

# Treating dyspnea using two completely opposite cures: oxygen or opioid

[Environment](#), [Nature](#)



Hospice has been around since 1967 when Dame Cicely Saunders created St. Christopher's Hospice in the United Kingdom (Wondafrash, 2016). Since then health care providers have come leaps and bounds with providing more effective pain management and end-of-life care for terminally ill patients. These patients go through physical and mental hurdles during their final months. The main physical issues that patients face are pain, dyspnea, and discomfort. For the pain and discomfort, they receive various narcotics, Morphine, Valium, and Ativan to name a few. For the dyspnea or hypoxia, patients are put on some sort of oxygen delivery system, the most common is nasal cannula. However, the cost of hospice care, medications, oxygen, and other services add up quickly putting a financial strain on the families. With the financial aspect in mind, for patients with COPD or terminal lung disease, what is the effect of oxygen administration compared with medications on treatment of dyspnea.

Most patients within hospice have some sort of oxygen administration to help with their dyspnea, but there are many other ways to help a patient deal with dyspnea. The main alternatives to oxygen are medications and various sensory stimulation causing a placebo effect on the patient's' breathlessness (Thomas, 2009). One of the patients had terminal lung cancer with dyspnea at both rest and upon exertion, had continuous oxygen via nasal cannula with a pendant. This client was also receiving Dilaudid and Lorazepam to help with the pain and anxiety, and Albuterol to reduce resistance in the airway. The Dilaudid and Lorazepam were both in pill form which the patient could take without the pills being crushed, and Albuterol was a nebulized treatment. Before and after the nebulized treatment the

client's lung sounds were assessed and found that the lung sounds went from absent to diminished at the bases of the lungs.

Using Galileo, the research data base for Georgia Southern University, the first article that fit the conditions of the patient was “ Oxygen for end-of-life lung cancer care: Managing dyspnea and hypoxemia”. However the research article we are using is “ Interventions for alleviating cancer-related dyspnea: A systematic review”. These articles both work for comparing oxygen to medication in patients in various stages of cancer with dyspnea.

### **Purpose of Study**

Ben-Aharon and the other researchers wanted to compare the effectiveness of the known ways to alleviate dyspnea. With varying results with oxygen therapy in cancer patients and studies showing the decrease use of opioid in cancer patients, they wanted to see which of the methods was the most effective for the patient (Ben-Aharon, Gafter-Gvili, Paul, Leibovici, & Stemmer, 2008).

### **Hypothesis and Questions**

Since this article is reviewing other studies, there is no hypothesis, however the main question the researchers wants to know is of the interventions for dyspnea, which showed the best results (Ben-Aharon, 2008). They also want to find evidence to support a more common guideline in treatments for patients with dyspnea (Ben-Aharon, 2008).

**Design**

Ben-Aharon and his team focused on randomized controlled trials from four main sources, PubMed, CENTRAL, EMBASE, and conference proceedings in oncology. For each of the sources they searched “ Opiate, opioid, morphine, benzodiazepine, furosemide, steroids, corticosteroids, oxygen, and pharmacological,” along with “ cancer, carcinoma, malignancy, and neoplasm,” and “ dyspnea and breathlessness” (Ben-Aharon, 2008). With these keywords their search came up with 197 articles.

To narrow down these results they put in place various steps of evaluating each source. There were two main reviewers looking through these results and discussed if the article would be included, if the two did not agree and third party would come in and help decide. The first step in eliminating articles was getting rid of any non-randomized controlled trials and articles that were just reviews. From there the reviewers eliminated any that included non-cancer patients, minority focused studies, and studies that evaluated chemotherapy. After narrowing down the results, there were a total of 18 research articles used for this review. With these 18 they pooled the data from the controlled group and the experimental group then analyzed the two sides as if they were parallel studies. “ Meta-analysis was performed for the studies” so they could calculate the “ weighted mean difference for continuous variables that were reported on the same scale” between the studies (Ben-Aharon, 2008).

## Findings

There were 18 articles that were used in this review. Eight of the articles involved opioids, six involved oxygen, two compared benzodiazepines with morphine and morphine combinations, and two compared nebulized furosemide with a placebo. Each of the studies involved cancer patients who had dyspnea. The studies used a visual analogue scale (VAS) for the subjective data for the patients' ratings of dyspnea along with objective data: oxygen saturation, oxygen partial pressure, carbon dioxide partial pressure, and hemoglobin levels (Ben-Aharron, 2008). Using Meta-analysis to compare the other studies data, they were able to find that opioids had the highest change in VAS for patients with cancer related dyspnea while oxygen had no significant change in VAS (Ben-Aharron, 2008).

Of the eight studies comparing opioids to a placebo or benzodiazepine, the overall result was that patients' dyspnea was better controlled with some sort of opioid with a weighted mean difference from -1.31 to -1.58 (Ben-Aharron, 2008). One of the studies used was conducted by Clemens, Quednau, and Klaschik in 2009, found that opioids had a significant decrease in the intensity in dyspnea for patients and that there is no significant correlation between oxygen saturation and dyspnea (Clemens, Quednau, & Klaschik, 2009; Ben-Aharron, 2008). The findings of the six studies involving oxygen showed that there was no benefit to oxygen therapy, with a standardized mean difference of -.03 (Ben-Aharron, 2008). With the two benzodiazepine studies, it was found that benzodiazepine worked better than morphine for ambulating patients however morphine was still superior in a bedbound patient (Navigante, Castro, & Cerchiatti, 2010; Ben-Aharron,

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2008). Finally the two trials with furosemide it was shown that furosemide had no effect on patients' dyspnea (Ben-Aharron, 2008). The only side effect that was noted in all of these studies was constipation, however no sedation or respiratory depression was reported in these studies (Ben-Aharron, 2008).