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Inside-Out Health: An Integrative Health Education Program for Women in Substance Abuse Treatment

Brittany K. Badger, Justine J. Reel*, Anita Leopardi, Lynne Durrant and Moises Prospero

Department of Health Promotion and Education, University of Utah, USA

Abstract

Background: Women in treatment for substance use disorders have been identified as at risk for developing co-occurring addictions (e.g., eating disorders) during and following treatment [1] as well as health-related concerns (e.g., inadequate nutrition, weight gain) [2].

Methods: Two evidence-based programs, Full of Ourselves [3] and Healthy Steps to Freedom [4], inspired the development of an integrative health education program (i.e., *Inside-Out Health*) designed to promote physical activity, healthy nutrition and positive body image. Forty-nine participants aged 18-59 (*M*=30.61, *SD*=6.90) came to the weekly program with 74% of participants attending 4 or more sessions out of 6 and 22% having perfect attendance. Nutrition, physical activity and body image were evaluated at pre- and post- and exploratory questions were included to assess program satisfaction.

Results: While statistical analyses did not reveal significant changes in body esteem and physical activity, the Food Choice Questionnaire responses on two subscales (i.e., FCQ-weight control, FCQ-nutrition) approached significance. FCQ-weight control scores increased from pretest (M=.2.24, SD=1.0) to posttest (M=2.55, SD=.74) and FCQ-nutrition scores increased from pretest (M=2.70, SD=.67) to posttest (M=2.82, SD=.68).

Discussion: This integrative health education program is an initial attempt to incorporate health education and eating disorder prevention efforts into an existing substance abuse treatment program. This study confirms the feasibility of promoting physical activity, nutrition and positive body image among female substance abuse clients.

Keywords: Substance abuse; Eating disorder; Comorbidity; Health education; Women

Introduction

Substance abuse has been recognized as a multi-faceted disorder with complex factors (e.g. personality characteristics, co-morbid conditions) that can interplay to influence onset and recovery [5]. While substance abuse disorders can be difficult enough to overcome, co-occurring disorders, such as eating disorders, are common among both clinical and non-clinical samples [1,6]. Although prevalence rates for eating disorders (i.e., 1-3%) and substance use disorders (9%) are relatively low, prevalence rates for co-morbidity (i.e., existence of both eating disorders and substance abuse) within the treatment setting range between 24% and 70% [7,8].

This overlap between substance abuse and eating disorders has been partially explained by similar personality characteristics (e.g., high impulsivity, perfectionism, anxiety) across both addictions [9,10] as well as dysfunctional coping mechanisms to regulate affective disturbances [11]. Individuals who struggle with substance abuse or eating disorders frequently reported an inability to effectively manage negative emotions leading to a tendency to "self-medicate" by using drugs or disordered eating behaviors (e.g., binge eating, restricting foods). Cohen and colleagues [1] have also suggested that co-occurring substance abuse and eating disorders may be an outgrowth of underlying depression, anxiety or other mental health issues.

Health concerns among females in substance abuse treatment

Women in substance abuse treatment have reported increased vulnerability to symptoms of eating disorders (e.g., binge eating episodes), negative body image excessive weight gain, and sedentary lifestyles [12]. In fact, clients often admitted replacing previous substance use with disordered eating behaviors in response to emotional triggers [13]. Furthermore, because many substance abuse clients enter treatment malnourished and underweight [14,15]; they may experience physical body changes during treatment. This weight gain or body shape change may be associated with body dissatisfaction [16] which has been identified as the strongest predictor of disordered eating and clinical eating disorders [17,18,19]. Therefore, promoting positive body image is an important component for eating disorder prevention within treatment and recovery. Interestingly, Reel et al. [20] discovered that exercise could serve as an effective intervention for not only physical benefits of health, but also mental health benefits including body image.

