JAMDA 16 (2015) 825–831

JAMDA

journal homepage: www.jamda.com

Review Article

Heart Failure in Post-Acute and Long-Term Care: Evidence and Strategies to Improve Transitions, Clinical Care, and Quality of Life

Arif Nazir MD [a,*], William D. Smucker MD [b,c]

[a] Indiana University School of Medicine, Indianapolis, IN
[b] Summa Health Systems, Family Medicine Residency, Akron, OH
[c] Northeastern Ohio Medical University, Rootstown, OH

Keywords:
Heart failure
post-acute care
transitional care
palliative care

A B S T R A C T

Heart failure (HF) is highly prevalent among older patients in skilled nursing facilities (SNFs). HF outcomes for SNF patients suffer because of many factors, including staff training, lack of physician availability, and failure to implement evidence-based care. AMDA – The Society for Post-Acute and Long-Term Care Medicine has recently updated the Clinical Practice Guidelines for Heart Failure Management in SNFs. This review supplements the Guidelines with a robust focus on best practices for transitional care, symptom management, treatment and monitoring, and palliative care in patients with HF.

Clinical Scenario

The administration of a skilled nursing facility (SNF) is very concerned about high hospital readmission rates for patients with heart failure (HF). They ask the medical director to lead a team to improve HF care in the SNF. The leadership is supportive of restructuring care processes but is unable to offer significant new resources. The quality improvement (QI) team includes the director of nursing, a charge nurse, members of the frontline staff, dietitian, a physical therapist, and the medical director. The team soon recognizes many concerns regarding HF care in the facility. Chart reviews of several patients show that the SNF lacked set processes for admission assessments, daily monitoring, staff training, patient education, staff-to-physician communications, and end-of-life issues. The team concludes that many readmissions could have been avoided, had consistent processes been in place. The team ponders what evidence-based literature has to offer to address these critical gaps.

Methods

We searched MEDLINE and the Cochrane database for English-language randomized clinical trials published from January 1, 1990, through March 30, 2014, using the search terms *older adults, ages 65 and above, elderly, and aged, along with heart failure, heart failure management, and cardiomyopathy*. The strategy yielded no randomized trials regarding HF management in SNFs. Thus, for this article, we present an overview of published QI projects pertaining to HF care in SNFs (Table 1) and also relevant information from available HF guidelines with the intent to put forth current HF care evidence in the following areas: (1) best transitional-care practices; (2) psychocognitive syndromes; (3) roles of interdisciplinary teams; (4) assessment, monitoring, and evidence-based treatment; and (6) palliative and hospice care. This review supplements the recently updated AMDA—The Society for Post-Acute and Long-Term Care Medicine (AMDA) Clinical Practice Guidelines (CPGs) for HF care in SNFs.[6]

HF Burden in the SNF Setting

HF is a complex clinical syndrome that results from any structural or functional impairment of ventricular filling or ejection of blood.[7] It is classified as with preserved ejection fraction (≥50%) or reduced ejection fraction (≤40%), and for the purpose of this article, "heart failure" will refer to either category unless specified.[7] HF affects 6 million people nationwide and contributes to 35% of annual cardiovascular deaths in the United States.[8] Each year, HF is the primary cause of hospitalization for 1 million patients and contributes to the hospitalization of another 2 to3 million with an estimated cost of $32 billion.[9,10] The HF risk-period extends beyond hospitalization, as more fatal complications occur in the postdischarge period than during hospitalization.[11] SNFs play a critical role in the care continuum of patients with HF, as every fourth patient who is discharged from the

The authors declare no conflicts of interest.

This work was supported by a Geriatric Academic Career Award to A.N. through the Health Resources and Services Administration (grant K01HP20517). A.N. is a current member of the AMDA Heart Failure Clinical Practice Guidelines Committee, and WS is a past member of the committee. The sponsors had no role in the study design, evaluation, or manuscript development.

* Address correspondence to Arif Nazir, MD, Indiana University School of Medicine, 720 Eskenazi Avenue, 5/3 Faculty Bldg, Ste E2121, Indianapolis, IN 46202.
E-mail address: anazir@iu.edu (A. Nazir).

http://dx.doi.org/10.1016/j.jamda.2015.05.006
1525-8610/

Table 1
HFQI Initiatives in SNFs

Author	Design	Sample Size	Outcome	Benefit Observed
Martinen et al[1] 2004	QI project	Up to 26 patients	Process measures including ACE-Inhibitor use, vaccination status, completion of education and physician response	All quality markers showed improvement
Jacobs[2]	QI project by a hospital	Not available	Readmission rates	The readmission rate for this hospital for HF patients dropped from 30% to 17%
Dolansky et al[3]	QI project in 4 SNFs	HF patients in 4 SNFs	Adherence to protocols and processes	Variable but below par adherence to key HF monitoring and management protocols by al 4 SNFs
Valle et al[4]	QI project	68 SNF patients in Italy	Hospitalization	Project resulted in a decline in number of hospitalization days
Nazir et al[5]	QI project in one SNF	15 SNF patients 5 staff interviews	1. Process measures 2. Hospitalizations 3. Feasibility	1. Feasibility confirmed with improved teamwork 2. Decrease in hospitalizations

