

## BRIEF REPORT

# A Pilot Study of the Nutrition and Exercise for Wellness and Recovery (NEW-R): A Weight Loss Program for Individuals With Serious Mental Illnesses

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**Objective:** This purpose of this study was to evaluate the Nutrition and Exercise for Wellness and Recovery (NEW-R) weight loss intervention. **Method:** Using a pretest/posttest design, 18 participants recruited from a community-based mental health program were assessed at baseline, immediately following the intervention (8 weeks), and at 6-month follow-up. The intervention was delivered by an occupational therapist and occupational therapy graduate students and consisted of 8 weekly sessions lasting 2 hr. Outcomes included changes in weight, and levels of knowledge about nutrition and exercise. **Results:** Participants lost an average of 3 pounds at immediate postintervention, and lost an average of 10 pounds at the 6-month follow-up. Participants also demonstrated significant increases in their knowledge about nutrition and physical activity. **Conclusions and Implications for Practice:** The results of this study provide preliminary support for the impact of the NEW-R intervention on weight loss and knowledge about diet and exercise.

**Keywords:** obesity, schizophrenia, intervention

Obesity is a major public health concern and individuals with serious mental illnesses are at increased risk for overweight and obesity compared with the general public (Allison et al., 2009; Dickerson et al., 2006; Sicras, Rejas, Navarro, Serrat, & Blanca, 2008). Factors associated with obesity include poor dietary intake (Casagrande et al., 2011), lack of physical activity (Okoro et al.,

2014), and psychiatric medications that contribute to weight gain (Newcomer & Haupt, 2006). A high incidence of obesity-related conditions such as cardiovascular disease and early mortality has led to the recognition that weight loss programs are needed for people in recovery. A review by Bartels and Desilets (2012) found that weight loss programs targeting people in recovery are most effective when they include the following characteristics: (a) a manualized, structured program design; (b) education and activity based components; (c) a focus on both nutrition and physical activity; and (d) length of 3 months or longer.

The Nutrition and Exercise for Wellness and Recovery (NEW-R) curriculum is an 8-week weight loss program addressing behavioral changes in nutrition and physical activity. Each weekly session includes education, opportunities for active learning, and 20–30 min of moderate exercise. A primary focus of NEW-R is to promote “being intentional” (i.e., engaging purposefully in weight management activities). For example, participants are helped to set daily and weekly goals, and are encouraged to plan and think about daily behaviors that can impact weight. Making small changes, promoting individual choice, and encouraging positive cognitions are core components of NEW-R.

The NEW-R program was designed to be easily adoptable by staff without additional training. In depth manuals for intervention

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This article was published Online First April 6, 2015.

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This research is funded by the U.S. Department of Education, National Institute on Disability and Rehabilitation Research; and the Substance Abuse and Mental Health Services Administration, Center for Mental Health Services and Consumer Affairs Program, under Cooperative Agreement No. H133B100028. The views expressed do not reflect the policy or position of any federal agency.

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leaders and participants and are available free of charge for download. There are major advantages to manualized interventions including: (a) ease of adoptability, (b) increased fidelity to the intervention, and (c) facilitates research to promote evidence based practice (Eifert et al., 1997). This is the first study examining the efficacy of NEW-R. The purpose of this pilot study was to gather preliminary evidence for the impact of NEW-R by assessing changes in participants' weight and related knowledge at immediate postintervention and 6-month follow-up.

## Method

### Participants

Eighteen participants with serious mental illness and a BMI > 25 were recruited from a community mental health agency in Phoenix, Arizona using study posters and announcements at staff and membership meetings. One participant left the study during the intervention, and another left at the 6-month follow-up. The research was approved by the Institutional Review Board. All participants provided informed consent after receiving information regarding the study and their rights as research participants.

### Intervention

The NEW-R intervention consists of an 8-week manualized curriculum focused on topics related to nutrition and physical activity. The class met once a week for 2 hr and was facilitated by a registered occupational therapist and occupational therapy graduate students. Intervention leaders used an instructor's manual that includes general principles for implementation of the program, learning objectives, teaching materials needed, step by step instructions for each session, discussion questions, and participant activities. No extra training was provided to the leaders. Participants were provided with corresponding workbooks. The intervention and participant manuals are available for free download at <http://www.cmhsrp.uic.edu/health/weight-wellbeing.asp>

The first hour of each session consisted of an interactive lesson, followed by a 20-min moderate intensity workout, and concluded with a healthy meal. Participants were provided with material supports to promote behavioral change such as recipes, a book with guidelines for eating out, and elastic exercise bands.

