

## Impact of VA Weight Management Program for Veterans

*Dahn JR, Fitzpatrick SL, Llabre MM, et al. Weight management for veterans: Examining change in weight before and after MOVE! Obesity 2011;19:977–81.*

### Study Overview

**Objective.** To evaluate the impact of the MOVE! Weight Management Program for Veterans.

**Design.** Quasi-experimental pre/post design.

**Setting and participants.** The study took place at the Miami VA, which has had a MOVE! program since 2005. Subjects included 1000 patients who were enrolled in the program between January 2005 and April 2007. The researchers excluded 138 veterans with missing data on the MOVE!23 questionnaire. Subjects were mostly referred to the program by their primary care provider if they were overweight or obese (body mass index > 25) or were normal weight and had comorbidities such as hypertension or diabetes. Others were self-referred through advertisements in patient education materials.

**Program description.** The Miami VA MOVE! program has 2 main components. The first component, self-management support only (SMS), is a 2-hour nutrition education session conducted in a group format. During this session, all patients complete the MOVE23! questionnaire (covering several areas including demographics, self efficacy, eating and physical activity behaviors, health history, and diet history), which is used to generate tailored advice for the patient. The patients then receive program handouts, and interested participants are encouraged to enroll in the more intensive supportive group sessions (SGS program), a 10-week multidisciplinary

group intervention with a structured curriculum containing nutrition, physical activity, and psychological topics related to weight loss. Each session was 90 minutes prior to January 2007 and 120 minutes thereafter. SGS is open-ended, and patients can repeat group session as needed.

**Main outcome measures.** The main outcome was change in weight postintervention (3, 6, and 12 months after enrollment) compared with the trajectory of weight change preintervention (1, 3, and 5 years before enrollment). To determine weight change trajectory, the researchers used mixed model hierarchical regression modeling to estimate 2 slopes—one before the intervention and one after the intervention—and determine the average within person change and individual differences in intercept and slope across patients. The researchers also compared weight change pre and postintervention between the 2 patient-selected treatment groups (SMS only vs. SGS + SMS), and they examined the impact of race, gender, and ethnicity on postintervention weight loss.

**Main results.** Approximately 45% of patients enrolled in SGS after completing SMS. Of the 862 veterans enrolled in MOVE!, 29.8% were white non-Hispanic, 36.4% were African American, and 26.3% were Hispanic. Close to 86% were male. More than half (55.7%) had hypertension and 80.5% had a BMI > 30 kg/m<sup>2</sup>. The authors compared patients in the SMS and SGS groups and found that the SGS groups were older (mean [SD] age, 55.55 [10.4] vs. 53.03 [12.3];

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$P < 0.001$ ), had higher BMI (36.56 [SD, 6.9] vs. 34.19 [SD, 6.1];  $P < 0.001$ ), and more medical (4.14 [SD, 2.6] vs. 3.47 [SD, 2.5];  $P < 0.001$ ) and psychiatric (2.60 [SD, 2.4] vs. 1.89 [SD, 2.1];  $P < 0.001$ ) conditions. There were no differences in BMI between the different racial/ethnic groups at enrollment. Prior to enrollment, veterans gained an average of 2 kg per year ( $\beta = 4.32$  [SE, 0.32];  $P < 0.001$ ). There were no significant differences in trajectory changes pre-enrollment between different genders, and only marginally significant differences between White non-Hispanics and African Americans ( $\beta = 0.98$  [SE, 0.53];  $P = 0.07$ ). The researchers did not find any differences in weight trajectory between SGS and SMS groups years prior to enrollment.

After enrollment in MOVE!, veterans lost on average about 1 kg/yr ( $\beta = -2.07$  [SE, 0.48];  $P < 0.001$ ), and the weight trajectory slope before the intervention was significantly different from the slope after the intervention (chi square = 7.85;  $P < 0.01$ ). Post intervention, weight for participants in the SMS only stabilized ( $\beta = 0.44$  [SE, 0.78];  $P = 0.58$ ) while participants in the SGS group lost on average, 1.6 kg/year post intervention ( $\beta = -3.58$  [SE, 0.78];  $P < 0.001$ ).

