Meditating Towards Symptom Relief
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Abstract:
This paper addresses the effectiveness of a daily meditation intervention in reducing the symptom of dyspnea in patients with heart failure.

Keywords: Heart Failure, Congestive Heart Failure, Meditation, Mindfulness, Daily Meditation, Relaxation, Heart Failure Symptoms, Dyspnea, Difficulty Breathing

Method:
A review of existing evidence through CINAHL, Cochrane Library, ProQuest, and PubMed were searched as well as Google Scholar. Articles were further evaluated to determine the level and quality of evidence. A total of eight articles were synthesized and translated to a practice recommendation.

Results:
Only studies that were Level I or Level II and high quality (A) or good quality (B) were included. Each article addressed a daily meditation/mindfulness-based intervention and overall evaluated a variety of techniques such as guided imagery, relaxation, or focused breathing. Each article established daily meditation as an adjunct intervention to a standard treatment course, and no adverse effects were identified.

Conclusion:
Strong evidence was found to support the use of a daily intervention of meditation to reduce dyspnea in patients with heart failure. The recommendation includes an eight-week mindfulness-based intervention class that would educate patients about meditation practice and encourage them to use techniques for at least fifteen minutes a day to help decrease the symptom of dyspnea.

Meditating Towards Symptom Relief

Heart failure is a chronic condition with a growing prevalence worldwide, and a study performed by Kwekkeboom & Bratzke (2016) states that heart failure affects 5 million people in the United States alone. Heart failure causes multiple chronic symptoms such as pain, fatigue, edema, and dyspnea, and these symptoms can drastically decrease an individual’s quality of life. Dyspnea is defined as “perceived shortness of breath” (Chan & Lehto, 2016, p. 171). Dyspnea is a debilitating symptom of heart failure and there is currently no direct cure to decrease an individual’s dyspnea, making this a significant symptom for those suffering from heart failure.

Patients with heart failure often suffer from multiple symptoms leading to frequent hospitalizations and unique treatment regimens, and these patients are
often treated within both acute and long-term settings (Norman et al., 2018). Dyspnea is especially relevant to the nursing profession as it impacts all aspects of an individual’s daily activities and can have a severe impact on an individual’s quality of life. As a profession, nurses work hard to advocate for their patients and increase all aspects of their wellness and function. Because dyspnea can be a lifelong symptom for individuals with heart failure, it is important that nurses take a holistic approach to care in an attempt to decrease this debilitating symptom.

The purpose of this paper is to evaluate the use of a daily meditation or mindfulness-based intervention in decreasing the symptom of dyspnea for individuals with diagnosed heart failure. This paper will synthesize existing research and include a recommended intervention for daily meditation.

**PICOT Question**

In patients with heart failure 50 years or older (P), how does the use of daily meditation (I), compared to the lack of meditation use (C), decrease dyspnea (O) during a six month period (T)?

**Methodology, Search Strategy**

The databases CINAHL, Cochrane Library, ProQuest, and PubMed were searched through the Florida Gulf Coast University Online Library as well as Google Scholar. The following keywords were used in combination to collect evidence: heart failure, congestive heart failure, meditation, mindfulness, daily meditation, relaxation, heart failure symptoms, dyspnea, difficulty breathing. Articles were excluded if they were not peer-reviewed or if dated prior to the year 2015. Articles were further screened and were excepted if they included a daily meditation intervention for patients with heart failure, or another chronic disease that included the symptom of dyspnea. Full-text articles were evaluated with the Johns Hopkins Nursing Evidence-Based Practice Research Evidence Appraisal Tool which determined the methodological design used and the level of evidence each article included. This appraisal tool also determined each article as high (A) or good quality (B) evidence within the specific level of evidence, and all low-quality evidence was excluded. In total six articles were included in the review of evidence (see Figure 1).

