

Walking with Obese Patients: An Innovative Method of Motivational Interviewing

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Objective: To describe a pilot intervention to improve care for obese patients that uses motivational counseling delivered during walks with the participant's health provider.

Methods: Patients, with a BMI greater than 30, of one third-year Resident of the MAHEC Family Health Center, were invited to participate. The intervention consisted of one-on-one motivational counseling during a light outdoor walk with the doctor. Participants completed pre- and post-intervention surveys of motivation, readiness to change and confidence in ability to adopt healthier lifestyle strategies.

Results: Seventeen adult patients completed pre-intervention surveys. For the 6 patients who walked, pre- versus post-intervention comparison indicated a non-significant increase in motivational scores (63.7 ± 2.4 vs. 69.3 ± 8.1 ; $p=0.173$). Four improved motivation while two reported diminished motivation. At the onset, walkers ($n=6$) were not more motivated than non-walkers ($n=11$; 62.2 ± 4.7 vs. 63.7 ± 2.4 , respectively, $p=0.404$). Walkers' comments about the intervention were very positive.

Conclusions: This small pilot project found that patients appreciated this combination of light physical activity and motivational interviewing for obese patients. The implementation and evaluation of the intervention warrant improvements for further study with larger sample; participant incentives and additional, dedicated resources for recruitment, monitoring, and assessment should be considered.

Key Words: Walking, Obesity, Physician-Patient Relations, Motivation

Introduction

Obesity in the United States has been on the rise over the past decades. Numerous efforts from community programs to governmental policies have been introduced to get the disease under control. Alarming projections based on epidemiologic trends have suggested that as much as 69% of our American adult population could become overweight or obese by 2030.¹ The disease places a heavy financial burden on our society, with a recent estimate of our aggregate national cost of overweight and obesity-related health problems being over \$147 billion in 2008 alone.² It is well known that obesity can negatively affect most body systems, leading to increased incidence of diseases, including cardiovascular diseases, endocrine derangements, pulmonary disorders, liver disease, as well as various types of cancers.³

Fortunately, there is also evidence to suggest that a modest weight loss, or even simply a change towards healthier lifestyle without achieving weight loss, could lead to substantial benefits in reducing risks for some of these diseases among obese patients.⁴⁻⁸ Methods outside of medical and surgical treatments that are well documented to have significant impact on reducing obesity and/or its associated morbidity consist of modified diets, physical activities, and/or behavior treatment.⁹

Among the different physical activities, walking is a relatively low impact, gradual form of training, making it physiologically and personally appealing to new exercisers. Studies have demonstrated convincing evidence for walking as an intervention in lowering risks of various

cardiovascular diseases and malignancy conditions. ^{8, 10-12} Study comparisons based on two major cohorts of exercise participants, National Runners (n = 33K) and Walkers Health (n = 16K), suggest a similar degree of benefits in walking compared to running at an equivalent metabolic expenditure.¹³ In fact, compared to more intensive forms of exercises, walking might also confer additional benefits in reducing certain disease states such as hemorrhagic stroke.¹²

This project was inspired by a health program called Walk with a Doc,¹⁴ created in Ohio in 2006 by cardiologist Dr. David Sabgir. Since then, this program has spread nationwide with many established local chapters. The program involves a physician who provides health counseling during a light walk in the outdoors for anyone who wants to learn how to make healthier lifestyle choices. The program has documented patient improvements: better educated, more empowered, and more active.

We used this program as the basis for a pilot intervention for our obese patients. We also incorporated components of motivational interviewing to encourage self-motivation and readiness to adopt the behavioral changes recommended for obesity management.¹⁵ The intention of this intervention was to offer a patient-centered, individualized time with a physician to discuss patients' topics of concern and to provide motivational counseling on diet and exercise. The goal of the intervention was to increase patients' self-motivation and confidence in adopting healthier lifestyles strategies.

The objective of this project was to describe the implementation and evaluation of our pilot intervention.

Methods

Participants

The participants were adults patients recruited from the provider's practice with a BMI > 30.

Intervention

Adult patients of the primary author at the MAHEC Family Health Center were screened by nursing staff during an office visit for BMI > 30. Based on this criterion, qualified patients were given a written invitation explaining the program by the nurse before seeing their physician. Interested patients then discussed the program with the provider.