The researchers also assessed race/ethnicity and gender differences at post-intervention in the SGS group. They found that White-non-Hispanics lost significantly more weight than African American patients ( $\beta = 3.93$  [SE, 2.21];  $P < 0.05$ ). White, non-Hispanic patients had an average weight loss of 2.7 kg/year ( $\beta = -6.10$  [SE, -1.35];  $P < 0.001$ ) while African American patients had a marginally significant weight loss of 1 kg/year ( $\beta = -2.21$  [SE, -1.25];  $P = 0.08$ ). Hispanic patients had nonsignificant weight loss ( $\beta = -2.22$  [SE, 1.4];  $P = 0.14$ ) but the authors commented that they were underpowered to see a difference. Men lost an average of 1.8 kg/year ( $\beta = -3.99$  [SE, 0.92];  $P < 0.001$ ) while women had nonsignificant weight loss ( $\beta = -1.6$  [SE, 2.30];  $P = 0.49$ ) that the authors attributed to low power given that less than 15% of the patients were female.

**Conclusions.** In patients at the Miami VA enrolled in the MOVE! program, the pre-intervention weight trajectory was significantly different than the post-intervention trajectory, suggesting that patients on average lost weight. Self-selected patients in the more intensive SGS group lost more weight than those in the SMS group. The MOVE! intervention may have been more effective in white non-Hispanic patients than in African American patients.

**Commentary**

Approximately 36% to 37% of patients seen at the VA are obese [1,2], and most of these patients have obesity-related chronic diseases. For instance, 84% of obese veterans have hypertension, 78% have hyperlipidemia, and 45% have diabetes [2].

Weight management programs designed to promote modest weight loss through lifestyle changes can significantly reduce the risk of chronic disease [3,4], and thus the U.S. Preventive Services Task Force recommends that all patients be screened for obesity and be offered intensive lifestyle counseling [5]. To address overweight and obesity, the VA has offered the MOVE! Weight Management Program nationally since 2006 [6]. However, few studies have evaluated its impact. In one evaluation of MOVE!, patients who attended 2 or more sessions lost 2.6 lb more over 6 months than matched controls (veterans who did not participate) [7]. They were also more likely to have clinically significant (> 5%) weight loss (18.6% vs. 12.5%) and less likely to gain weight (29.3% vs. 37.7%) [7]. These findings are consistent with the recent study conducted by Dahn et al.

Instead of using matched controls, Dahn et al creatively used historical data to evaluate the impact of the Miami VA MOVE! program on patients' weight trajectory postenrollment in the program. According to the authors, this was the first study to evaluate a weight management intervention using models of weight trajectories. This study design lacked a separate control group; rather, the preintervention weight trajectory served as the control condition. One potential bias is that changes in trajectory may have been due to coincidental environmental factors that happened concurrently with enrollment into the MOVE!, but this is unlikely given that veterans were enrolled at different times over a 27-month period. Another potential source of bias is its comparison of the 2 treatment arms (SMS and SGS). The finding of a greater weight loss trajectory in the SGS group may simply be due to a more motivated patient sample rather than a treatment effect of the intensive SGS program. The authors could have addressed this by reporting self efficacy and stage of change data routinely collected by the MOVE!23 questionnaire. Further, while the results of this study are promising, we cannot determine whether the VA MOVE! program is effective nationwide since this study was only conducted at one VA center. There is a high degree of variability of implementation of the MOVE! program nationwide, and not all programs offer both SGS and SMS [7]. Despite these limitations, the authors demonstrated that comparing weight trajectories pre and post intervention may be an important alternative to randomized controlled trials in evaluating real-world weight loss interventions.

Obesity is largely undertreated in primary care and providers frequently fail to effectively counsel obese patients to lose weight [8,9]. This is due to lack of training [10], poor competency [11], perceived lack of effectiveness [12], and competing demands on time during the medical visit [13]. Thus, weight management programs may improve the care of obese patients. Major strengths of MOVE! program are that it is a large, national program that has been successfully implemented at VA sites, and all MOVE! materials and programs are publically available allowing for easy

dissemination outside of the VA system. Unfortunately, the MOVE! program alone may be insufficient to treat obesity in primary care. Prior to national implementation of MOVE!, only 34% of obese patients received at least 1 individual or group patient education or counseling visit related to nutrition, exercise and/or weight management [2]. Thus, the MOVE! program may not have sufficient reach. Further, the study by Dahn et al suggests that the MOVE! program is potentially less effective in minority and female populations. Further research is needed to determine whether the intervention needs to be tailored to different patient populations.

### Applications for Clinical Practice

The VA MOVE! program as implemented by the Miami VA may be an effective strategy to improve overweight and obese patients' weight trajectories. Future research is necessary to determine whether it is effective in diverse settings and patient populations.

*—Review by Melanie Jay, MD, MS*

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