<table>
<thead>
<tr>
<th>Table 1: Review of Evidence</th>
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<tr>
<td><strong>Level of Evidence</strong></td>
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<td>Level I</td>
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<td>Level II</td>
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<td>Level III</td>
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<td>Level IV</td>
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<td>Level V</td>
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<td><strong>Total</strong></td>
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The evidence collected contained two Level I studies; one qualitative study and one mixed-method study, and both were rated good quality (B) evidence. Both Level I studies included an 8-week mindfulness-based educational class taught by a specially trained registered nurse (RN). Both studies required participants to complete daily meditation at home throughout the eight-week intervention, and both studies found a self-reported, overall decrease in dyspnea symptoms. Three Level II articles were collected, two of which contained high (A) quality evidence and one article contained Level II-B quality evidence. The Level II-A study, performed by Kwekkeboom & Bratzke (2016), concluded a daily meditation/relaxation intervention over eight to twelve weeks showed improvements in the symptoms of heart failure, including dyspnea, as well as an overall increase in the individual’s quality of life. The investigators also concluded that guided imagery produced symptom relief for other heart failure symptoms but showed no improvements of dyspnea. The Level II-A study performed by Leo et al. (2019) provided a quantitative analysis concluding that a mindfulness-based intervention significantly reduced breathlessness in individuals with heart failure. This exact study also evaluated a long-term intervention, highlighting a significant reduction in anxiety after a twelve month follow up. This highlights the potential long-term use and benefits of a meditation or mindfulness based intervention. The Level II-B study found a daily meditation intervention to have a positive effect on multiple chronic diseases such as; asthma, fibromyalgia, and Irritable Bowel syndrome (IBS), but heart failure was not included in the evaluation. One Clinical Practice Guideline (CPG), a Level IV-A article, outlined specific techniques and recommendations for multiple meditation and mindfulness interventions such as focused breathing, mantra, walking, and focused meditation (Gautam et al, 2020). This CPG acknowledged meditation and mindfulness interventions as effective adjunct therapy for individuals with mental health disorder, although these same guidelines can be applied to individuals suffering from heart failure.
Figure 1: Flow Diagram

Records identified through database searching
(n = 10)  Duplicates excluded (n = 0)

Records screened
(n = 10)  Records excluded (n = 2)

Full-text articles assessed for eligibility
(n = 8)  Full-text articles excluded, with reasons (n = 2)

Quantitative research studies included
(n = 2)  Qualitative research studies included
(n = 4)  Non-research studies included
(n = 0)

Two of the six articles identified a similar eight-week education intervention that was initiated by a registered nurse (RN). The three systematic reviews and the Clinical Practice Guideline identified multiple types of meditation and mindfulness interventions, outlining how meditation is an individualized intervention that each patient can adjust to their own comfort level. A study by Chan et al. (2016) focused on meditation by individuals with Chronic Obstructive Pulmonary Disorder (COPD), and this article identified Ujiaii breathing as effective for episodic dyspnea. Ujiaii breathing is a type of mind/body meditation practice that is similar to pursed lip breathing, which requires individuals to exhale slowly and breathe more effectively (Chan & Lehto, 2016, p. 172). None of the other included articles addressed this specific style of meditation breathing, although it showed strong results within the mixed-method study. All articles reviewed identified that there were no adverse effects or risks for a meditation or mindfulness intervention but concluded that this intervention should be used as adjunct therapy to a regular treatment regimen for heart failure or other chronic diseases. None of the studies concluded that there was strong evidence in support of a meditation intervention to decrease the symptom of dyspnea in patients with heart failure, and all studies except the CPG stated that further research was needed in a randomized controlled trial (RCT) within a larger population. A matrix summarizing the evidence can be found in Appendix A.

Based on this review, there is strong evidence to support the use of a meditation intervention in decreasing dyspnea in patients with heart failure. The evidence synthesis revealed that an eight-week mindfulness based intervention class led by a registered nurse (RN) would be most beneficial in the original education of a meditation intervention. The recommended intervention would include an hour long, weekly class that would educate about different meditation techniques and mindfulness training over an eight-week period. Participants would be encouraged to practice their chosen style of meditation for at least fifteen minutes daily, and to continue this practice indefinitely after the original education course.

