

PATIENT SELF-REPORT COMPARED TO NURSE ASSESSMENT
OF DEPRESSION IN HEART FAILURE

Kasey Bowden, RN, BSN

Submitted to the School of Nursing in partial fulfillment of the
requirements for the Nursing Honors Program

Faculty Mentor: Carol Smith, PhD, RN

Co-Mentor: Ubolrat Piamjariyakul, PhD, RN

University of Kansas School of Nursing

ABSTRACT

HF patients with clinical depression are at greater risk for rehospitalization and have higher mortality rates than those without depression. The purpose of this study was to use content analysis to identify factors that patients report make them feel depressed. Fifty five study participants were screened at baseline for depression using the CES-D. A sub-sample of participants ($N = 37$) was randomized to the intervention group and were screened for depression using the PHQ-9. Participants who scored as having moderate or severe depression on CES-D or the PHQ-9 were referred to the Psychiatric Nurse specialist for assessment ($N = 20$). Content analysis was used to analyze the question on the CES-D: Describe what makes you feel depressed or blue. The results of the identified factors was compared with themes emerged from the nurse's assessment. CES-D content analysis found that 69% ($N = 38$) of participants reported experiencing depression due to: illness/health; loss of independence; financial concerns, and life stressors. Nurse's assessments ($N = 20$) identified themes of grief and situational depression ($N = 5$), fatigue/insomnia ($N = 9$), and anger reactions ($N = 4$). Participants also disclosed concerns with concurrent psychiatric illnesses, worry over family, loneliness, and illicit drug use. Psychiatric nurse specialists can identify additional factors contributing to depression and make further treatment recommendations. The patho-physiologic effects of depression on HF suggest the need for future study in this area.

INTRODUCTION

Research indicates an increased risk for rehospitalization, emergency room visits, and mortality for HF patients with depression. As a result, development of interventions to increase the emotional well-being of patients has become an important goal for research. However, limited research has been performed identifying the causative factors of depression in HF patients.

One intervention currently being tested is a nurse-led multidisciplinary HF group clinic. The intervention (HFcareGroup) being tested has five outpatient clinic appointments, each of which includes a HF self-management assessment and a rapid physical exam by a HF nurse practitioner, a short DVD of 12 to 15 minutes on a self-management topic followed by group discussion among four to eight patients and multidisciplinary health professionals (Smith, Russell & Porter, 2008). Group discussions emphasize patients' use of the self-management components of: a) daily checklist diaries that guide HF self-monitoring, b) step-by-step algorithms that prompt early symptom reporting, and c) follow-up nurse telephone calls to reinforce HF self-management. To meet The Joint Commission (JCAHO) criteria and control for consistent HF education, all subjects should receive our professionally-produced and international award winning DVD series that incorporates HF national evidenced-based guidelines for HF home management (Smith, 2005).

Numerous studies have identified HF treatment typically aimed at achieving palliative outcomes, such as reduction in hospital admission rates, increased quality of life, and depression prevention. Symptoms such as dyspnea, limited vital capacity, and fatigue affect physical, mental, and social aspects of life in all HF patients. Key factors that are related to improving daily life of HF patients, including self-management of sodium and fluid intake, adherence to medications, smoking cessation, and stress and depression management.

Literature Review

Heart failure, commonly referred to as congestive heart failure, is defined as a “patho-physiologic state in which an abnormality of cardiac function is responsible for the failure of the heart to pump blood at a rate commensurate with the requirements of metabolizing tissues” (Luttik, Jaarsma & Moser, 2005, p162). Many conditions lead to heart failure, including (but not limited to) hypertension, myocardial infarction, diabetes, cardiomyopathy, valve disease and congenital conditions. HF requires an extensive self-care regimen, often impeded by the social behavioral characteristics accompanying depression (Robinson, Jorge & Moser, 2008). The specific behavioral and biological processes remain unclear, however depressive symptoms are consistently found to increase cardiovascular risk. Specifically, depression is associated with decreased adherence to medications and triple the risk of noncompliance with medical treatment regimens (Luttik, Jaarsma, Mose, Sanderman & vanVelhuisen, 2005). Depression is associated with higher healthcare utilization costs and a significantly reduced quality of life (Lichtman, et al., 2008). Thus, patients enrolled in my mentor’s current clinical trial are queried and also assessed for factors possibly related to their depression.

METHODS

The primary study design ($n = 94$) was a clinical trial, where patients were randomly assigned using block randomization to a control or experimental group assigned by a team member not involved in any evaluation. The outcome data of rehospitalization frequency, depression, and HF self-management scores were collected quarterly over 12 months. For the purpose of the additional analysis done for this study, a subsample of subjects ($n = 37$) were used to identify contributing factors of depression in HF reported by patients and assessed by a Psychiatric Nurse Specialist.

