

Fan Therapy: Symptom Management in Palliative/Hospice Care Patients Experiencing Dyspnea

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PURPOSE

- Dyspnea is a common, distressing symptom where patients experience breathlessness, ultimately leading to decreased quality of life and suffering.
- It can be associated with a multitude of underlying conditions, namely cardiac and pulmonary diseases.
 - COPD & Asthma affect 34 million Americans.²¹
 - Other contributing etiologies include anxiety, allergies, infections, blood clots, and cancers.¹⁶
- Palliative care providers focus on symptom management and quality of life improvement in patients suffering from serious, chronic illness.²⁰
- Palliative care is not hospice; however, many palliative patients eventually transition to hospice after a certain point in their disease progression.²⁰
- The purpose of this quality improvement project was to implement fan therapy in a select group of patients experiencing dyspnea.



BACKGROUND

- Dyspnea is a common chief complaint among Emergency Department patients.¹
- The following statistics all demonstrate the role dyspnea can play in healthcare strain:
 - 2018, 5.9 million E.D. visits for respiratory infections.²
 - 15 million Americans suffer from COPD.⁹
 - 24.8 million Americans suffer from Asthma.⁷
 - 6.2 million Americans suffer from Heart Failure.⁸
 - 2018, 1.5 million Americans diagnosed with Pneumonia.¹⁰
 - 2016, shortness of breath accounted for 3.2 million E.D. visit chief complaints (2.4% of all ED visits that year).¹
 - Other dyspnea related complaints comprised 8.8% of the total E.D. visits that year.¹



BACKGROUND CONTINUED

- Current treatments are based largely on the underlying etiology.¹¹
- Pharmacologic therapies include supplemental oxygen, glucocorticoids, diuretics, and systemic opioids (when indicated).¹¹
- Nonpharmacologic therapies include breathing training, relaxation, modification in activity level, chest wall vibration, and the use of bathroom aids and wheelchairs.⁵
- Pulmonary rehabilitation and therapeutic interventions, such as pleural catheters and thoracentesis in pleural effusions, can be beneficial as well.¹¹
- Reduced dyspnea is directly associated with the stimulation of mechanoreceptors within the body that monitor changes in pressure, flow and volume in the respiratory system.²¹



LITERATURE REVIEW

- 5 studies were identified to meet inclusion/exclusion criteria for the literature review.
- All studies were graded using the Johns Hopkins Nursing Evidence-Based Practice Critical Appraisal Tool:¹²
 - 2 articles graded I-C^{24,13}
 - 2 articles graded II-C^{15,19}
 - 1 article graded I-B¹⁴
- Limitations to the studies utilized included small sample sizes, inability to provide generalizable results, and overall lack of up-to-date data available on the topic.
- The reviewed articles were of high quality, however low strength of evidence due to the above-named factors.
- Overall, all articles supported the use of fan therapy and found no associated adverse effects to patients.

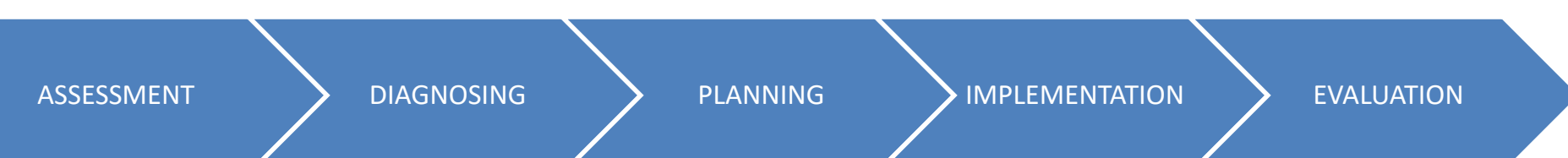
NURSING CONCEPTUAL FRAMEWORK

- The Caritative Caring Theory was developed by Katie Eriksson.⁴
 - Building blocks of this quality improvement project.
- Theory attests that "Love, mercy, and compassion... are the basic objects of knowledge in caring science."⁴
- Theory is based in promotion & protection of health and life, as well as relieving suffering.⁴
- Dyspnea causes patient suffering.
 - It is a distressing symptom and decreases individuals' quality of life.
- The Caritative Caring Theory is engrained in the foundation of this project. The entire purpose is to



relieve suffering through love, mercy, and compassion. Finding alternative ways to relieve patient suffering is central to this theory. Fan therapy is a potential intervention aimed towards achieving this goal.⁴