**Translation**

As this intervention shows no risks and multiple positive results, and it would be a valuable intervention addition for a patient being treated for heart failure. This would be a low-cost intervention as it only requires one registered nurse (RN) who can apply their knowledge to multiple patients. The eight-week educational course can occur in a community, group setting which would keep the resources low and can address multiple patients at one time. The viability of this intervention is evident in that daily meditation is cost free in the long term for each patient, and each individual can select their own specific meditation technique that is effective and comfortable for them. Because this daily intervention is cost free and can be performed at the patients chosen time and location, there is an estimated high rate of compliance with this specific intervention. The reviewed evidence concludes that this daily
meditation/mindfulness intervention can be beneficial with long term use and can also provide symptom relief of other chronic diseases. With this support, it is evident that this holistic intervention can be used to increase an individual’s overall quality of life.

**Conclusion**

All evidence reviewed concluded that a daily meditation intervention could decrease symptoms found in patients with heart failure, but there was no definite conclusion of a decrease in dyspnea. Each article stated that daily meditation or a mindfulness-based intervention had a positive effect on some heart failure symptom; anxiety, fatigue, dyspnea, or overall quality of life. None of the reviewed research identified a negative effect of daily mediation. Because multiple benefits and no risks were identified, daily meditation should be used as adjunct therapy in attempt to decrease symptoms of dyspnea. Daily meditation is a low cost, feasible intervention that should be performed throughout and after completion of the eight week meditation class.

