



8. Summary of Key Evidence That Nursing Interventions Influence This Outcome and Gaps in Current Evidence Base

This section is based on a review of the integrated reviews and meta-analyses published on dyspnea (see Section 4) and highlights evidence that nursing interventions influence dyspnea management. Gaps in existing knowledge and recommendations for research are identified.

A. Evidence that nursing interventions influence dyspnea in adults with a cancer diagnosis

- In studies that included palliative care patients with any illness including cancer and that compared opioid drugs by any route with placebo, evidence exists in favor of continuing to use oral or parenteral opioid drugs to treat breathlessness (Jennings et al., 2001; Jennings et al., 2002).
 1. Currently, consistent evidence is lacking in support of the use of opioids to improve exercise tolerance (Jennings et al., 2001; Jennings et al., 2002).
 2. No evidence supports the use of nebulized opioids for the treatment of breathlessness (Jennings et al., 2001; Jennings et al., 2002; Joyce et al., 2004).
 - i. In studies, that included palliative care patients with any illness including cancer, that compared opioid drugs by any route with placebo, there is evidence in favor of continuing to use oral or parenteral opioid drugs to treat breathlessness.
 1. There is currently a lack of consistent evidence in support of the use of opioids to improve exercise tolerance.
 2. There is no evidence to support the use of nebulised opioids for the treatment of breathlessness.
- Oxygen may be helpful for the palliation of breathlessness in some patients with advanced cancer, but little evidence exists to enable clinicians to predict which patients will benefit (Booth et al., 2004).
- Initial but limited evidence in patients of either gender and any age diagnosed with any stage lung cancer suggests that nurse-led breathing programs produce overall beneficial effect on levels of dyspnea (Sola et al., 2004).

- “Breathing programme is a care package including:
- i) Detailed assessment of breathlessness together with exacerbating/ ameliorating factors
 - ii) Advice and support on ways of managing breathlessness
 - iii) Exploration with the patient of the meaning of their breathlessness, their disease and their view of the future
 - iv) Training in relaxation techniques and breathing re-training
 - v) Goal setting for achieving functional and social activities and to support the development of coping strategies
 - vi) Recognition of problems needing medical attention” (Sola, 2004, p.20).

B. Evidence that nursing interventions influence dyspnea in adults with COPD

Rationale for including evidence related to nursing interventions that influence dyspnea measured in adults with COPD

The rationale for including evidence related to nursing interventions that influence dyspnea in adults with COPD is that often the risk factor of tobacco use is common to both cancer and restrictive or obstructive lung disease. Dyspnea in a person with cancer often has multiple etiologies, some related to the cancer diagnosis, cancer treatment, and other possible underlying problems (Dudgeon & Lertzman, 1998; Dudgeon, Kristjanson, Sloan, Lertzman, & Clement, 2001). Nursing-sensitive outcome evidence exists in the well-studied COPD population and may have utility in the cancer population if patients have a coexisting or comorbid COPD diagnosis.

- Evidence suggests that progressive muscle relaxation has large beneficial effect on dyspnea (Devine & Percy, 1996).
- The role of respiratory rehabilitation has been supported strongly in the treatment of patients with COPD. Rehabilitation that includes exercise training (at least lower-extremity training) improves dyspnea (Devine & Percy, 1996, Lacasse et al., 2002; Salman et al., 2003).
- For patients with COPD, limited evidence suggests that bronchodilator therapy (β -agonists and anticholinergics) improves dyspnea ratings in steady state exercise (Liesker et al., 2002).

C. Gaps in evidence

- The evidence about the effect of oral and parenteral opioids is limited to the doses and dosing schedules in the Jennings et al. (2001) meta-analysis. Studies in the review are more than 10 years old and use drugs that are less commonly prescribed today.



- A need exists for further research about the use of nebulized opioids involving larger samples that are stratified according to prior opioid use.
- The adverse effects of oxygen therapy include restriction of activities, possible mobility limitation, and cost. In the absence of hypoxemia, no standard formal assessment or agreed-upon testing procedure exists to determine the benefit of oxygen at rest.
- The nurse-led breathing program reported by Sola et al. (2004) included many components. Researchers do not know which component is the most significant or how each component contributes to reduce dyspnea.
- Some interventions show evidence of effect in reducing breathlessness in people with COPD, but no evidence exists to demonstrate the outcome in patients with cancer.

References:

Booth, S., Wade, R., Johnson, M., Kite, S., Swannick, M., Anderson, H., et al. (2004). The use of oxygen in the palliation of breathlessness. A report of the expert working group of the Scientific Committee of the Association of Palliative Medicine. *Respiratory Medicine*, 98, 66-77.

Devine, E. C., & Percy, J. (1996). Meta-analysis of the effects of psychoeducational care in adults with chronic obstructive pulmonary disease. *Patient Education and Counseling*, 29, 167-178.

Dudgeon, D. J., & Lertzman, M. (1998). Dyspnea in the advanced cancer patient. *Journal of Pain and Symptom Management*, 16(4), 212-219.

Dudgeon, D. J., Kristjanson, L., Sloan, J. A., Lertzman, M., & Clement, K. (2001). Dyspnea in cancer patients: Prevalence and associated factors. *Journal of Pain and Symptom Management*, 21(2), 95-102.

Jennings, A. L., Davies, A. N., Higgins, J. P., & Broadley, K. (2001). Opioids for the palliation of breathlessness in terminal illness. [Cochrane review]. In the *Cochrane Library*, Volume 4, 2001. Oxford, UK: Update Software.

Jennings, A. L., Davies, A. N., Higgins, J. P., Gibbs, J. S., & Broadley, K. E. (2002). A systematic review of the use of opioids in the management of dyspnoea. *Thorax*, 57(11), 939-944.

Joyce, M., McSweeney, M., Carrieri-Kohlman, V. L., & Hawkins, J. (2004). The use of nebulized opioids in the management of dyspnea: evidence synthesis. *Oncology Nursing Forum*, 31, 551-561.



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Lacasse, Y., Brosseau, L., Milne, S., Martin, S., Wong, E., Guyatt, G. H., et al. (2002). Pulmonary rehabilitation for chronic obstructive pulmonary disease. [Cochrane Review]. In *The Cochrane Library*, Volume 3, 2002 Oxford, UK: Update Software.

Liesker, J. J., Wijkstra, P. J., Ten Hacken, N. H., Koeter, G. H., Postma, D. S., & Kerstjens, H. A. (2002). A systematic review of the effects of bronchodilators on exercise capacity in patients with COPD. *Chest*, 121, 597-608.

Salman, G. F., Mosier, M. C., Beasley, B. W., & Calkins, D. R. (2003). Rehabilitation for patients with chronic obstructive pulmonary disease: meta-analysis of randomized controlled trials. *Journal of General Internal Medicine*, 18, 213-221.

Sola, I., Thompson, E., Subirana, M., Lopez, C., & Pascual, A. (2004). Non-invasive interventions for improving well-being and quality of life in patients with lung cancer. [Cochrane Review]. In *The Cochrane Library*, Volume 4, 2004 Oxford, UK: Update Software.