Sample

Patient Self-Report Compared to Nurse Assessment

Participants included in the primary study ($N=55$) were subjects with a recent acute episode of HF requiring hospitalization. Additional inclusion criterion required that the patient had at least two of the following symptoms upon admission: dyspnea, pedal edema, positive chest x-ray, exercise intolerance, jugular venous distention, objective evidence of left ventricular dysfunction such as ejection fraction $\leq 40\%$, left ventricle internal diastolic dimension greater than normal or diastolic dysfunction noted on diagnostic report via cardiac echo, or catheterization. Participants also had to be able to read and speak English, have access to a telephone, be 18 years of age or older, and had to have transportation to KU to attend meetings or be willing to use taxi vouchers for transportation to group meetings.

Exclusion criteria were that participants could not be undergoing or planning to undergo chronic dialysis, had transient HF or recent acute myocardial infarction, had HF due to a correctable cause that could likely be totally reversed within 6 months, or had any comorbidities with survival expectancy less than 12 months (i.e. cancer). Participants also could not have had severe cognitive impairment, have disabilities which would interfere with videos and group discussion, be pregnant or planning to become pregnant within 12 months of enrollment, come from a facility (nursing home, rehabilitation unit, or skilled nursing facility) with the high probability that he/she would return at discharge, or be currently enrolled in a HF intervention study. "Severe cognitive impairment" was defined as a diminished ability to reason, perceive, judge, or memorize which would interfere with learning or using the intervention materials.

Sample Characteristics

Nearly 14% of participants in this study are between the ages of 20-45 years old, and 18% are between the ages of 46 and 55. This younger group represents almost 1/3 of the total study sample, which parallels statistical reports from national databases. Nearly 40% of the study sample

consists of women managing HF. While HF is predominately found in males, the population of women living with heart failure is growing. The number of Caucasian and African-American participants is nearly even, with the remaining 6% of persons in the study identifying more than one ethnicity. Over 1/3 of the participants in the study are married. Nearly 30% of study participants reports living alone, and 25% reported living in a household with from 2 to 4 people, including themselves.

Procedures

Quantitative (numerical) data were collected from patients using rating scales. These scales have items listing characteristics of depression (e.g. feeling blue, inability to sleep, inability to experience pleasure). Each subject rated his or herself on each item, which is then summed to create a score. Scores from these reliable rating scales were categorized as none, mild, and moderate to severe depression. Patients who scored as having moderate or severe depression on either questionnaire were referred to the Psychiatric Nurse specialist for further assessment ($n = 37$ patients with 20 patients interviewed one time, 11 patients interviewed two times, two patients interviewed three times, and four patients interviewed four times). The Psychiatric Nurse specialist wrote summaries of her consultations with patients, and content analysis was performed to identify causative factors of depression that the Psychiatric Nurse specialist noted. All patient interviews were performed by the same Psychiatric Nurse Specialist.

Instruments

The Center for Epidemiological Studies Depression Scale and the Patient Health Questionnaire-9 were used to measure patient's symptoms of depression and severity of depression; and the psychiatric nurse specialist assessments were used to identify contributing factors to depression.

Center for Epidemiological Studies Depression Scale (Radloff, 1977). The Center for Epidemiological Studies Depression Scale (CES-D) questionnaire was given during a baseline assessment to all patients for comparison across control and experimental groups. All subjects ($N = 94$) were screened for depression on the baseline questionnaire using the CES-D. The CES-D is a standard screening instrument developed by NIH and used worldwide to self-report the presence and persistence of depressive symptoms.

Patient Health Questionnaire (Spitzer, Kroenke & Williams, 1999). The Patient Health Questionnaire (PHQ-9) was given to patients participating in the experimental intervention at each meeting and was used to follow weekly variations. Patients participating in group discussions were screened each time for depression utilizing the PHQ-9, a short, clinically usable instrument which has been found to be a reliable and powerful tool for the assessment of clinical depression. The PHQ-9 is a nine-item depression scale based directly on the diagnostic criteria for major depressive disorder.

Data Analysis

Content analysis research methods were used to summarize the written data recorded by the psychiatric nurse specialist reports and from patients' answers to the CES-D question: Describe what makes you feel blue or depressed? Content analysis is defined as a methodology by which a researcher determines the common content of written, recorded, or published communication by means of a systematic, objective and quantitative procedure.

RESULTS

Notably, 17 subjects (30.9%) reported feeling no depression or blues in the last three months. In contrast, 38 (69.1%) subjects reported experiencing the blues or depression within the

Patient Self-Report Compared to Nurse Assessment

past three months. Of the subjects who reported experiencing depression, 31.6% ($N=12$) reported experiencing the blues due to their illness/health, 20% ($N=8$) reported experiencing the blues due to a loss of independence in function due to heart failure and aging, 14.5% ($N=5$) subjects reported experiencing the blues due to financial concerns or a lack of insurance, and 10.9% ($N=4$) stated that they had life stressors and/or heart failure demands that made them feel the blues. The remaining patients reported having a variety of these factors including no energy, retirement/life change, fatigue, marital conflicts, weather, isolation from family and friends, and having a pacemaker as being reasons for feeling the blues.