### Measures

Baseline measures of body weight (without shoes) and height were made by course instructors followed by measures at 8 weeks and 6 months. In lieu of cash, a bag of groceries consisting of a variety of healthy foods worth \$10 was provided to reimburse the research participants for their time at each measurement period. Body mass index (BMI) was calculated from body weight and height measurements. Knowledge regarding healthy eating and exercise was assessed with a 15-item knowledge questionnaire designed by the researchers, and administered at baseline and 8 weeks. Question responses were Likert scaled and true-false, showing good internal consistency with Cronbach's alphas of .71 at baseline and .73 at follow-up. To ensure that factors such as low literacy did not interfere with the questionnaire administration,

questions were read aloud to participants while they read along and responded verbally.

## Results

Participants included 16 (89%) females and two (11%) males with an average age of 47.3 (10.5) years, ranging from 23–64. The racial distribution was: one (5.6%) Native American, four (22.2%) African Americans, six (33.3%) White/Caucasians, six (33.3%) Hispanic/Latinos, and one (5.6%) multiracial individual. At baseline, the average weight was 229.2 pounds ( $SD = 53.64$ ). BMI indicated that three individuals were overweight (BMI > 25), four were obese (BMI > 30), and 11 were extremely obese (BMI > 40).

The average number of NEW-R sessions attended was 5.8 out of eight, ranging from three to eight sessions. Thirteen (72%) participants attended more than half of the sessions. The association between attendance and amount of weight was not statistically significant but showed a trend toward significance ( $r = -.42, p = .09$ ).

A comparison of weight at the different time points was conducted for the 16 participants that completed the study (women = 14, men = 2). Baseline weight averaged 229.2 pounds ( $SD = 55.4$ ) per participant. At immediate postintervention, mean weight was 226.2 pounds ( $SD = 52.01$ ) indicating an average weight loss of 3 pounds. This difference was not statistically significant ( $t = 1.66, p = .12$ ). At 6-month follow up, the average weight was 219.2 pounds ( $SD = 45.7$ ) indicating an average weight loss of 10 pounds from baseline. This difference was statistically significant ( $t = 2.39, p = .03$ ). The average percentage of total body weight loss was 3.6% with six participants who had a weight loss > 5%. Two participants gained weight, 1.8 and 2.8 pounds.

Regarding knowledge about nutrition, physical activity, and weight management, the average score at baseline was 10.4 ( $SD = 3.1$ ) correct answers out of 15. At posttest the average was 11.4 ( $SD = 2.7$ ) and this difference was statistically significant ( $t = -2.12, p = .05$ ).

## Discussion

These results provide preliminary evidence to support the role of the NEW-R intervention in promoting weight loss and increasing related knowledge. Participants lost an average of 3 pounds during the intervention and lost an average of 10 pounds between baseline and 6-month follow-up. Subjects in weight loss interventions typically experience their greatest weight reduction in the initial months of participation (Turk et al., 2009), yet this was not the case for NEW-R participants. However, our results are similar to those of Daumit et al. (2013) who also found that weight loss continued over time following their intervention for people in recovery. The average weight loss of 10 pounds and 3.6% of body weight over 6 months achieved in our study is greater than the average of 5.5 pounds and 2.6% of body weight found in a review of randomized controlled trials of weight loss interventions for people with serious mental illness (Bartels & Desilets, 2012). However, it is acknowledged that this small initial study comprised of volunteers likely includes the most motivated participants. It is to be expected that a larger study would result in a smaller average weight loss; however, this study does suggest that these motivated

individuals were able to benefit from the program and that 6 participants achieved a weight loss of greater than 5% of their body weight.

In addition, our intervention's participants experienced a small but statistically significant improvement in knowledge about nutrition and physical activity, suggesting that additional gains may accrue from the NEW-R program. The one point increase in scores may have been due to a ceiling effect, because six participants scored a 13 or better (out of 15) at baseline, leaving little room for improvement.

A major limitation of this study is the lack of a control group, because improvement may have occurred without the intervention. Other limitations include the small sample size, lack of a representative sample, and use of an unvalidated measure of knowledge about nutrition and physical activity. However, our results provide preliminary evidence suggesting that future research with larger samples should examine the efficacy of the NEW-R intervention in comparison with treatment as usual or other weight loss programs. Additional outcomes associated with nutrition and physical activity and enrollment in wellness programs after NEW-R would be beneficial as well as studies in which the intervention is delivered by community mental health center staff.

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Received June 24, 2014

Revision received November 19, 2014

Accepted November 21, 2014 ■

### **Correction to Brown et al. (2015)**

In the article “A Pilot Study of the Nutrition and Exercise for Wellness and Recovery (NEW-R): A Weight Loss Program for Individuals With Serious Mental Illnesses” by Catana Brown, Halley Read, Morgan Stanton, Michael Zeeb, Jessica Jonikas, and Judith Cook (*Psychiatric Rehabilitation Journal*, April 6, 2015, Advance online publication. <http://dx.doi.org/10.1037/prj0000115>), the middle initials for the last two authors are missing. The last two authors’ name should appear as Jessica A. Jonikas and Judith A. Cook. All versions of this article have been corrected.

<http://dx.doi.org/10.1037/prj0000177>