The program consisted of pre- and post-walk surveys and up to three one-on-one walks with their doctor. The walks took place at a number of local Asheville locations, including a local park and university trail, all of which are relatively flat terrains. Walks, generally 1 to 1.5 miles, lasted between 30 to 60 minutes and were done one-on-one by the primary author with each patient. Patients were encouraged to discuss any topics of concern. Motivational counseling regarding optimal physical activities and eating behaviors was provided during the walks. While no standard script was developed, counseling recommendations for appropriate dietary changes were based on the DASH diet¹⁶ and/or the Mediterranean diet,¹⁷ and those for physical activities were based on sources such as the American Heart Association recommendations.¹⁸

Evaluation

The evaluation of the intervention utilized a pre-versus post-intervention design to compare self-reported motivation and readiness to change obesity management strategies. The project was considered a quality improvement project and did not require IRB oversight.

Survey

We developed a motivational survey for this project which was modified from instruments used to assess weight loss readiness, including the AMA's primer for primary care physicians for management of obesity, and dietary questionnaires from WebMD and a well-established bariatric clinic.¹⁹⁻²¹ The 22-item survey included 17 motivational assessment questions, age, gender, BMI,

last 4 digits of social security number, and an open-ended request for comments. The 17-item motivational assessment rating scale (1-5, strongly disagree-strongly agree) asked about readiness, barriers, and facilitators to change one’s weight, eating habits, and exercise, and one’s confidence in their ability to make necessary changes. Patients were asked to provide the last four digits of the social security number for the purpose of linking their pre- and post-walk survey responses.

The same 22-item survey was used both pre- and post-intervention. For the post-intervention assessment, we inquired about the number of times the patient had walked with doctor (see Table 1).

Table 1. Pre- and Post-Intervention Assessment

1. Please rate your agreement to each of the following statements:	Strongly agree	Somewhat agree	Not sure	Somewhat disagree	Strongly Disagree
I feel motivated to work on losing weight.					
I believe losing weight will improve the quality of my life.					
I know that losing weight is one of my top goals in life right now					
I find the idea of starting a workout routine overwhelming					
I think that there are many events in my life right now that will make losing weight difficult (e.g., work, family commitments, etc.)					
I feel hopeless about my weight					
I can imagine my body feeling better and stronger by eating healthy foods					
I understand how diet, obesity, and chronic illnesses are linked					
I have tried to lose weight, but I simply fail to lose it or I put it right back on					
I struggle with losing weight					
I am willing and able to work with my doctor to lose weight					
I feel confident that a weight loss diet will be part of my routine, even at work or when away from home					
I feel comfortable about my decision to lose weight					
I am not being pressured or forced to lose weight by someone in my life					
I believe I can live with the changes required for successful weight loss (e.g., cutting back on favorite snacks/diets, spending more time in exercise, etc.)					
I feel confident about my ability to control my weight					
I believe I have adequate support and/or resources to help me lose weight					
<p>2. I am ____ years old.</p> <p>3. I am a: __Man __Woman.</p> <p>4. My BMI today is ____.</p>					

Survey Administration

Patients verbally agreeing to participate were asked to provide a contact phone number and email address to schedule and confirm walks, and to send the links to the pre- and post-walk surveys. The physician sent the patients the emails directly.

Scoring and Data Analysis

The survey responses were analyzed by the designated statistical analyst within our research team (SG), who had no direct interactions with the study participants. The four questions that were worded in a “negative tone” were reversed scored so that a low degree of readiness and motivation was reflected by low scores. Scores from the 17 items were summed; possible scores ranged from 17 to 85.

