Heart & Lung 48 (2019) 472–473

Contents lists available at ScienceDirect

Heart & Lung

journal homepage: www.heartandlung.com

2019 ABSTRACT BALLOTS - ORAL ABSTRACTS FOR THE AAHFN SECTION

RESEARCH CATEGORY

Inspiratory Capacity and NT-pro BNP Predict Key Cardiopulmonary Exercise Results but not Six-Minute Walk Test distance in Older Patients with Heart Failure

Introduction: Heart failure (HF) affects more than five million people, half of whom are at least 75 years old. Peak oxygen consumption (VO2peak), Ventilatory efficiency (VE/VCO2 slope) and the Six-Minute Walk test (6MWT) are powerful prognostic indicators and are useful for monitoring the therapeutic efficacy of symptom and disease management. Cardiopulmonary Exercise testing (CPX) and/or the 6MWT are often not performed as a part of symptom assessment and management in older adults with HF, presumably due to cost, comorbidities and/or potential frailty. NT-pro BNP, NYHA classification, and inspiratory capacity are all easily obtainable in an office setting and may correlate with VO2peak, the VE/VCO2 slope, Peak cardiac output (Qpeak) and/or 6MWT.
Hypothesis: NT-pro BNP, NYHA classification, and/or inspiratory capacity predict VO2peak, the VE/VCO2 slope, Qpeak, and/or 6MWT.
Methods: Twenty-three patients (73.6 + 4.5 years old) with HF underwent assessment and determination of NYHA classification status, venipuncture, inspiratory capacity measurement, and performed the 6MWT and CPX per standardized protocol, (Qpeak measured via acetylene washin method). VO2peak, VE/VCO2 slope and Qpeak were recorded during the CPX.
Results: The strongest relationships were between inspiratory capacity and Qpeak, and between NT-pro BNP and the VE/VCO2 slope. There was a moderate relationship between inspiratory capacity and VO2peak and between NT-pro BNP and VO2peak. Inspiratory capacity and NT-pro BNP combined explained 42% of the variance in VO2peak (adjusted R2 = 0.42, F (2, 20) = 8.82, $p < 0.002$). Due to the lack of variance NYHA classification was not included in the analysis. The 6MWT distance did not correlate with inspiratory capacity or NT-pro BNP.
Conclusion: NT-pro BNP and inspiratory capacity can, either alone or combined, explain between 42% and 59% of variance in key exercise measurements. Both measurements are obtainable in the office setting for monitoring the therapeutic efficacy of symptom and disease management. Moreover, inspiratory capacity has the potential to be measured by older adults in their home.

PRACTICE IMPROVEMENT

Heart Failure Knowledge among CNAs in a Skilled Nursing Facility: A Pilot Project

Background: Heart failure (HF) is one of the leading causes of hospitalization among patients over the age of 65 yrs. Many patients with HF are transitioned to skilled nursing facilities (SNF) following hospital discharge for rehabilitation. Limited formal education is currently available to SNF staff on HF treatment and management.
Purpose: The purpose of this quality improvement pilot project was to develop a sustainable HF educational program specifically for SNF staff to improve their HF knowledge base. This educational intervention focused on the certified nurse aid's (CNA) HF care knowledge through computerized based education and competency demonstration offered during annual competency evaluation.
Methods: Assessment of perceived knowledge gaps and current available education was reviewed at the SNF. Based on adult learning theory, current literature and ACC/AHA/HFSA guidelines were used to develop computer based educational modules. Module 1 offered basic HF knowledge and an introduction to HF care. Module 2 focused on specific guideline recommended care measures such as, modifying lifestyle choices and completing daily tasks necessary to manage the patient with HF in the SNF environment. The modules were reviewed by a HF expert who offered feedback, and revisions were made. A written 10 question pretest and post-test were developed and given prior and following viewing of the educational modules. Hands on competencies were developed which included, weight assessment, application of compression stockings, volume status monitoring, and low sodium diet recommendations. The educational program was implemented during the annual SNF competency fair.
Results: Thirty-four of 40 employed CNAs participated in the program. CNA work experience ranged from 6 months to 17 years. Pretest scores ranged from 4 to 10 (M = 7.8, SD 1.4) and post-test scores ranged from 6 to 10 (M = 8.9, SD 1.0) demonstrating a significant improvement in knowledge ($p < .00$). Participants struggled with understanding symptoms of fluid volume overload and recognition of subtle symptoms of patient decline. Participants also struggled with medical terminology, including terms such as, dyspnea. Hands on competencies revealed some participants had difficulty with identifying steps for proper weight measurement and lower sodium food choices.
Conclusions: HF education is important for all caregivers across the nursing continuum. As HF care continues to transition to SNFs, timely staff education is critically important to ensure optimal patient care and outcomes. Further study is warranted that explores implementation of this educational program in other SNFs and assessment of long range outcomes.

PRACTICE IMPROVEMENT

A Heart Failure Collaborative to Accelerate Improved Patient Outcomes in 3 Metro Markets

Background: Nearly 6.5 million Americans are living with heart failure (HF), the leading cause of hospitalization among adults aged 65 and older. Despite advancements in medical therapy, HF patient outcomes remain of concern. HF readmission rates remain high and only half of patients diagnosed with heart failure are expected to live beyond 5 years of diagnosis. Increasing prevalence and poor outcomes provide significant opportunities for improvement. Hospital participation in a quality initiative designed to improve care by

0147-9563/$ - see front matter