hospital requires an SNF stay.[12] As per a study of more than 12,000 patients, compared with patients with HF who are discharged home, patients discharged to an SNF have a higher 30-day mortality (14% versus 4%), and readmission rates (27% versus 24%).[12] After adjustment for patient characteristics, there was attenuation of these relationships, but transfer to an SNF continued to be a strong predictor of mortality. HF care suffers in the SNF setting, as many basic recommendations are not followed.[3,13]

Best Practices in HF Transitions

Transitional care is "a set of actions designed to ensure the coordination and continuity of health care" as patients transfer between different locations or different levels of care in the same location.[14,15] SNFs are challenged by an increasingly complex group of post-acute patients and by expectations to minimize avoidable transfers of these patients back to the hospital.[16,17] SNF care-teams must help address the fact that more than 50% of HF readmissions are avoidable and are due to medication or dietary nonadherence, inadequate patient education, suboptimal discharge planning or follow-up, and insufficient social support.[18] SNFs have the advantage of an interdisciplinary environment and have the potential to improve outcomes for patients transitioning to and from SNFs. SNFs deal with 2 specific transitional periods: transitions from hospital to the SNF and then from SNFs back to patients' residences.[19] Lack of high-quality, HF-specific, and evidence-based strategies for either category of transition means that providers extrapolate evidence from other settings.[1,20,21] For transitions from the hospital, multifaceted discharge interventions can reduce hospitalization rates and improve life quality for geriatric patients.[22–28] A review of 47 trials of multidisciplinary teams providing transitional care to community-dwelling patients demonstrated a decrease in HF-related admissions and mortality by (1) patient education, (2) emphasis on self-care, (3) optimizing medication adherence, (4) ensuring evidence-based HF pharmacotherapy, and (5) providing streamlined communication with care delivery personnel (eg, patient hotline).[29] Available QI initiatives regarding HF care in SNFs have used some of these elements to show better outcomes.[2,4] See Tables 1 and 2 for descriptions of approaches for improving transitional care processes and outcomes of HF care in SNFs. Implementation of palliative approaches for advanced HF also may lead to decrease in unnecessary intensive care transfers, and such approaches are discussed later.[33]

Evidence-based strategies exist to improve transitions of patients from SNFs to the hospital or the community. The INTERACT program offers a standardized set of approaches to improve communication among staff members, staff and providers, and staff members and hospital staff, including clinical assessment tools that can curb avoidable transfers to hospitals.[34] The Project RED intervention reduced hospitalization after patients were discharged from the SNF to the community using systems for patient education, discharge coaching, and provision of postdischarge resources.[35] A postdischarge clinic providing medication reconciliation, functional assessment, home health services, individual and caregiver education, and communication with primary care providers can significantly improve outcomes for patients discharged from SNF to the community.[36] Although these interventions were not designed specifically for patients with HF, they have the potential to enhance transitional care outcomes for patients with HF in SNFs. Transitions from SNF to community need a focus on patient and family education about medications and red-flag symptoms that may need prompt attention, timely follow-up with a primary care doctor, and advice on ongoing lifestyle and dietary modifications.

Psycho-Cognitive Syndromes in Patients with HF

Recent research highlights the relationship among HF and the psycho-cognitive syndromes of delirium, dementia, and depression and the need to look for them on admission.[37,38] Cognitive impairment, whether due to delirium, dementia, or both, affects 25% to 50% of patients with HF.[38] cognitive impairment can manifest as deficits in working memory, memory, psychomotor speed, and executive function and affects the ability of patients to report symptoms in a timely

Table 2
Evidence-based Checklist of Interventions to Enhance HF Outcomes for SNF Patients[6,7,30–32]

On admission
1. Identify patients with HF at admission
2. Document HF severity (NYHA class) and ejection fraction
3. Collaborate with patient's cardiologist and primary care provider
4. Review goals of care and advance care plans

During SNF stay
1. Ensure adherence to evidence-based therapy for HF
2. Limit dietary sodium to 2 g daily (evidence only for chronically stable HF)
3. Weigh daily and report to clinician based on preset criteria
4. Assess daily for signs and symptoms of congestion or HF exacerbation
5. Implement policies and procedures to communicate about weight gain and HF exacerbations
6. Implement policies and procedures to respond promptly to weight gain and HF exacerbations
7. Ensure timely assessment and follow-up by providers
8. Assess for and address delirium, cognitive impairment, and depression
9. Ensure influenza and pneumococcal immunization
10. Provide patient education, including self-care

At discharge
1. Arrange follow-up with community cardiologist and primary care provider
2. Patient education about HF medications and self-care