implementation manual was used to guide this training and was then given to the trained HECs for use in their implementation of the CS-HSBP with their peer clinical staff who agreed to be research participants (i.e., to be participants in the CS-HSBP). The HEC training was designed to meet the following two objectives: (a) to inform HEC trainees of the roles and responsibilities of HECs and (b) to provide HEC trainees with the knowledge, skills, and confidence to implement the CS-HSBP with their peers. As part of the training, HECs were also provided opportunities to practice with each other (i.e., other HEC coach trainees), implementing each component of the program under the guidance of the research team. Furthermore, each HEC was assigned a research consultant (i.e., a member of the research team) for them to contact with questions, comments, or concerns during the HEC training and their implementation of the CS-HSBP with their peers.

Part 2. The researchers held a 1-hour meeting with the trained HECs and the Vice President of Nursing and Patient Services to plan the dates, times, and number of replications of each session of the CS-HSBP with the clinical staff at the intervention specialty clinics. Replications were needed because of the complicated nurse work schedules. It was decided that the program would be implemented with the staff for each of three clinical staff shifts at the specialty clinics in the intervention group; thus, each component would be implemented three times—once for each shift. This also allowed someone who missed a component for her or his shift to attend that component on another shift.

Part 3. The HECs implemented the CS-HSBP with their peers. Two of eight trained HECs implemented each of the replicas of each of the 2-hour sessions of the CS-HSBP. Research team members attended each session of the program to conduct process evaluation in the form of external control monitoring. The CS-HSBP was implemented over a 5-week period and consisted of the following sequential sessions.

One individualized participant coaching session. Individualized coaching sessions are designed to encourage and empower participants to engage in health-smart behaviors. More specifically, individualized coaching by a HEC with a participant consists of (a) having the participant complete the published Motivators of and Barriers to Health-Smart Behaviors Inventory (Tucker et al., 2011) and using responses on this inventory to show the participant her or his top motivators of and barriers to engaging in the health-smart behaviors listed on the inventory (e.g., drinking water rather than sugary beverages); (b) guiding participants to choose two or three specific health-smart behaviors that they want to be goal behaviors and assisting participants in setting specific, measurable, attainable, realistic, and timely goals related to the health-smart behaviors that they chose (e.g., drink 64 ounces of water a day for 7 days a week and no more than 16 ounces of sugary beverages a week for 1 month); (c) facilitating the discussion of strategies for overcoming barriers and strategies for using motivators to achieve their goal health-smart behaviors; and (d) having the participant write their health-smart goals and the strategies for achieving these goals, and sign a statement indicating commitment to engaging in the health-smart goals using the identified goal achievement strategies and commit-

ment to praising themselves for achieving and making efforts to achieve their health-smart goals, including by using the identified strategies for goal achievement.

HECs met individually with each participant to engage in individualized coaching. A key objective of this coaching is to have the participant (and not the coach) identify the goal health-smart behaviors and goal achievement strategies. Doing this empowers the participant to identify strategies that would work within her or his family environment and lives and thus would be more likely to occur.

Three family health self-empowerment DVD sessions. These intervention sessions occurred weekly over a 3-week period. In each session, two HECs colead one 2-hour DVD session of the Family Health Self-Empowerment/Health-Smart DVD, which was designed by the research team and features a culturally diverse group of former adult and child community member participants in the Health-Smart Behavior Program and culturally diverse health promotion experts, including physicians, dietitians, nutritionists, physical fitness experts, and psychologists. Each session involved (a) viewing a segment of the DVD (e.g., reading a food label so as to be able to reduce intake of sugar, sodium, fat, and cholesterol) and (b) participating in a small-group discussion focusing on the viewed DVD segment. The purpose of the group discussion was to provide a time for participants to share how they can apply what they learned in their lives and to share strategies that they have found for doing what was shown in the viewed DVD segment (e.g., strategies for reading labels such as taking a magnifying glass to read food labels and carrying a child who can read food labels to assist with reading the labels).

Two health-smart behavior resource guide sessions. During this intervention component, HECs co-led one 2-hour resource guide session each week for 2 weeks. Each session included a small group discussion focusing on one section of the Health-Smart Behavior Resource Guide—a supplement to the above-mentioned Health Self-Empowerment/Health-Smart DVD. This guide has more detailed information on each topic in the DVD, and the group discussion of this information is supplemented by demonstrations (e.g., showing a deck of cards as an example of the amount of meat one should have for dinner if one eats meat for dinner) and activities (e.g., showing a glass with the amount of sugar that is in one 12-ounce can of sugar) to help teach the information in the resource guide.

One panel of health experts' session. In this session, a guest panel of four or more professional health experts (e.g., a physical fitness expert, psychologist/counselor, physician, dietitian, and or participants) and lay health experts (i.e., community members who have lost a significant amount of weight by engaging in healthy eating and physical activity) answered anonymous questions or nonanonymous questions from program participants. The questions could be anything related to health promotion but particularly referring to healthy eating, physical activity, and weight.