20 patients scored as having moderate to severe depression, requiring further assessment by the Psychiatric Nurse Specialist. The Psychiatric Nurse Specialist identified normal grief ($N=3$, 15%), depressed moods and antidepressant medications ($N=12$, 60%), lack of sleep or insomnia ($N=4$, 20%), anger and regret ($N=4$, 20%), and presence of psychiatric illnesses such as bipolar affective disorder and schizophrenia ($N=3$, 15%), as factors related to depression. The Psychiatric Nurse Specialist also noted worry over family and friends ($N=6$, 30%), loss of independence ($N=8$, 40%), and financial concerns ($N=3$, 15%) as factors related to depression. Many of the themes that arose from the Psychiatric Nurse's assessment were previously uncoded for, yet were consistently present in these patients' assessments.

LIMITATIONS AND RECOMMENDATIONS

Over 30% of this population scored as having moderate to severe depression according to the scores on the questionnaires that are used nationally to assess depression in clinical practice and research with cardiac populations. Subjects expressed loss of independence in function, HF symptoms and self management demands, financial/insurance concerns and life stressors as leading to the blues. However, additional assessment from the Psychiatric Nurse Assessments

revealed prevalent themes that did not occur at all or in much lower frequency than when patients were asked questions administered from the questionnaires.

Implications

Because of the high prevalence of depression in heart failure, patients should be well informed of possible causes of depression, how to differentiate depression from normal grief, and how to manage depression upon discharge from the hospital. Multi-disciplinary coordination of care in patients with depression and HF is essential. It is important to assess depression in HF patients with a goal of targeting those in need of intervention and support services. High prevalence of depression in HF patients supports a need for increased awareness of causative factors of depression. HF patients should be routinely screened for depression by using the easily administered instruments and referral to Psychiatric Nurse specialists when patients disclose other relevant information.

REFERENCES

- American Heart Association (2008). *Heart disease and stroke statistics – 2008 Update* [Electronic version]. Dallas, Texas: American Heart Association.
- Artinian, N. (2003) Depression and anxiety can exacerbate the already devastating effects of the disease. *American Journal of Nursing*, 103(12), 32-42.
- Artinian, N.T. (2003). The psychosocial aspects of heart failure. *American Journal of Nursing*. 103(12),132-142.
- Bowden, K., Piamjariyakul, U., & Smith, C.E. "Depression in Heart Failure Patients: Preliminary Results," Mind and Heart Together: Celebrating Intellectual Pursuit in Undergraduate Nursing, Kansas City, MO, November 6, 2008.
- Centers for Disease Control and Prevention, Division for Heart Disease and Stroke Prevention. *Facts and Statistics on High Blood Pressure*. Retrieved September 28, 2008, from www.cdc.gov/bloodpressure/facts.htm.
- Lichtman, J.H., Bigger, J.T., Blumenthal, J.A., Frasure-Smith, N., Kaufmann, P.G., Mark, D.B., Lesperance, F., Sheps, D.S., Barr Taylor, C. & Froelicher, E.S. (2008). Depression and coronary heart disease: recommendations for screening, referral and treatment. A science advisory from the American Heart Association Prevention Committee of the council on cardiovascular nursing, council on clinical cardiology, and interdisciplinary council on quality care and outcomes research [Electronic version] *Circ: American Heart Association Journal*. Retrieved 1 October 2008 from <http://circ.ahajournals.org>
- Luttik, M.L, Jaarsma T., Moser, D., Sanderman, R. & vanVelhuisen, D.J. (2005). The importance and impact of social support in patients with heart failure. *Journal of Cardiovascular Nursing*, 20,(3),162-169.
- Park, C.L., Fenster, J.R., Suresh, D.P. & Bliss, D.E. (2006). Social support, appraisals, and coping as predictors of depression in congestive heart failure patients. *Psychology and Health*, 21(6), 773-789.
- Radloff, L.S. (1977). The CES-D scale: A self-report depression scale for research in the general population. *Applied Psychological Measures*, 1, 385-401.
- Ray, C.C., Murray, K., et al.(2009). Atypical antipsychotic drugs and the risk of sudden cardiac death. *New England Journal of Medicine*, 360, 225-235.
- Smith, C.E., Leenerts, M.H. & Gajewski, B.J. (2003). A systematically tested intervention for managing reactive depression. *Nursing Research*. 52(6), 401-408.
- Spitzer R, Kroenke, K., Williams, J. (1999) Validation and utility of a self-report version of PRIME-MD: The PHQ primary care study. *Journal of the American Medical Association*, 282,1737-1744. Abstract.

Patient Self-Report Compared to Nurse Assessment

Smith, C., Russell, C., & Porter, C. "HF Nurse Practitioner Group Lead Clinic," Poster Presentation, Program Awarded the Innovation Design Showcase for HF Management, Congress of Nursing Heart Failure Society. Boston, June 27-30, 2008.

Smith, C.E., "Nurse Practitioner Heart Failure Self-Management Assessment" Poster Presentation, Mayo Clinic: Care through the Ages, Rochester, MN, July 24-25, 2008.