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Depression, Cardiovascular Symptom Reporting, and Functional Status in Heart Failure Patients

Andrew J. Wawrzyniak,1 Kristie M. Harris,1 Kerry S. Whittaker,1 Nadine S. Bekkouche,1 Sarah M. Godoy,1 Willem J. Kop,2 Stephen S. Gottlieb,2 and David S. Krantz1

1Medical and Clinical Psychology, Uniformed Services University, Bethesda, MD, and 2Division of Cardiology, University of Maryland School of Medicine, Baltimore, MD

Background: Depression is common among heart failure (HF) patients and can influence reporting of cardiovascular symptoms; depression may precipitate psychosomatic symptom reporting and worsen functional health status. This study examines the relationship between depression and cardiovascular symptoms through self-reports and objective measures.

Methods: Eighty-one patients (64 males; mean = 55.8 ± 11.2 years at baseline) with HF (ejection fraction ≤ 40) were examined at intake and again 3 months later. The Beck Depression Inventory (BDI) and the Kansas City Cardiomyopathy Questionnaire (KCCQ) as subjective measures along with the Six-Minute Walk Test (6MWT) as a measure of objective functional status were administered at both time points.

Results: Baseline BDI scores correlated negatively with nine of the 10 subscales of the KCCQ (physical limitation: r = −0.44; symptom frequency: r = −0.52; symptom burden: r = −0.50; total symptoms: r = −0.53; self-efficacy: r = −0.27, P = .019; quality of life: r = −0.72; social limitation: r = −0.56; clinical summary: r = −0.55; overall summary: r = −0.67; all P < .001 unless noted) but was not related to symptom stability. Mean BDI scores significantly decreased from baseline (13.6 ± 10.5) to 3 months (9.2 ± 7.7) indicating less depressive symptoms over 3 months (P < .001). In addition, changes in BDI scores and the KCCQ from baseline to 3 months were also negatively related to all KCCQ subscales (r range: −0.52 to −0.32, P < .05) except for symptom stability. Increasing BDI scores were related to decreased 6MWT performance (r = −0.33, P = .024); after controlling for age, gender, body mass index, current smoking status, diabetic status, and serum creatinine, only worsening BDI scores significantly predicted a decrease in distance walked on the 6MWT (β = −.38, P = .017; overall model R² = 0.18, P = .039) between baseline and 3-month follow-up.

Conclusions: In HF patients studied prospectively, depressive symptoms were related to poorer self-reported HF symptoms at baseline; over time, increases in depression were related to increased subjective symptom reporting and worsening functional status. These findings suggest that depression can negatively impact both subjective and objective health outcomes in HF patients; mechanisms of this association require further investigation.

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