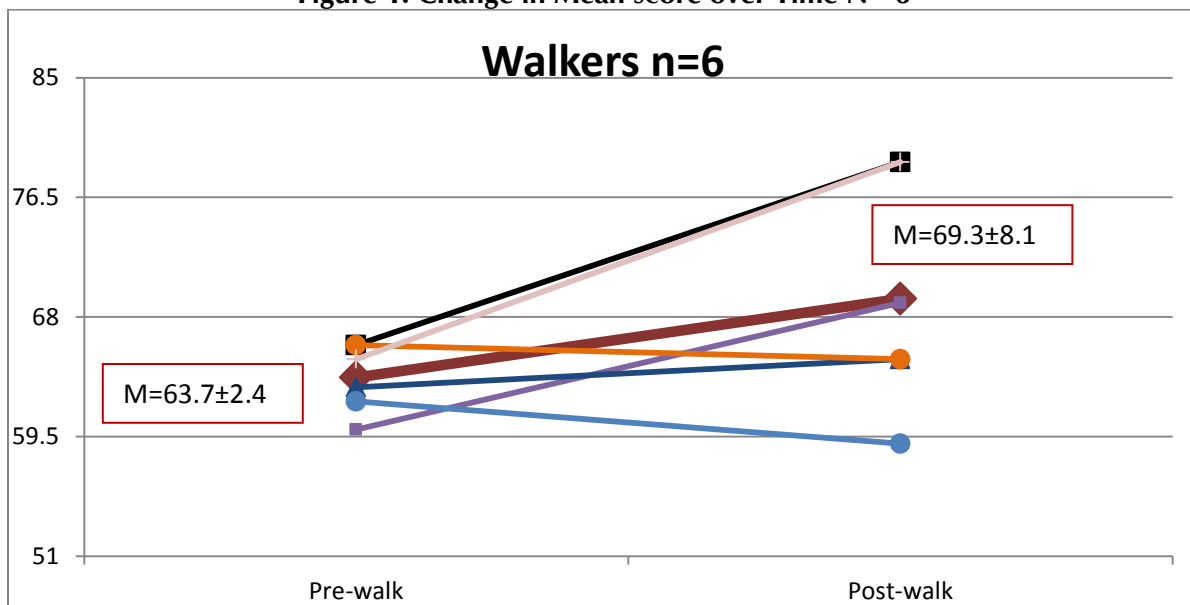
Two different data analyses were performed. We compared pre- versus post-walk scores for the participants who completed the project. This comparison was performed using the Wilcoxon Signed Ranked Test to look at scores over time for related samples. Because only six of the 17 patients showed up for their scheduled walks (walkers), we compared pre-walk scores, between “walkers” and “non-walkers” (those who did not show up), using Mann-Whitney U test for independent samples. This was done to determine if non-walkers were less motivated at the onset.

Results

Seventeen adult patients were recruited for this study during the period from June 2013 to March 2014. These 17 participants ranged in age from 19 to 68, with median of 35 years, and 8 (47%) were women and 9 (53%) were men. Among the six (35.3%) patients who participated in the walks, three (50%) walked once, one (16.7%) twice, and two (33.3%) walked three times. The other 11 participants did not show up for scheduled walks. There were no injuries or medical complications that resulted from the walks per physician observation and patient reports.

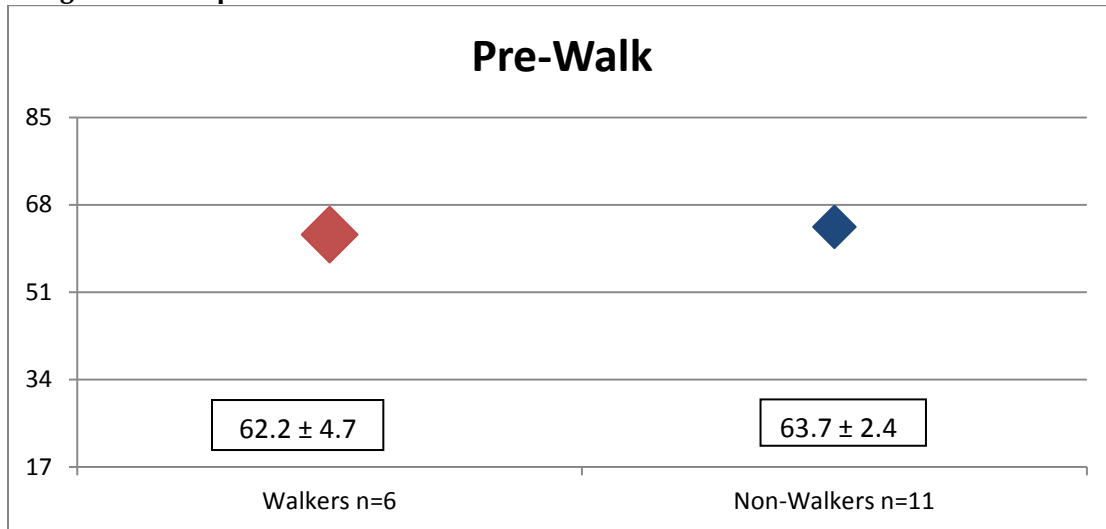
There was a slight increase in score from pre-walk to post-walk; however, this was not statistically significant ($p=0.173$; see Figure 1, the dark red line). While two participants reported moderate improvement in motivation (see the pink and black lines) and two reported modest improvements (see the purple and dark blue lines), two reported decreased motivation (see the orange and light blue lines).

