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# A closer look: Alternative pain management practices by heart failure patients with chronic pain

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ABSTRACT

*Objective:* To describe alternative non-pharmaceutical non-nutraceutical pain self-management strategies used by people with heart failure (HF) in order to reduce chronic non-cardiac pain.
*Background:* Little is known about alternative pain self-treatments used by HF patients with chronic pain.
*Methods:* A cross-sectional descriptive design was used with 25 hospitalized HF patients who had chronic pain and used at least one alternative pain treatment. Pain intensity, pain interference with function, and current pain treatments were measured with the Brief Pain Inventory.
*Results:* Alternative treatments included walking, stretching, use of heat and cold. Five patients used evidence-based pain treatments for their chronic pain conditions. Patients reported moderate pain intensity and pain interference with activity.
*Conclusions:* Patients with HF and chronic pain use few alternative pain treatments. Screening for chronic pain and referral to Integrative Medicine and/or Palliative care for a pain management consult might reduce the added burden of pain in people with HF.



## Introduction

A total of 76% of people with chronic heart failure (HF) report chronic non-cardiac pain, more than twice the prevalence of the general United States adult population estimate of 30.7%.[1] Chronic pain in people hospitalized with HF was reported as 60% at one hospital.[2] Chronic pain is associated with multiple negative consequences that include increased depression[3] and decreased physical activity,[4] both of which increase burden and further reduce the quality of life for people living with HF.[5]

Non-cardiac pain reported by people with HF ranges in intensity, and pain interference with activity from mild[6] to severe, with severe ratings reported by 38.9%.[7] For the purposes of the current study *chronic pain* was defined as self-reported pain of three months or greater duration, experienced during the majority of days in the preceding month. HF was defined as some abnormality in cardiac structure or function that results in insufficient tissue oxygenation over a prolonged period of time.[8] Common chronic pain conditions include low back pain, osteoarthritis, headaches, rheumatoid arthritis, fibromyalgia, peripheral diabetic neuropathy, cancer,[1] and irritable bowel syndrome.[9] Common pain sites reported by people with HF include the lower back,[6,7] lower legs, knees, and shoulders.[7] A history of painful conditions, such as chronic low back pain or osteoarthritis, is documented during admission history, but chronic pain and pain self-management strategies are not routinely assessed, documented, and incorporated into hospital care. Pain has been associated with reduced functional performance in stable heart failure patients[10] and might, therefore, slow recovery during and after hospitalization for heart failure exacerbations. Assessment of chronic pain and pain self-management strategies and the incorporation into care of safe and feasible self-management strategies might assist patients to reduce pain during and/or after their hospital stays. Multi-modal approaches that include alternative non-nutraceutical treatment are recommended to reduce pain and, therefore, should be part of standard pain management.[11] The purpose of this research was thus to describe alternative non-pharmaceutical non-nutraceutical chronic pain self-management strategies used by patients hospitalized for HF.

Commonly used alternative non-pharmaceutical self-management strategies used by the general public provide context for pain self-management strategies that people with HF might use. Strategies commonly used by the general public include nutritional supplements,[12] megavitamins,[12] herbal supplements,[12,13] spiritual healing/prayer,[12] meditation,[13] relaxation, guided imagery, biofeedback,[13]

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massage,[12–14] rest, exercise, and thermal treatment.[14] Several common chronic pain conditions have alternative non-nutraceutical self-management strategies that are evidence based and, therefore, might be effective in reducing pain. Thus patients with HF and chronic pain who regularly use safe, evidence based alternative non-nutraceutical pain self-management strategies might benefit from continuing to use their pain treatments while hospitalized. The following research question was investigated: What are some common alternative non-nutraceutical pain self-management strategies used by hospitalized heart failure patients to reduce chronic pain?

## Methods

### *Design*

A cross-sectional descriptive design was used to describe alternative, non-nutraceutical pain self-management strategies used by people with HF to reduce their chronic non-cardiac pain.

### *Sample and setting*

Adults with HF and chronic pain admitted as inpatients to the HF unit at a single medical center in the northeastern United States comprised the convenience sample. The unit had a 28 bed capacity and an average census of 20. Additional inclusion criteria were: age 18 years or older, able to read and understand English or Spanish, pain of at least three months' duration experienced during the majority of days in the previous month, and currently using at least one alternative non-nutraceutical self-management pain strategy at home on a regular basis that they identified as helpful in managing pain and that was evaluated as safe to use. Exclusion criteria included history of dementia or other cognitive impairment limiting the ability to give informed consent or to use self-management pain strategies, or need for referral to integrative medicine for pain treatment support. Data were collected from February 2013 to October 2013.