Studies [21] have consistently demonstrated that physical activity can contribute to improved mood, self-confidence, body awareness, and overall health and fitness. Additionally, physical activity provides a functional and healthy alternative to substance use and disordered eating [22] which is helpful for a sustainable recovery. Substance abuse treatment has traditionally focused on overcoming addiction without a strong focus on health-related behaviors such as dietary habits and physical activity. Given the aforementioned weight concerns and negative body image of women in substance abuse treatment, it is important to provide a health promotion program to women in substance abuse treatment that extends beyond mental health therapy. By providing nutrition and exercise education during treatment, female clients can begin to make healthier lifestyle choices and to identify the role that food and exercise may play during their

***Corresponding author:** Justine J. Reel, Assistant Professor, Department of Health Promotion and Education, University of Utah, 1901 E. South Campus Drive, Salt Lake City, UT 84112, USA, Tel: 801-581-3481; E-mail: Justine.Reel@hsc.utah.edu

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recovery. Furthermore, it is important to promote positive body image and discourage body dissatisfaction to prevent disordered eating and clinical eating disorders among female substance abuse clients. Thus, the *Inside-Out Health* program was piloted with adult women in treatment for substance abuse.

Description of the inside-out health intervention

The *Inside-Out Health* educational program consisted of six, 2-hour long weekly sessions that incorporated curricula from two existing, evidenced-based programs, Full of Ourselves (FOO) [3] and Healthy Steps to Freedom (HSF) [23]. Lessons from both programs were tailored and modified to be appropriate for diverse ages and educational levels among the female clients. The FOO program was originally created to decrease body dissatisfaction and eating disorder risk in adolescents through promoting self-esteem, media literacy, and positive relationships with food. FOO activities (e.g., tree of strength) were modified for the adult women in this study by changing language and identifying adult-appropriate examples. The HSF was designed to improve physical activity and nutritional behaviors among a female substance abuse treatment population [4]. Each weekly session of the *Inside-Out Health* program addressed these topics (i.e., body image, physical activity and nutrition) through discussions, group activities, and hands-on experiential learning. For example, nutritional lessons included teaching skills such as building a healthy shopping list, emotional eating, intuitive eating, and understanding food labels. Body image discussion and activities centered around weightism (i.e., discrimination based on weight or size), fat-talk, media literacy, and body appreciation and self-acceptance. Participants were encouraged to challenge traditional stereotypes of beauty portrayed in the media and to identify their unique qualities not related to appearance. Lastly, to promote physical activity, certified instructors from a variety of activities (e.g., yoga, zumba, kickboxing, martial arts) exposed participants to novel ways to move and enjoy being physically active. Ultimately, the overall goal of this study was to improve health of female substance abuse clients by preventing disordered eating behaviors and increasing positive body image, nutritional attitudes and physical activity.

Methods

Participants

English speaking female clients of House of Hope, a substance abuse treatment center in Salt Lake City, Utah, attended the *Inside-Out Health* program once IRB approval was granted. Forty-nine participants aged 18-59 (M=30.61, SD=6.90) came to the program with 74% of participants attending 4 or more of 6 sessions and 22% having perfect attendance. The majority of participants (70%) self-identified as Caucasian, with the remaining participants self-identifying as Hispanic (18%), Native-American (4%), and multi-racial (8%). Seventy-five percent of participants (N=37) had a high school degree or had completed some high school. The majority of participants (92%) had children. As this group therapy session saw participants at varying levels of care, 63% of the participants were in residential treatment at the time of the program with length of time at House of Hope ranging from less than three months (N=24) to 3+months (N=25). Thirty-one participants completed the pretest surveys and due to the high attrition seen during substance abuse treatment, only 16 participants completed both the pretest and posttest.

Measures

One week prior to starting the program participants completed demographic questionnaires that included items related to age, ethnicity, educational level, and number of children. Additionally, participants were asked to report their current level of care (e.g. residential, outpatient) and the length of time they had received substance abuse treatment. To assess attitudes towards food decisions, three subscales from the Food Choice Questionnaire (FCQ), a 15-item instrument, (Steptoe, Polland, & Wardle, 1995) were used including health (6 items), mood (6 items), and weight control (3 items). One item was "It is important to me that the food I eat on a typical day cheers me up." The subscales yielded adequate internal consistencies (α = .736 to .820) across studies [24,25].

