Published in final edited form as:
Ann Behav Med. 2014 October ; 48(2): 142–144. doi:10.1007/s12160-014-9615-x.

Optimizing Approaches to Addressing Depression in Cardiac Patients: a Comment on O'Neil et al

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Depression is frequently experienced by cardiac patients, with a prevalence ranging from 20% to 30% depending on the assessment method, clinical setting, disease severity, and patient gender, among other factors (1). Even the lower limit of this range is more than double the prevalence of this treatable condition in the general population (2). Moreover, a recent Scientific Statement from the American Heart Association (AHA) recommends that depression be considered a risk factor for adverse medical outcomes among patients with acute coronary syndrome (ACS), thus giving new urgency to the development and dissemination of effective and scalable interventions for these high-risk patients (3).

Strategies to treat depression in cardiac patients are of great interest because of their potential, in theory, to reduce morbidity. While the interventions of earlier trials had only modest effects on depressive symptoms (4), recent trials of collaborative care (5, 6) and more intensive treatments (7–9) have demonstrated moderate improvements in depressive symptoms and health-related quality of life. Although more intensive treatments often produce gains twice as large as collaborative care interventions (effect size: 0.6 vs. 0.3) (10), they can be difficult to provide at scale or to patients who have difficulty taking time off from work, live in rural areas, or have other transportation issues (11). Consequently, the report by O'Neil and colleagues (12) describing the efficacy and feasibility of a telehealth intervention for depressed ACS patients in this issue of the *Annals* is timely.

The MoodCare investigators screened for depression in patients hospitalized for ACS at one of six Australian hospitals. One hundred twenty-one patients with Patient Health Questionnaire-9 (PHQ-9) scores of 5–19 (mild to moderately severe symptoms) who were not already seeing a mental health specialist were enrolled in the trial. Following hospital discharge, these patients were randomized to either (a) their physicians' usual medical care or (b) a 6-month telehealth intervention that integrated 10 sessions of cognitive-behavioral therapy (CBT) for depression delivered by Master's-level therapists into an existing cardiovascular disease risk reduction program. At baseline, the mean PHQ-9 score was 9.2. Half of the enrolled patients had a lifetime history of a depressive disorder, and 16% were

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Authors Statement of Conflict of Interests: Jesse C. Stewart and Bruce L. Rollman declare that they have no conflicts of interest.

taking an antidepressant or anxiolytic. At the 6-month follow-up, intervention patients exhibited significantly greater improvements in depressive symptoms relative to usual care patients (baseline-adjusted mean difference in post-treatment PHQ-9 score = −1.8 points, p = .025, effect size = 0.36) but did not display changes in health-related quality of life. The intervention was also found to be more efficacious for patients with a lifetime history of depression (mean PHQ-9 difference = −2.7 points, p = .043, effect size = 0.65). The investigators, however, did not report the impact of their intervention on cardiovascular morbidity and mortality.

Demonstrating that telephone-delivered CBT is feasible in ACS patients and yields an effect size similar to other depression interventions in cardiac patients (13) is an important finding. Because telephone-delivered CBT is likely more scalable, accessible, and cost effective than traditional CBT, using this approach could increase the number of cardiac patients receiving evidence-based depression care without a corresponding rise in required resources. However, the effect size of the MoodCare intervention in the total sample was approximately half that observed in trials delivering more intensive treatments (7–9). Possible explanations for this lower efficacy are: (1) patients with minimal or mild depressive symptoms (53% had a PHQ-9 score < 10) who have little room to improve from CBT were enrolled, (2) patients with PHQ-9 scores ≥ 20 who may benefit most from treatment were excluded, (3) depressive symptoms following hospitalization were not reevaluated to exclude those who experienced a transient elevation in symptoms rather than a true depressive episode, and (4) adherence to the intervention was lower (61% completed 5 or more of the 10 CBT sessions).

Given the recent AHA Scientific Statement (3) and earlier Scientific Advisory advocating routine screening and treatment of depression (14), there is a need for future research to identify ways to optimize approaches to addressing depression in cardiac patients. One potential approach that could expand treatment delivery at reasonable cost is to incorporate Internet-delivered computerized CBT (CCBT). At present, these programs are primarily used in Australia, the United Kingdom, and the Netherlands. When these programs are provided under the guidance of a non-therapist care manager, they produce depressive symptom improvements similar to more traditional CBT (effect size: 0.58) (15). Thus, CCBT could cost-effectively be offered as first-line treatment to all cardiac patients who screen positive for depression (with or without antidepressants), while reserving specialist-delivered CBT for nonresponders, those with complicated mental health histories, and others who lack Internet access.

Another potential and complementary approach is to adopt a prevention focus by aggressively screening and treating depression earlier in the natural history of cardiovascular disease, such as in primary care patients with cardiovascular risk factors but no overt disease. An advantage of earlier treatment with CBT is that it may prevent the onset of a depressive episode after the occurrence of a cardiac event, as patients treated to remission with CBT are half as likely to have a recurrence than those treated to remission with antidepressants (16). Earlier depression treatment may also yield cardiovascular benefits. In an 8-year follow-up of the Improving Mood-Promoting Access to Collaborative Treatment (IMPACT) trial, depressed primary care patients without baseline cardiovascular disease

who were randomized to the collaborative care intervention had a 48% lower risk of a myocardial infarction or stroke than patients randomized to usual care (17).

In sum, O'Neil et al.'s MoodCare Trial is a valuable step forward in the area of depression treatment for cardiac patients, as their scalable and accessible intervention could help meet the likely increasing demand for evidence-based depression care for cardiac patients (3, 14). At the same time, there remains a need for future research to identify ways to optimize approaches to addressing depression in this population, which could ultimately result in improved clinical outcomes for an even larger number of cardiac patients.

Acknowledgments

This work was supported by NIH grant R01 HL114016 (Rollman).

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