Eating Behaviors 22 (2016) 87–92

Contents lists available at ScienceDirect

Eating Behaviors

A pilot randomized controlled trial examining the feasibility, acceptability, and efficacy of Adapted Motivational Interviewing for post-operative bariatric surgery patients

Lauren A. David [a], Sanjeev Sockalingam [b,c], Susan Wnuk [b,c], Stephanie E. Cassin [a,b,*]

[a] Ryerson University, 350 Victoria Street, Toronto M5B 2K3, Canada
[b] University of Toronto, 27 King's College Circle, Toronto M5S 1A1, Canada
[c] Toronto Western Hospital, 399 Bathurst Street, Toronto M5T 2S8, Canada

ARTICLE INFO

Article history:
Received 27 September 2015
Received in revised form 4 March 2016
Accepted 30 March 2016
Available online 13 April 2016

Keywords:
Bariatric surgery
Obesity
Motivational Interviewing
Readiness for change

ABSTRACT

Objective: Non-adherence to post-operative dietary guidelines contributes to poorer outcomes following bariatric surgery. The current pilot study evaluated the impact of Adapted Motivational Interviewing (AMI) on patients' readiness for change, self-efficacy, and adherence to dietary guidelines following bariatric surgery.
Methods: A randomized wait-list controlled trial was conducted. Post-operative bariatric patients (N = 51) were randomly allocated to receive the single session AMI intervention either immediately (AMI group; n = 23), or in 12 weeks while continuing to receive standard bariatric care (wait list control [WLC] group; n = 28).
Results: Completer analyses (n = 44) indicated that participants reported improvements in readiness, confidence, and self-efficacy for change immediately following the AMI intervention. They also reported improvements in binge eating symptomatology and some measures of dietary adherence across the 12-week follow-up period. Significant Group × Time interactions for confidence for change, dietary adherence, and binge eating symptomatology suggest that the AMI group improved on these outcomes whereas the control group did not.
Conclusions: These preliminary findings suggest that AMI is an acceptable and feasible intervention with the potential to improve bariatric patients' confidence for change and eating behaviors. Future research should examine these results in comparison to routinely collected postsurgery follow-up data to learn more about AMI's efficacy for improving post-surgical adherence.

1. Introduction

Bariatric surgery refers to a group of surgical procedures performed to facilitate substantial weight loss by reducing the size of the stomach and/or limiting absorption in the small intestine. It is considered a highly efficacious treatment for extreme obesity; however, bariatric surgery patients frequently report difficulty initiating and maintaining healthy behavioral changes following surgery (Elkins et al., 2005). Sustained weight loss after the initial 'honeymoon' period requires adherence to a set of prescribed post-operative dietary guidelines (e.g., consume three small meals and two snacks daily, consume meals/snacks every 3 to 4 h)(Yale & Weiler, 1991), and the majority of patients (57%) report suboptimal adherence (Toussi, Fujioka, & Coleman, 2009). For instance, approximately half of patients report 'grazing' 6 months following surgery (Saunders, 2004). Although unable to consume large quantities of food in one sitting (i.e., objective binges), many patients continue to experience loss of control over eating following surgery (Saunders, 1999). Grazing and other deviations from the dietary guidelines have been found to account for a significant amount of the variance in long-term bariatric outcomes including premature weight loss plateaus and weight regain (Hsu et al., 1998; Hsu, Sullivan, & Benotti, 1997). Notably, approximately 20% to 50% of bariatric patients begin to regain weight within the first 18 to 24 months following surgery (Shah, Simha, & Garg, 2006).

Mental illness has also been implicated in poor adherence to dietary guidelines after surgery. Bariatric candidates present with elevated rates of psychiatric co-morbidity (Saunders, 1999). Over one-third of individuals seeking bariatric surgery have a current psychiatric diagnosis, the most common of which are anxiety disorders (18%) and mood disorders (12%) (Mitchell et al., 2012). The presence of psychopathology following surgery has been associated with attenuated weight loss (Malik, Mitchell, Engel, Crosby, & Wonderlich, 2014). Depression and eating pathology in particular are among the most consistent negative predictors of weight loss outcomes (Meany, Conceicao, & Mitchell, 2014; Sheets et al., 2015). A proposed mechanism that accounts for this relationship is that people eat as a means of coping with emotional

* Corresponding author at: 914 Jorgenson Hall, Ryerson University, 350 Victoria Street, Toronto, ON M5B2K3, Canada.
E-mail addresses: lauren.david@psych.ryerson.ca (L.A. David), sanjeev.sockalingam@uhn.ca (S. Sockalingam), susan.wnuk@uhn.ca (S. Wnuk), stephanie.cassin@psych.ryerson.ca (S.E. Cassin).

http://dx.doi.org/10.1016/j.eatbeh.2016.03.030
1471-0153/

difficulties (Whiteside et al., 2007). Thus, post-operative psychopathology may contribute to challenges with weight loss and weight maintenance following bariatric surgery.

