Heart & Lung 47 (2018) 211–215

Contents lists available at ScienceDirect

Heart & Lung

journal homepage: www.heartandlung.com

The effect of nurse-led group discussions by race on depressive symptoms in patients with heart failure

Ubolrat Piamjariyakul, PhD, RN [a,*], Noreen C. Thompson, RN, MSN, PMHCNS-BC [b], Christy Russell, APRN-C, CHFN [c], Carol E. Smith, PhD, RN, FAAN [d]

[a] *West Virginia University School of Nursing, 1 Medical Center Dr., PO Box 9600, Morgantown, WV 26506-9600*
[b] *University of Kansas Hospital Department of Nursing, 4000 Cambridge St., Mail Stop 2018, Kansas City, KS 66160*
[c] *Center for Advanced Heart Failure and Transplantation, University of Kansas Hospital, 3901 Rainbow Blvd., Mail Stop 4023, Kansas City, KS 66160*
[d] *University of Kansas School of Nursing, University of Kansas School of Preventive Medicine, 3901 Rainbow Blvd., Mail Stop 4043, Kansas City, KS 66160*

ARTICLE INFO

Article history:
Received 18 July 2017
Accepted 13 February 2018
Available online 30 March 2018

Keywords:
African American
Heart failure
Depressive symptoms
Nurse-led group discussion

ABSTRACT

Background: African Americans with heart failure (HF) have the highest rates of depression among all ethnicities in the USA.
Objectives: To compare the effects by race on depressive symptoms and topics discussed in the first clinic appointment after HF hospitalization.
Methods: This study is a secondary analysis of data from a randomized clinical trial testing a patient group discussion of HF self-management with 93 Caucasians and 77 African Americans.
Results: Reduction in depressive symptoms was significantly greater among African American patients within the intervention group ($F = 3.99$, $p = .047$) than controls. There were significant differences by race in four topics (dietitian referral, appointment date, help preparing discussion questions, and advice on worsening HF symptoms) concerning patient-physician discussions.
Conclusion: The intervention showed greater effect in reducing depressive symptoms among African Americans than Caucasians. Preparing patients for discussions at physician appointments on diet, depressive symptoms, and HF symptoms is recommended.

Background

Heart failure (HF) affects 6.5 million Americans, and an estimated 700,000 new cases are diagnosed each year.[1] Projections show that the prevalence of HF will increase by 46% from 2012 to 2030.[2] Annually 60,000 deaths are directly attributed to HF, and HF contributes to nearly 300,000 additional deaths in the United States. Nationally, HF results in one million hospitalizations each year with an annual cost of $37.2 billion.[1] African Americans are 1.5 times more likely to develop HF than Caucasians.[1,3] HF disproportionately affects African Americans due to early onset hypertension and diabetes, limited health care access, and frequent delays in seeking treatment compared to other races or ethnic groups.[4] African Americans have a higher prevalence of HF at a younger age[5] more frequent rehospitalization,[6] and higher health care expenses than other races or ethnic groups.[7]

Over 45% of people with HF experience repeated episodes of depressive symptoms[8] and patients with HF who have depression are at greater risk for rehospitalization and death.[9] Depressive symptoms double the risk for mortality and other cardiac events in patients with HF.[10] Notably, a four-fold increase in these negative HF outcomes occurs among depressed HF patients compared to those with no depression.[11] Also, HF patients who are depressed perform poorer self-management[12–14] Additionally, those with depression often report reduced quality of life.[15] Further, depressive symptoms may interfere with patient-physician discussions in clinic appointments.[16]

Depressive symptoms are known to impact mortality in all patients with HF.[11] African Americans with HF have the highest rates of depression among all ethnicities in the United States.[13] A meta-analysis of 27 large controlled studies found that the percent of

---

Conflicts of Interest and Source of Funding: None of the authors have any relationship with industry or financial associations that might pose a conflict of interest in connection with this manuscript.

Disclaimer: The results described are based on a clinical trial study supported by the National Institute of Heart, Lung and Blood (NHLBl R01-HL085397 & R01-HL085397S). The content is solely the responsibility of the authors and does not necessarily represent the official views of the NHLBl or the National Institutes of Health.

[*] Corresponding author. Fax: 304.293.6826.
E-mail address: Ubolrat.piamjariyakul@hsc.wvu.edu (U. Piamjariyakul).