To measure body image attitudes and body acceptance, the Body Esteem Scale for Adolescents and Adults (BES) was used [26]. This 23 item, 5-point Likert scale questionnaire was developed to measure weight (8 items), appearance (10 items), and attributions (high and low esteem about what others think about their body) (5 items) through three sub scales. Participants were questioned such as "I am satisfied with my weight". Internal consistency has been supported using adult participants aged 18 to 71 with an alpha = .93 [27]. Finally, to measure physical activity, the International Physical Activity Questionnaire (I-PAQ) short-version was used [28]. The I-PAQ short-version is a 7 item self-report questionnaire that measures general levels of activity in adults and has shown to be a valid and reliable survey for adult populations in developed countries. Participants completed questions such as "During the last 7 days, on how many days did you walk for at least 10 minutes at a time?" In United States populations, the I-PAQ has shown acceptable reliability and reliability with adult samples yielding a Spearman's reliability coefficient of 0.81 and Spearman's validity coefficient of 0.78.

Additionally, at the end of the program, nine exploratory questions were used to collect open-ended, descriptive information relative to program satisfaction. Questions explored participants' recommendations for future interventions and self-reported changes. For example, exploratory questions included items like "Do you feel if there is any change in your physical activity level since the start of the program? If so, how?" and "Do you feel that this program is helpful for those who are seeking treatment for drug and alcohol abuse? Why or why not?"

Data analysis

All analyses were conducted using SPSS version 17.0. Descriptive statistics and frequencies were conducted on pretest and posttest demographic, nutritional attitudes and consumption, body esteem, and physical activity characteristics to screen for missing data, outliers, and data entry errors. Dependent t-tests were calculated to determine differences between pre and posttest measures.

Results

Demographics

English speaking female clients who were currently participating in a substance abuse treatment program in Salt Lake City, Utah participated in this study. Forty-nine participants aged 18-59 years (M=30.61, SD=6.90) attended the program with 74% of participants attending 4 or more of 6 sessions and 22% having perfect attendance. The majority of participants (70%) self-identified as Caucasian, with the remaining participants self-identifying as Hispanic (18%), Native-American (4%), and multi-racial (8%). Seventy-five percent of participants (N=37) had a high school degree or had completed some high school and the majority of participants (92%) had children.

Sixty-three percent of the participants were in residential treatment at the time of the program with length of time in substance abuse treatment ranging from less than three months (N=24) to 3+months (N=25). Thirty-one participants completed the pretest surveys and due to the high attrition seen during substance abuse treatment, only 16 participants completed both pretest and posttest surveys.

Nutrition and food choices

Dependent t-tests revealed that mean scores increased for all three subscales from pretest to posttest (Table 2). While analyses did not reveal significant increases with any subscale, two subscales of FCQ-weight control and FCQ-nutrition approached significance. Specifically, pretest scores for the FCQ-weight control subscale (M=.2.24, SD=.1.0) increased at posttest (M=2.55, SD=.74), p=0.96. FCQ-nutrition subscale mean scores increased from pretest (M=2.70, SD=.67) to posttest (M=2.82, SD=.68), p=.190. These findings suggest that participants in the program reported an increase in motivation for food selection as a means to maintain a healthy weight and to choose foods that were higher in nutrition. While not significant, these results do provide some evidence that these participants were beginning to recognize the role food plays with a healthy lifestyle. These findings support the existing literature that suggests that focusing on nutritional components during substance abuse treatment may be beneficial for these clients as they move towards making healthier choices [14].

Body image

Dependent t-tests revealed that mean scores decreased for two subscales of BES-appearance and BES-attributions but analyses did not reveal significance (Table 2). Mean scores for the BES-weight subscale increased from pretest to posttest but were not statistically significant (Table 1 and Table 2). These findings suggest that a stronger focus on body appreciation and body image should be included with future interventions. Existing literature supports the need of focusing improving body esteem and image to decrease disordered eating behaviors, both in the general population and for clients during treatment [19].

Physical activity

Dependent t-tests revealed that mean scores decreased from pretest to posttest but were not statistically significant. Lack of significance with these findings suggest that future programs could focus more on physical activity and the benefits of being active to positively influence health. Current studies have identified the importance of increased physical activity for both physical and mental health benefits for clients during treatment [22] and this should be a stronger area of focus for future interventions.