Multiple physical activity sessions. During these sessions, HECs organized and/or led 1 hour of physical activity (e.g., a group walk) each week at a site of the participants' choice but that was at or near the Health Care Center. These physical activity sessions occurred concurrently with the DVD sessions and the Health-Smart Behavior Resource Guide sessions (i.e., for a period of 5 weeks). Participants were also encouraged to engage in physical activities on their own. The goal was to have the group activity with other participants and the individual physical activity total 150 minutes per week.

Results

Independent *t* tests were conducted to examine baseline differences between the intervention group and control groups relative to the four health-promoting lifestyle variables (as measured by the HPLP-II): health responsibility, physical activity, nutrition/healthy eating, and stress management. No significant baseline (i.e., preintervention) differences were found for health responsibility, physical activity, and nutrition/healthy eating. Therefore, analyses of variance (ANOVAs) were used to test for intervention effects at postintervention. A significant baseline difference was found for stress management. Therefore, an analysis of variance was used to test for intervention effects at postintervention.

Three univariate ANOVAs were conducted, with group as the independent variable in each model and one of the three postintervention health promotion variables (HPLP-II subscales) that did not differ at baseline as the dependent variable in each respective ANOVA. Significant treatment group effects were found for all three of the health-promoting variables, Health Responsibility, $F(1, 40) = 14.750$, $p < .001$; Physical Activity, $F(1, 40) = 17.994$, $p < .001$; Nutrition/Healthy Eating, $F(1, 37) = 9.907$, $p < .015$. Specifically, at postintervention, the intervention group as compared to the wait-list control group had significantly higher levels of engagement in all of these health-smart behaviors (see Table 2).

Due to significant differences between the intervention and control group at baseline, a univariate analysis of covariance was conducted with stress management at baseline as the covariate and stress management at immediate postintervention as the dependent variable. Results indicated that group did not have a significant main effect on stress management.

Table 2. Means and Standard Deviations for the Dependent Variables at Postintervention.

	Intervention		Control	
Dependent variable	*M*	*SD*	*M*	*SD*
Health responsibility	2.78	0.57	2.19	0.53
Physical activity	2.87	0.59	2.03	0.41
Nutrition	3.12	0.55	2.55	0.50
Stress management	2.72	0.53	2.26	0.46
Patient education capability	5.77	0.80	4.77	1.28
Role modeling	5.18	1.37	3.90	1.11

Additionally, independent *t* tests were conducted to determine if baseline differences existed between the intervention group and control group for the three Health Education Efficacy Questionnaire subscales (i.e., Patient Education Capability, Percentage of Patients Educated, and Self as Role Model). No significant baseline differences were found for Patient Education Capability, Percentage of Patients Educated, and Self as Role Model.

Three univariate ANOVAs were conducted, with group as the independent variable in each model and one of the three Health Efficacy subscales (Patient Education Capability, Percentage of Patients Educated, and Self as Role Model) as the dependent variable in each model. Significant treatment group effects were found for Patient Education Capability, $F(1, 34) = 7.875$, $p < .05$, and Self as Role Model, $F(1, 35) = 4.276$, $p < .05$. In other words, after program implementation, the intervention group had a significantly higher level of perceived capability of educating patients on health-smart behaviors (Patient Education Capability) and rated themselves significantly higher as role models for their patients (Self as Role Model), when compared with the wait-list control group (see Table 2). Results indicated that group did not have a significant main effect on the percentage of patients educated about health-smart behaviors by nurses (i.e., nurses in the intervention group did not rate the percentage of patients educated on health promotion at postintervention significantly higher than did nurses in the wait-list control group).

Discussion

Obesity is a growing and complex problem that requires a strong call for action, at many levels (CDC, 2016). Health care providers, in particular nonphysician clinical staff, can address obesity and obesity-related disease by encouraging their patients to engage in health-promoting behaviors. Research shows that staff who engage in health-promoting behaviors themselves may feel more competent and more inclined to promoting a healthy lifestyle in their patients (Hensel, 2011; Rush et al., 2005).

The findings from the present study suggested that when implemented by trained clinical staff HECs with peer clinical staff, the CS-HSBP was effective in increasing the health-smart behavior variables that this program was designed to increase. Specifically, it was found that when the trained clinical Staff HECs implemented the CS-HSBP with peer clinical staff program participants at a health care center where all of these clinical staff worked, program participants showed significant increases in the Health Responsibility, Physical Activity, and Nutrition/Healthy Eating postprogram implementation. Additionally, the program was found to be effective in increasing the self-efficacy of clinical staff participants regarding Patient Education Capability (i.e., participants' perceived self-efficacy for educating their patients on health-smart behaviors) and Self as Role Model (i.e., participants' perception of themselves as role models for their patients with regard to engaging in health-smart behaviors). These findings are consistent with prior research showing that increased clinical staff engagement in health-smart behaviors leads to increased self-efficacy for educating patients and increased perception of self as a role model (Hensel, 2011).