Figure 1. Change in Mean score over Time N = 6



Because only a third of the participants completed the walks, we compared motivation and readiness to change between the walkers and the non-walkers. There was not a significant difference in pre-walk scores between the groups ($p = 0.404$; see Figure 2).

Figure 2. Comparison of Walkers and Non-Walkers on Pre-intervention Motivation



Participant Comments Post-Walk

All participant comments about the intervention were positive. Several examples included:
 “I think this is great. It means a lot to me for my Dr. to reach out and help me on my weight loss journey. I am very grateful.”
 “I cannot even believe that a doctor would walk with me. At such times a lot of ‘getting to know’ is happening, contrary to a rushed 5 - 10 minute office call.”

Discussion

This pilot intervention builds on approaches to addressing behavioral changes in the obese population by incorporating motivational interviewing with actively engaged patients in physical activity with their doctor.

We found a fairly good degree of proclaimed motivation and readiness to change among all 19 recruited patients; however, only about one-third of the patients were able to and/or chose to take advantage of the opportunity to walk with their doctor and talk about health concerns. And while the self-reported experience of the six walkers was quite positive, associated changes in levels of motivation and readiness to adopt healthier lifestyle choices was mixed; four patients reported varying degrees of increased motivation and confidence and two reported decreased levels.

The implementation of the intervention needs improvement especially with regard to the recruitment and encouragement of patients to participate fully. As the resources available for the pilot were quite limited, the majority of the work fell to a highly motivated doctor willing to donate his time. This is in keeping with the national Walk with A Doc program, which emphasizes the free, non-profit nature of the program, and utilizes volunteers.¹⁴

The one-year time frame to pilot the intervention (3 months planning and 9 months implementation) during a very busy third-year resident’s schedule resulted in few recruited patients and a very high attrition rate. While we might consider modifying our recruitment process, there

does not appear to be an evidence-based method for effective recruitment to walking programs.²² A potential modification to encourage full participation would be to include explicit incentives as the prospect of individual time spent with the physician was not sufficient. Financial incentives have been shown to increase exercise attendance and adherence.²³

The evaluation of the intervention needs improvement, too. The small sample size resulted in an under-powered study. The post hoc power analysis indicated a power of only .42. A sample size of 12 would yield a power of .80 given the same magnitude of improvement in pre-walk to post-walk motivation scores. We did not attempt to control for the myriad confounders including: tracking patients who declined participation; documenting the time lapse between pre-survey, walk, and post-survey or the duration of walks; and assessing baseline variations such as mood states, chronic pain conditions, education levels, etc. Further, there are a number of potential confounders that would be very difficult to control due to the considerable flexibility accorded the patient and the physician as to the topics of discussion and the motivational counseling.

The intervention itself may warrant improvements, but we do not have sufficient evidence at this time as to what might be revised. A future pilot might consider gathering additional patient feedback from both walkers and non-walkers.

Despite these limitations and the lack of statistically significant changes, the feedback from participants who walked was strongly positive. In the midst of our growing national obesity problem, studies looking into innovations that are relatively low in cost and risks such as this intervention should be encouraged. It is an intervention that might be very appealing to patients considering the opportunity one gets with a health provider outside of the various constraints of a typical office visit, with time pressure being one major factor. As for those providers who often feel the frustration from not getting adequate time to counsel obese patients, this is also an opportunity for them. All in all, this has potential to be a win-win intervention that deserves further attention to better understand its role and potentials in our rapidly changing healthcare system that promotes new ways to address patients' needs.

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- Yu Kwan Chan, MD: Designed and implemented the intervention and evaluation; manuscript
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- Sue Stigleman, MLS: Literature review; Manuscript development
- Aaron Vaughan, MD: Faculty mentor; Manuscript development

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