Exploratory responses

At posttest, participants completed a series of exploratory questions concerning self-reported behavior change and future recommendations of the program. Seventy-two percent of participants reported that the education translated into making changes in the way they ate, why they ate, and how they ate by the conclusion of the program. Specifically, many participants reported practicing a more intuitive approach (i.e., listening to hunger and fullness cues) to eating meals. Secondly, 65% of participants revealed self-reported changes in body awareness throughout the day by the conclusion of the program. Similarly, 75% of participants reported more positive body image after the 6 sessions. One participant reported, "I'm not quite as hard on myself now that I know that standards (of beauty) aren't really so high." Lastly, 63% of participants self-reported that they felt they were being more physically active by the conclusion of the program. Many participants reported that the weekly session of the program typically was the only time they were able to be active while in treatment. One participant revealed that the program inspired her to make an effort to be active at least 10 minutes throughout each day.

In addition to exploratory questions concerning behavior change, participants were also asked to provide feedback about the program. Nearly 92% of participants reported that an integrative program such as *Inside-Out Health* would be beneficial for female clients in treatment. Many participants reported that as a client in substance abuse treatment, the topics addressed in *Inside-Out Health* were very beneficial as they began to make improvements in their health. Additionally, 94% of the participants in this program stated that they would recommend this program for other substance abuse clients.

Discussion

According to program participants, other than the *Inside-Out Health* intervention health-related topics (i.e., nutrition, physical activity and body image) were not covered in treatment. A participant emphasized the importance of health education by stating, "Taking care of my health is the next step in my recovery. I am so thankful that it was being talked about!" Participants enjoyed being exposed to new physical activities each week. Because substance abuse treatment was generally pretty sedentary and consisted of sitting in group or individual therapy sessions, participants expressed enthusiasm for being active during the program. Participants additionally reported satisfaction with being able to be exposed to fun and easy physical activities to improve their fitness.

Many participants expressed the benefits of discussing negative body image and reported the benefits of learning to recognize and appreciate their personal attributes that made them a unique individual. Many additionally voiced their appreciation for addressing media literacy, learning to critically analyze media messages, as many had never realized how altered and distorted these messages could be. Many stated how they had always compared themselves to pictures in fashion magazines which caused negative affect either during their substance abuse (acting as a trigger to use) or during recovery as they were trying to learn to accept their new body size. While current literature is limited on the influence that body image may have on substance abuse

Demographic Data	Overall Group N=49
Age (year), mean(SD)	30.69 (6.70)
Ethnicity, n(%)	
Caucasian	34(69.4)
Hispanic	9(18.3)
Native-American	2(4.1)
Multi-Racial	4(8.2)
Education, n(%)	
Some High School	15(30.6)
High School GED	22(44.9)
Trade School/Some College	9(18.4)
Bachelors Degree	3(6.1)
Children, n(% yes)	45(91.8)
Status of Care, n(%)	
Residential	31(63.3)
Day Treatment/Outpatient	18(36.7)
Length of treatment, n(%)	
Less than 1 month	8(16.3)
1-3 months	16(32.7)
4-6 months	11(22.4)
6+ months	14(28.6)

Table 1: Demographic Characteristics of Overall Group.

Complete Sample N=16	Pretest Mean(SD)	Posttest Mean(SD)	t value	**p value**
Food Choice Questionnaire				
Weight Control	2.24(1.00)	2.55(.74)	-1.770	.096
Nutrition	2.70(.67)	2.82(.68)	-1.367	.190
Mood	2.28(.72)	2.32(.62)	-.315	.757
Body Esteem Scale				
Appearance	1.88(.70)	1.80(.61)	.782	.445
Attributions	2.48(.60)	2.41(.58)	.628	.539
Weight	1.35(.76)	1.40(.83)	-.530	.603
International Physical Activity Questionnaire	.57(.26)	.55(.37)	.251	.805
Complete Sample N=16	Pretest Mean(SD)	Posttest Mean(SD)	t value	**p value**
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Body Esteem Scale				
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Weight	1.35(.76)	1.40(.83)	-.530	.603
International Physical Activity Questionnaire	.57(.26)	.55(.37)	.251	.805

Table 2: Dependent t-test Mean Scores for Nutritional Attitudes, Body Esteem and Physical Activity at Pretest and Posttest.

recovery, body image has been regularly linked to disordered eating behaviors [17,18] which was a main area of focus with this study.