Adjunctive psychosocial interventions may help patients adhere to dietary guidelines and improve eating behaviors following surgery (Nijamkin, Campa, Nijamkin, & Sosa, 2013; Poole et al., 2005; Zuckoff, 2012). Although not yet tested empirically in bariatric patients, Motivational Interviewing (MI) holds promise for such purposes. Originally developed in the field of addictions, MI is based upon the notion that motivation for change does not reside solely within the client, but rather it can be fostered in interactions with a clinician (Moyers & Martin, 2006). Modification of even the most habitual behavior is dependent upon an individual's readiness for change, which stems from both the perceived importance of change and confidence in one's ability to change (Prochaska, DiClemente, & Norcross, 1992). Accordingly, MI is a client-centered, yet directive method for enhancing intrinsic motivation for change (Miller & Rollnick, 2012) by targeting the client's beliefs about the importance of change and his/her self-efficacy for making changes (Bandura, 1977; Burke, Arkowitz, & Menchola, 2003). Since its development, MI has been combined with other psychosocial interventions to create adaptations of MI (AMI) (Burke et al., 2003). Considerable evidence has supported the efficacy of AMI in improving a broad range of disease indicators and health behaviors (Rubak, Sandbaek, Lauritzen, & Christensen, 2005), as well as treatment adherence (Teeter & Kavookjian, 2014).

In addition to AMI improving health behaviors and treatment adherence broadly, three specific lines of research justify the application of AMI with bariatric patients. First, AMI has been found to improve dietary behaviors beyond standard psychoeducation alone (VanWormer & Boucher, 2004). Second, AMI has been shown to improve different aspects of disordered eating, particularly binge eating (Cassin, von Ranson, Heng, Brar, & Wojtowicz, 2008). Finally, AMI has been found to increase adherence to weight management programs (e.g., appointment attendance, completion of food diaries) (Smith, Heckemeyer, Kratt, & Mason, 1997).

1.1. Study rationale and aims

The current randomized wait-list pilot trial examined the acceptability, feasibility, and preliminary efficacy of AMI for improving self-efficacy and eating behaviors in post-operative bariatric surgery patients. It was hypothesized that participants who received AMI as an adjunct to standard bariatric care would report increases in readiness for change, confidence in their ability to change (self-efficacy), and adherence to the dietary guidelines, as well as decreases in binge eating symptomatology following AMI. Moreover, it was hypothesized that participants receiving AMI would improve to a greater extent than those receiving standard bariatric care alone.

2. Materials and methods

2.1. Participants

Post-operative patients were recruited from the Toronto Western Hospital Bariatric Surgery Program between August 2013 and March 2014 using emails (3.1%) and brochures at appointments and support group meetings (96.9%). Of the 66 patients who expressed interest, 55 met the following inclusion criteria: 1) received surgery at least 4 months ago, 2) fluent in English, 3) able to attend one in-person appointment, and 4) access to the Internet. The mean age of study participants was 49.2 years ($SD = 9.1$). The sample was predominantly female (87.0%). On average, study participants were just over 2 years post-surgery ($M = 26.4$ months; $SD = 10.5$).

2.2. Measures

2.2.1. Self-efficacy

Ontario Bariatric Eating Self-Efficacy Scale (OBESE Scale). The OBESE Scale consists of 19 items adapted from the Weight Efficacy Lifestyle Questionnaire (Clark, Abrams, Niaura, Eaton, & Rossi, 1991) to assess eating self-efficacy (Part I) and 9 items developed for the current study to assess self-efficacy in one's ability to adhere to the post-operative dietary guidelines (Part II) on a scale from 1 ("Not confident") to 10 ("Very confident").

2.2.2. Readiness for change

Change Ratings (Poole et al., 2005). Participants responded to 3 items assessing the perceived importance of change, their readiness for change, and their confidence in their ability to change on scale from 0 ("Not at all") to 10 ("Extremely").

2.2.3. Guideline adherence

Adherence Checklist and Visual Analog Scale. Participants were asked to record whether they adhered to 9 dietary guidelines each day over a 7-day period, and used a visual analog scale (VAS) ranging from 0% to 100% to rate the extent to which they adhered to the dietary guidelines over the past week.

2.2.4. Binge eating characteristics

Binge Eating Scale (BES) (Gormally, Black, Daston, & Rardin, 1982). The BES consists of 16 self-report items to assess thoughts, feelings, and behaviors associated with objective and subjective binge eating. The BES total score ranges from 0 to 46.

2.2.5. Treatment adherence

Yale Adherence and Competence Scale-2nd edition (YACS-II) (Nuro et al., 2005). To evaluate therapist adherence to the MI protocol, two Master's students in clinical psychology rated approximately one quarter of the audiotaped MI sessions using nine key domains of MI outlined in the YACS-II. Each domain was rated on a scale from 1 ("Not at all present during the session") to 7 ("Extensively present during the session"). The pre-determined threshold for demonstrating adherence was set as a score of at least 5 on this 7-point scale.

2.3. Design and procedures

2.3.1. Baseline assessment

Consenting participants were e-mailed a link to the baseline questionnaire packet hosted on Qualtrics. The packet included an informed consent form, the OBESE Scale, change ratings, adherence checklist, VAS, and BES. Informed consent was obtained from all individual participants included in the study.

2.3.2. Randomization

Participants were randomly assigned using web-based random number generator, matched by time since surgery, to either the AMI group or the wait list control (WLC) group. Individuals in the AMI group were immediately scheduled for an AMI session, and those in the WLC group were scheduled for an AMI session following the 12-week waiting period, during which time they completed the same follow-up questionnaires as the AMI group.

2.3.3. AMI session and post-intervention assessment

The AMI session took place at a university-based research laboratory. The AMI protocol was adapted from the single-session protocol developed for a previous study on AMI for binge eating disorder (BED) (Cassin et al., 2008). The focus of the AMI session in the current study was tailored according to the dietary guideline each participant was having the greatest difficulty adhering to. In addition, the AMI protocol was used flexibly across participants (e.g., the study therapist moved