### *Instruments*

#### *Demographic and health information form*

The Demographic form was used to measure age, gender, race, ethnicity, highest education completed, primary and secondary languages, pain etiology, length of time with chronic pain, New York Heart Association functional class, co-morbidities, and current analgesic and co-analgesic medications and dose.

#### *Brief Pain Inventory Short Form (BPI-SF)*

The BPI-SF was used to measure patient self-administered pain treatments, pain intensity and pain interference with function. The BPI-SF includes a body diagram to identify pain sites, four pain intensity items (present, worst, least, and average) and seven pain interference with function items (e.g. mood, sleep, walking) measured with a 0 to 10 scale, one open-ended question to document current pain treatments, and one question to document the percent of pain relief obtained from current pain treatments. The BPI-SF is recommended for use in chronic pain research.[15] Zalon[16] compared the BPI-SF with the Short Form McGill Pain Questionnaire (SF-MPQ) in a group of surgical patients. The correlation between the BPI-SF and the SF-MPQ for pain over the previous 24 h was 0.61, $p < .001$, supporting concurrent validity. Cronbach's alpha for the overall BPI-SF has been reported as 0.77 to 0.85.[16,17] For the current study Cronbach's alpha reliability for the BPI pain intensity and pain interference with activity was $\alpha = .82$ and $\alpha = .87$, respectively. Cronbach's alpha reliability for the full BPI, which combines both scales, was 0.89.

### *Procedure*

The research was reviewed and approved for human subjects' protection by the medical center institutional review board. The first author trained the remaining co-authors, who worked as registered nurses on the unit, to carry out consistent screening, recruitment, and data collection. The co-authors had identified the need to conduct pain research with the HF patients based on their clinical observation that chronic non-cardiac pain was a frequent co-morbidity for many of their patients. The co-authors conducted patient screening, consent, and data collection during their off shift hours to avoid compromising patient care and to ensure more accurate data collection. Patients admitted with a diagnosis or history of HF to the HF unit were informed by the nursing staff of the opportunity to participate in a brief research study during their hospital stay. Interested patients were screened for inclusion and exclusion criteria during the first 24 h after admission. Informed consent was secured from patients who met criteria for study inclusion. Documenting accurately the number of patients screened as eligible and ineligible, and the reasons for ineligibility or choosing not to participate, was not feasible due to high patient turnover. Relatively few screened patients used alternative non-nutraceutical pain management treatments. Participants were interviewed in their hospital room by a member of the research team. The interview consisted of the Demographic and Health Information Form and the Brief Pain Inventory Short Form, and it lasted 15–30 min. Interviews were generally conducted without interruption. Interruptions that did occur were brief.

## Results

A total of 25 people hospitalized for HF, who reported a chronic non-cardiac pain condition and who used at least one alternative non-nutraceutical pain intervention to treat their pain participated in the study. Participant characteristics that include age, years of chronic pain, total analgesics and co-analgesics used, pain etiologies, gender, ethnicity, race, education, and New York Heart Association (NYHA) status are summarized with frequencies, means and standard deviations in Table 1. Table 2 contains the means, standard deviations, and ranges for the worst, least, average, and now pain intensity, as well as for pain interference in general, and with mood, walking, work, relations, sleep, and enjoying life in the past 24 h.

A total of 18 participants reported currently taking an analgesic or co-analgesic for their chronic pain. Table 3 contains frequencies for types of pharmaceutical and non-pharmaceutical pain treatments used by participants. Three reported current use of non-steroidal anti-inflammatory drugs (NSAIDs) to treat their chronic pain. Nine took acetaminophen and 11 took an opioid. Eight took only one analgesic or co-analgesic. One took five analgesics or co-analgesics (OxyContin, oxycodone, Percocet, Lyrica, and Lidoderm).

Participants used few alternative pain treatments to reduce their pain. Walking and heat were the most frequently reported self-treatments. Five (20%) reported use of evidence-based treatments for all of their chronic pain conditions. Four of the five had back pain, and the fifth had back pain and osteoarthritis pain. Seven (28%) participants used no available evidence-based treatments for chronic pain conditions that included back, headache, and/or fibromyalgia pain. Nine (36%) additional participants had chronic pain conditions with no clear evidence-based alternative pain treatment.

Five (45.5%) of 11 participants with chronic back pain reported walking. No one reported massage, progressive relaxation or yoga,