Results show no significant difference in stress management levels between the intervention and control group postprogram implementation. Stress is one of the highest challenges faced by clinical staff at work, with well-documented consequences to health. Some of the sources of stress that nurses face (e.g., having limited time to meet competing demands) are hard to eliminate. While the CS-HSBP may have been helpful at reducing some of the individual stress clinical staff members face, more work may need to be done at a systemic level to reduce clinical staff's stress and prevent burnout. A program encompassing nurse-centered stress management techniques and also executive system support may be more helpful at reducing stress levels in clinical staff members, who work in chaotic, often understaffed environments and who must learn stress management skills during a steady flow of patient and family care (Milliken, Clements, & Tillman, 2007).

Results also showed no significant effect of the program on the Percentage of Patients Educated by clinical staff. This could, at least partially, be attributed to the short duration of the intervention (6 weeks total). It is a possibility that, as clinical staff self-efficacy continues to increase, in time the percentage of patients they educate will progressively increase too. It is also possible that clinical staff may have difficulties integrating health promotion education into their time-limited interactions with patients. In prior research, lack of time has been cited by nurses as a major barrier to health promotion and patient education (Alicea-Planas et al., 2015; Bacorn Bastable, 2003; Hébert, Caughy, & Shuval, 2012; Kemppainen et al., 2013). A supportive

organizational culture (i.e., a plan at the institutional level for clinical staff to engage in health promotion, without it conflicting with other work demands) is a key contributor to clinical staff's ability to carry out health promotion (Alicea-Planas et al., 2015; Kemppainen et al., 2013). So, while nurses may feel capable of educating patients and may consider themselves role models to their patients, organizational culture is a determinant with respect to whether health promotion is implemented (Kemppainen et al., 2013).

Implications

The evidence in this study indicating that the CS-HSBP was effective at increasing clinical staff's engagement in health-smart behaviors and sense of self-efficacy to educate patients on health promotion/be a role model has two main implications. One implication is that systemic support for clinical staff engagement at outpatient health care centers such as the one in the present study could be a cost-effective and innovative way to (a) lower rates of obesity and obesity-related diseases among the clinical staff at these centers (i.e., promote health among clinical staff at these centers) and (b) increase self-efficacy as health promotion educators and role models among the clinical staff at these centers. Since clinical staff who engage in health-promoting behaviors typically feel more prepared and inclined to promote a healthy lifestyle in their patients, increasing staff's self-efficacy could be one important way to respond to calls to address obesity and obesity-related disease in the United States.

Given that (despite increases in clinical staff's engagement in health-smart behaviors and self-efficacy) the percentage of patients' clinical staff–reported educating did not increase, a second implication of the findings in this study is that large systemic changes may be necessary for the benefits of this work site–based program to extend to patients. Unless health promotion interventions are explicitly valued as an important aspect of patient care and clinical staff members are recognized as important in promoting patient's engagement in heath behaviors at the structural/organizational level (e.g., allotted enough time to dedicate to their patients), it will be challenging to increase the percentage of patients that receive health promotion interventions.

Limitations

Despite its importance and methodological strengths, this study has two important limitations. Given that the Vice President of Nursing and Patient Services was highly involved (as a collaborator) in the implementation of this work site–based program, it is possible that clinical staff's motivation to participate in the program may have been more extrinsic than intrinsic. As is well established in the psychology literature, extrinsic motivators typically tend to be ineffective over long periods of time (Deci & Ryan, 1985; Frey & Jegan, 2001; Lepper, Greene, & Nisbett, 1973); once the rewards for participating (e.g., public recognition) in the program are removed, clinical staff may return to "old" patterns of behavior. However, during the individualized coaching sessions, participants were encouraged to identify intrinsic motivators to participate in the program and to engage in health-smart behaviors and were empowered to identify strategies that could work within their family environments and lives and thus were more likely to occur.

A second limitation is that this study's sample was self-selected. Therefore, it is possible that nurses who were struggling most significantly with balancing self-care and work did not sign up to receive this intervention.

Future Directions

Findings in this study support future similar research with larger samples of clinical staff and with just nurses and physician assistants—two groups that provide direct patient care. Research is needed to assess the long-term impact of the CS-HSBP on the variables of this study (i.e., to assess whether implementation of the CS-HSBP by trained clinical staff HECs with peer clinical staff leads to increases in staff's Health Responsibility, Physical Activity, Nutrition/Healthy Eating, Stress Management). Additionally, based on existing literature, companies with healthy employees save money and have higher rates of employee productivity and retention (Berry, Mirabito, & Baun, 2010). There is a strong business rationale to invest in employee health. Thus, research related to the effectiveness of the CS-HSBP should include data to evidence the impact on sick days, and so on, as such data on reduction of health-related employee costs will increase the likelihood of investment of health care administrators in programs like the CS-HSBP. Moreover, it would be interesting to study whether implementing the CS-HSBP in a context of structural support from the clinic leads to higher percentage of patients educated and higher rates of engagement in health-promoting behaviors in patients, too, and whether this is linked to improved health outcomes.

Authors' Note

Tya M. Arthur and Julia Roncoroni were at the University of Florida when they completed this study.

Declaration of Conflicting Interests

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