0147-9563/$ – see front matter © 2018 Elsevier Inc. All rights reserved.
https://doi.org/10.1016/j.hrtlng.2018.02.005

depressive symptoms in HF patients was higher on average in all minority groups, including African Americans, than in Caucasians.[11] Mentz and colleagues compared HF patients by race and found that elevated baseline depressive symptom scores were associated with significantly greater HF-related rehospitalizations and mortality at 3 months in African Americans versus Caucasians.[17] Other studies found that African Americans with HF were more likely to have anxiety along with their depressive symptoms than other ethnic groups.[7] African American HF patients with depression or other psychiatric conditions had significantly higher readmission rates for HF.[18] Yet, minorities may disclose their depressive symptoms less often and often have poor access to mental health services.[12,19,20]

HF patients, regardless of race, may have several risk factors for depression including low level of education, lack of health literacy, lower socioeconomic levels, functional limitations, and less access to mental health services.[11,14,15,21] Thus, an intervention is critically needed to empower all patients to identify and manage depression symptoms and develop skills for interacting with health providers during their clinic visits.

The theoretical framework that guided the clinical trial and the intervention was the Chronic Care Model (CCM).[22] The CCM emphasizes that a multidisciplinary healthcare team should support patient self-management and patient-centered communication.[23,24] The intervention addressed the CCM component of "supporting self-management" by using discussions with a multidisciplinary healthcare team. Briefly, the intervention included 4-weekly and one 6-month post-hospitalization patient group session where multidisciplinary HF experts facilitated discussions on HF self-management. Across these discussions patients were engaged in identifying, and reporting HF and depressive symptoms. Patients practiced how to maintain a positive mood, seek supportive peers, and participate in available community mental health resources. Further, our intervention included repeated discussions and practice preparing for appointments or telephone calls with their physicians so patients would engage in discussions about their conditions. The detailed intervention objectives, discussion topics, and tables of strategies used by professionals in these group discussions have been published.[25] All patients enrolled in the trial had been recently hospitalized for an exacerbation of HF and all had received standard HF hospital care. Standard care included discharge teaching on HF self-care management, medication prescriptions, and scheduling the patients' first post-hospital physician appointment.

Purpose

The primary aim of this secondary analysis was to compare the effects by race on depressive symptoms between baseline and 6 months after the intervention. Another aim was to compare by race the topics discussed during these patients' first post-hospital physician clinic appointment.

Methods

Design

This study was a secondary analysis of data obtained in a randomized clinical trial of an intervention using nurse practitioner (NP)-led HF self-management patient group discussions.[26,27] The original clinical trial design and procedures were consistent with the CONSORT standards[28,29] and included a control group receiving standard care. The primary objective of the clinical trial was to compare effects of the group discussion intervention on HF-related rehospitalizations. The reason for each rehospitalization was determined by two physicians blinded to patient group assignment as resulting from HF or not resulting from HF. In the clinical trial, there were no significant baseline differences by race in gender, length of HF diagnosis, number of comorbidities or pre-intervention depressive symptoms scores between the randomized to groups.[26]

Sample

Adult patients with New York Heart Association (NYHA) Functional Classification III or IV who were hospitalized for a HF exacerbation and able to read English were enrolled.[30] Excluded were patients who had received or were on a waiting list for a heart transplant and HF patients with a terminal illness or medical diagnosis of dementia that might hinder their ability to participate. Exclusion for this secondary analysis also included the data from the few Hispanic/Latino patients (N = 14) who enrolled in the clinical trial. This number was judged as too small for adequate statistical comparison. In this sample, the African Americans were significantly younger (by 10 years on average) and had a lower level of education than the Caucasians (See Table 1)

Procedure

Group discussion intervention

A total of five group discussion sessions (1.5 to 2 hours each) were held, the first four occurring weekly after the patient's hospitalization for HF exacerbation. The fifth session was held 6 months later to review the HF self-management previously discussed. Four multidisciplinary health professionals were present at each group discussion session: (1) a HF nurse practitioner (NP); (2) a psychiatric mental health clinical nurse specialist board-certified (PMHCNS-BC); (3) a social worker; and (4) a dietician. This multidisciplinary team was trained to facilitate, practice attentive listening, and engage all participants in the group discussions. Prior to starting each

Table 1
Demographics and clinical characteristics of the samples by race (N = 170)

Demographic	Total n = 170	African Americans (n = 77)	Caucasians (n = 93)
Age (*M, SD*)	61.78 (13.33)	56.65 (13.03)[a]	66.02 (12.09)[a]
Sex			
Male	101 (59.4%)	39 (50.6%)	62 (66.7%)
Female	69 (40.6%)	38 (49.4%)	31 (33.3%)
Education			
Less than high school	30 (17.6%)	20 (26%)	10 (10.8%)
High School	51 (30%)	24 (31.2%)	27 (29%)
Some college or higher	89 (52.3%)	33 (42.9%)	56 (60.2%)[b]
Length of HF diagnosis (years)	5.96 (7.49)	4.76 (6.49)	6.95 (8.13)
Numbers of comorbidities	*M* = 3 (range 1–7)	*M* = 3 (range 1–7)	*M* = 3 (range 1–7)

[a] $t = -4.86$, $p < .001$ (African American sample is younger).
[b] $\chi^2 = 8.02$, $p = .02$ (African American sample is less educated).