NURSING PROCESS



Katie Eriksson
<https://nursekey.com/11-theory-of-caritative-caring/>

METHODS

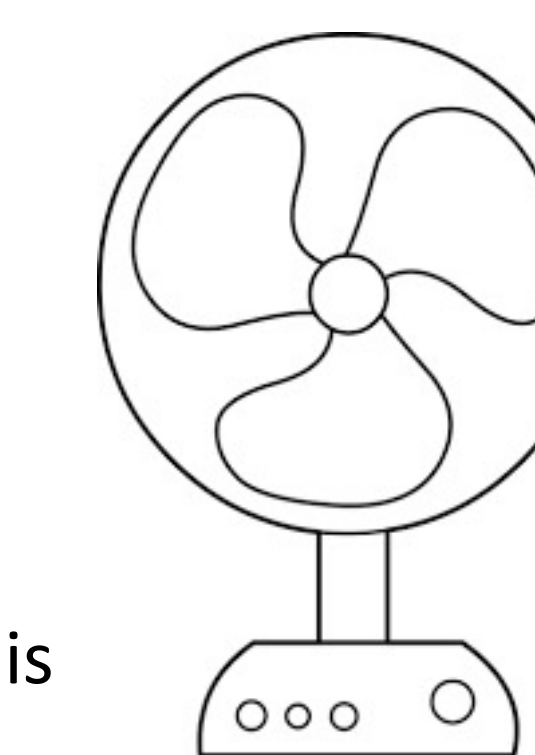
- Development of a Dyspnea Quality Improvement Evaluation Tool (DQIET) to evaluate effectiveness of fan therapy after implemented. (Appendix A)
- A plan for implementation was constructed, including effective, in-service style education.
- Fan Therapy requirements included a minimum of 5-minutes direct air flow towards the patients' face, followed by reassessment after the intervention was completed for symptom improvement.
- The investigator and direct nursing staff caring for FAIRHOPE Hospice & Palliative Care patients implemented the therapy for eight patients who were experiencing baseline dyspnea.
- Quality improvement project was completed from September 14th to October 31st, 2021.
- Kurt Lewin's Change Theory of *unfreezing, moving, and refreezing* guided implementation of this project. Education of those responsible for implementation was the essential component to combating any resistance.
- The DQIET was developed to be easy to read and complete. It was comprised of:
 - A short explanation of fan therapy's purpose
 - Fill-in spaces for patient initials and date
 - YES/NO fill-in to complete evaluation to determine fan therapy effectiveness

OUTCOMES

- Project was conducted from September 14th to October 31st, 2021.
- Total of 8 patients completed fan therapy & the DQIET.
- All 8 participants reported relief of symptoms after a minimum of 5-minutes fan therapy; 100% of participants experienced improvement in reported dyspnea.

DISCUSSION

- This project has the potential to make a significant impact on those suffering from dyspnea.
- Dyspnea is a distressing symptom that millions of Americans suffer with.
- It is responsible for considerable burden on the U.S. Healthcare system including:¹⁸
 - Financial Strain
 - Staffing Shortages
 - Burnout
 - Prolonged ED/EMS wait times
- Fan therapy is a safe, low-cost, and effective tool that is easily accessible for almost any patient.



DISCUSSION CONTINUED

- Hospice & Palliative care services are a dynamic group of specialists whose primary focus is on symptom management and improving quality of life.
- Fan therapy is a viable intervention to implement for patients suffering from dyspnea.
- Evidence supports incorporating this therapy into clinical practice guidelines for dyspnea during:
 - Hospital discharge teaching
 - Inpatient and outpatient teaching for any patient diagnosed with a chronic condition that presents with dyspnea such as CHF, COPD, Cancers, Afib, Pneumonia, and COVID.²¹
- Fan therapy is easily accessible and implemented into practice and patient care.
- Education is KEY!
 - This starts with providers and other healthcare personnel, followed by educating the patients and caregivers.

**"Knowledge itself is power."
- Francis Bacon³**

Abstract

Millions of Americans suffer from the distressing symptom of dyspnea. It is responsible for a significant burden on the U.S. healthcare system, as well as a decrease in the quality of life for patients. Fan therapy (direct air flow directed towards someone's face) has been proven effective in decreasing patient reported breathlessness, or "dyspnea." A review of literature demonstrated overall benefit of fan therapy. However, varying results and sample sizes were found among the studies. No adverse effects of fan therapy were reported per the reviewed literature, posing a low risk and potentially high benefit for patients in which this measure is implemented. This quality improvement project will focus on palliative and hospice care patients admitted to FAIRHOPE Hospice & Palliative Care services. The aim of this project is to implement fan therapy for patients experiencing shortness of breath/dyspnea/breathlessness and evaluation of symptom improvement will be assessed via the Dyspnea Quality Improvement Evaluation Tool (DQIET). Overall, this quality improvement project demonstrated benefit, providing relief of symptoms for patients suffering with dyspnea.

Keywords: dyspnea, fan therapy, nonpharmacologic intervention, palliative, hospice

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Appendix A

**DYSPNEA QUALITY IMPROVEMENT
EVALUATION TOOL (DQIET)**

Patient Initials: _____

Date: _____

Evidence has shown improvement in patient reports of dyspnea after initiating fan therapy during to acute episodes.

Fan therapy is defined as air movement directed towards the patients' face for a minimum of 5 minutes.

The goal of this quality improvement project is to evaluate if fan therapy in patients experiencing acute dyspnea proves to be beneficial in symptom reduction.

FAN THERAPY FOLLOW UP

Did the patient experience relief of symptoms after implementing fan therapy for a minimum of 5 minutes: (circle one)

YES

NO

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