**Self-Reflection**

Throughout this assignment I learned how difficult it can be to evaluate and establish the quality of a piece of data. Many factors go into each study, making it somewhat difficult to identify the quality of evidence. Within my research, I also realized that a large amount of existing evidence does not always yield strong conclusion in support of the problem. Even though systematic reviews are effective in pooling large amount of evidence, it can be difficult to draw conclusions from so many different summaries that may be inconsistent or non-specific to your specific question. Within my specific search of a meditation intervention, I learned there is growing interest in the field of integrative therapy and the use of mindfulness-based interventions. I believe this will become an important part of holistic medicine with strong prevalence to the nursing profession, as it can be a nursing intervention applied to many individuals with different diagnoses. This research has generated a greater interest in the topic of meditation and has introduced me to the importance of ongoing research, not only within the nursing profession but within the health care field as a whole.
<table>
<thead>
<tr>
<th>Article Number</th>
<th>Author and Date</th>
<th>Evidence Type</th>
<th>Sample, Sample Size, Setting</th>
<th>Findings That Help Answer the EBP Question</th>
<th>Observable Measures</th>
<th>Limitations</th>
<th>Evidence Level, Quality</th>
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<tr>
<td>1</td>
<td>Kwekkeboom, K., Bratzke, L. (2016)</td>
<td>Systemic review</td>
<td>13 articles</td>
<td>Daily meditation for 8 - 12 weeks results in symptom improvement and QoL. In guided imagery there was significant improvement in other symptoms, but not dyspnea. 12 weeks of 2x daily relaxation (PMR) improved dyspnea. Relaxation, meditation, or a combination all showed improvements with dyspnea.</td>
<td>Self report comments: easier to breathe, decreased chest pain (angina). Relaxation showed significantly lower dyspnea in week 12. Guided imagery showed no reduction in dyspnea.</td>
<td>Only studies published in English language were used. Terminology used in original search may have limited articles included. No authors were contacted to obtain additional information. No meta-analysis was performed.</td>
<td>Level 2, High Quality</td>
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<td>2</td>
<td>Gautam, S., Jain, A., Marwale, A., Guatam, A. (2020)</td>
<td>Clinical Practice Guideline</td>
<td>N/A</td>
<td>Defined meditation. Identified multiple meditation techniques (focused, mantra, and walking) and provided detailed instructions on each practice. Acknowledge the use of meditation and yoga as health interventions in a clinical setting.</td>
<td>Provided evidence based research of each meditation technique. Recommended meditation between 5 - 20 minutes, or longer if possible.</td>
<td>Guidelines were outlined for use in patient with mental health disorders. Did not include patients with Heart Failure. Did not address the specific age group.</td>
<td>Level 4, High Quality</td>
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<td>3</td>
<td>Crowe, M., Jordan, J., Burrell, B., Jones, V., Gillon, D., Harris, S. (2016)</td>
<td>Systematic review</td>
<td>15 articles</td>
<td>Defined mindfulness as a meditation practice. Age range was 38 - 75 years old. Included participants with various chronic conditions, not specifically Heart Failure.</td>
<td>Two studies showed a significant improvement in “physical symptoms” not specified. Significant improvement in asthma, fibromyalgia, IBS. Mularski et al. (2009) stated “No improvements in dyspnea”. Concluded mindfulness-based intervention should be considered for use within clinical practice.</td>
<td>This study did not outline its own limitations. Only 3 databases were used in initial evidence search.</td>
<td>Level 2, Good Quality</td>
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<td>4</td>
<td>Norman, J., Fu, M., Ekman, I., Bjorck, L., Falk, K. (2017)</td>
<td>Qualitative study</td>
<td>40 participants with chronic heart failure, medium age 76 years in an outpatient clinical setting with home interventions.</td>
<td>Intervention was performed by a heart failure Registered Nurse (RN). Clearly defined mindfulness-based intervention (MBI) and provided intervention timeline as well as description of weekly training. Daily interventions (6 / 7 days per week).</td>
<td>MBI reduced self-reported symptoms of breathlessness and/or tiredness, measured by NYHA classification (p= 0.0087). Symptom of dyspnea was reported as a baseline demographic in 100 % of MBI group. Overall similar age group.</td>
<td>Single-center study with small sample size. Short term follow up. Not all participants were randomized due to limited participant pool.</td>
<td>Level 1, Good Quality</td>
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<td>5</td>
<td>Zou, H., Cao, X., Geng, J., Chair, S.Y. (2019)</td>
<td>Systematic review</td>
<td>5 articles</td>
<td>- Exact population - All interventions included daily practice of mindfulness based interventions (MBI) - Defined MBI - Concluded the MBI intervention “may” reduce anxiety - Acknowledges that mindfulness training is complementary to traditional treatment regimen of heart failure</td>
<td>- Two studies identified fatigue and breathlessness as symptoms of HF and presented a significant reduction (all P &lt; 0.05) after MBI interventions - Heo et al., 2018 reported a significant decrease in “HF symptoms” (Cohen d = 1.91, P = 0.001) - One of the included studies reported a long term reduction of anxiety after a 12 month follow up (P = 0.003)</td>
<td>- Only 5 studies, all of which had relatively small sample sizes - Search strategy was limited mainstream journals, concluding that unpublished data could have been missed - Weak conclusions determined further research is necessary</td>
<td>Level 2, High Quality</td>
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<td>6</td>
<td>Chan, R.R., Lehto, R. (2016)</td>
<td>Mixed-method study</td>
<td>32 participants with a chronic obstructive pulmonary disease (COPD) diagnosis</td>
<td>- Intervention education was taught by a registered nurse (RN) experienced in meditation - Clearly defined intervention with timeline - Identified different techniques to meditation - Addressed dyspnea specifically - Relatively similar population age - Daily intervention</td>
<td>- 41% of intervention participants reported using meditation in daily life to reduce shortness of breath - 28% participants used meditation techniques to decrease episodes of dyspnea - 2 participants used Ujaii breathing to reduce dyspnea episode</td>
<td>- Limited timeline of 8 weeks does not show the effect of the intervention in long term for the patient - Small convenience sample</td>
<td>Level 1, Good Quality</td>
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References