One of the over-arching goals of the program was to teach participants skills to take care of their bodies by using an integrative approach that focused on a number of health-related factors (e.g. physical activity, nutrition, body image). As one women stated during the final session, "I think the most important thing I've learned is to love myself from the inside-out. Make sure I work on myself, not so much on appearance but what really makes me beautiful." Building confidence and self-esteem with these participants was a key aim to help facilitate healthier behaviors.

Lastly, participants identified how learning strategies to eat healthier and the importance of becoming more in tune with their body was a critical skill that was learned. Many participants mentioned practicing eating intuitively during their meals and paying more attention to why they eat to help establish a stronger connection with themselves and their hunger cues. Participants reported becoming more aware of their motivations for their food choices and learning to distinguish between physical hunger cues and emotional hunger cues. One participant shared, "We've always used something to throw in our body whether it was a substance or food. When we would have a bad day, it was just something you did. After a hard day in therapy I would just always think I'm hungry… Now I'm starting to eat intuitively and pay attention to my emotions." This latter finding is partially supported by the quantitative findings that revealed a motivational trend towards healthier eating not only to lose weight but also for the nutritional value. Perhaps a higher dosage of the intervention with added focus on exercise would elicit long-term changes in self-esteem and increased activity.

Limitations of the Study

While utilizing an established population provided ease in recruitment for an on-going program, some challenges did present with participant retention. First, attrition and low attendance (e.g. attending less than 4 sessions, leaving early for individual therapy sessions with counselors) was expected as participants would complete treatment, drop from treatment, or graduate to a new level of care. While nearly 65% (N=37) completed the program (attending at least four out of six sessions), only 11% completed all six sessions. Additionally, only 28% (N=16) completed both pretest and posttest surveys.

A second challenge was the open nature of the group with new client admissions resulting in 20 new program participants after the program had started. While participation represented by completed evaluations is low, researchers suggest that nearly 50% of individuals who enter substance abuse treatment drop out within the first month [4,29]. Therefore, the attrition and participation rates reported for the *Inside-Out Health* program are comparable to other substance abuse programs.

The *Inside-Out Health* program utilized an integrative approach (physical activity, nutrition, and body image) to increase recovery rates and overall health. Through an informal needs assessment and informal interviews with staff, the researcher recognized that all three components could be jointly addressed throughout the program. While covering various topics weekly proved to be beneficial throughout the program, it was quickly realized that certain topics required additional attention (e.g. media literacy, emotional eating, weightism). Future programs should include additional sessions to allow for more in-depth exploration and discussion of these health topics.

Future Directions

Conducting an integrative intervention with this population was a first step in providing a more comprehensive approach with substance abuse treatment. Continuing to implement these health topics as a supplement during treatment would be a beneficial focus of future studies. For future programs, it is recommended that a control group be established for a true experimental design to test the efficacy of a health education intervention such as Inside-Out Health. Additionally, increasing dosage through both intensity (twice a week) and length of time run (12 weeks) would allow participants to increase their exposure to lesson topics. Lastly, future interventions would benefit by measuring long-term effects to identify the effectiveness of an integrative health promotion program post-recovery. In measuring long-term effects, obtaining a larger sample size would increase the power to find a treatment effect if the effect exists.

Conclusion

This pilot intervention showed that implementing an integrative health promotion program with women in a substance abuse treatment setting was feasible. This intervention adds to the existing literature by suggesting that a heath education that promotes physical activity,

healthy nutrition and positive body image is a useful supplement to traditional substance abuse treatment for adult women. Hopefully this initial attempt to provide health promotion and eating disorder prevention efforts to this unique population will serve as a template for providing a holistic approach.

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