The Effects of Music Therapy on Pain and Anxiety in Oncology Patients Who are Undergoing Treatment: An Integrative Literature Review

Jeff Boyd BSN, RN

Julie Carlson, MSN, APN, AOCNS, Gayle Kruse, MS, RN, GCNS-BC, ACHPN, Peggy Rogers, MSN, APN, FNP-BC

SAINT ANTHONY COLLEGE OF NURSING & PATRICIA D. PEPE CENTER FOR CANCER CARE

Background

- Oncology patients may experience significantly high levels of pain and anxiety due to their diagnosis and treatment of their disease processes.
- The prevalence of chronic pain in patients who are actively undergoing treatment for a cancer diagnosis is 33 to 59 percent; this number can be as high as 74 percent in patients who have advanced disease.
- Patients who have an oncologic diagnosis also have a higher chance of psychological comorbidities with over half having emotional difficulties; these difficulties are often manifested as depression and/or anxiety.
- Music therapy has been shown to be an effective nonpharmacological intervention when treating other patient populations, such as dementia patients.

Objective

To integrate current research to determine the effects of music therapy on pain and anxiety in oncology patients who are undergoing treatment.

Method

An integrative literature review was performed to answer the following research question: What effect does music therapy have on pain and anxiety levels in oncology patients who are undergoing treatment? Ganong's method of integrative literature review was used to evaluate the eight articles that were yielded by the literature search.

Results

Article	Sample	Findings
Chen et al. (2013)	Oncology patients (n=200) receiving radiation therapy in Taipei, Taiwan.	Music therapy decreased anxiety levels and systolic blood pressure in oncology patients who received the intervention prior to radiotherapy.
Cooper, L., & Foster, I. (2008)	Oncology patients (n=82) undergoing radiation therapy	Sixty-six percent of patients stated that they preferred music as an intervention to aid in relaxation while in the waiting room. The music that appealed to most patients was of the "easy listening" category.
Li et al. (2011)	Women with breast cancer (n=120) admitted to the hospital requiring radical mastectomy in Xiang, China.	Anxiety scores were significantly lower in the experimental group than those in the control group during each of the three post-test measurements.
Lin et al. (2011)	Oncology patients (n=98) receiving the first or second treatment of a chemotherapy protocol at a medical center in Southern Taiwan.	Music therapy had a greater positive effect on post-chemotherapy anxiety than the verbal relaxation and control groups. Patients who reported high state anxiety and received music therapy had a greater drop in anxiety than those with a normal state anxiety who received the same intervention.
Smith et al. (2001)	Oncology patients (n=42) receiving radiation therapy at an urban hospital in the USA.	No statistically significant difference existed between the experimental and control group to suggest that music had any effect on anxiety during radiotherapy. However, post-hoc analysis identified some changes and trends in anxiety scores that indicate a possible benefit of music therapy as an intervention during radiotherapy.
Kwekkeboom, K. L. (2003)	Oncology patients (n=58) undergoing a noxious medical procedure, such as a biopsy or port-a-cath placement or removal.	There was no significant difference in pain or anxiety levels between the simple distraction and music therapy intervention groups. There was no significant difference in pain and anxiety levels between the intervention groups and the control group.
Cholburi et al. (2004)	Oncology patients (n=30) who had a pain diagnosis in Bangkok, Thailand.	Music therapy was shown to significantly decrease anxiety but there was not statistically significant evidence to suggest that the music therapy decreased pain.
Chi et al. (2014)	Oncology patients (n=60) with gynecological cancer scheduled to receive their first administration of pulse-dose-rate intracavitary brachytherapy over a period lasting at least 44 hours.	The experimental group had significantly lower amounts of both pain and anxiety than did the control group. There was no statistically significant difference in opioid use between the two groups.

Implications

- This literature review provides evidence that music therapy reduces anxiety in oncology patients, but there is a lack of evidence to suggest music therapy reduces pain in oncology patients.
- Oncology nurses should be educated to integrate music therapy as an efficacious, cost-effective, non-pharmacological nursing intervention into standard nursing practice.
- Oncology nurses can also educate patients to utilize music therapy not only in the clinical setting but also in a variety of other settings including their homes and in the car prior to arriving for treatment.
- Further research involving larger, more stratified samples is indicated to further examine the effects of music therapy on pain in oncology patients. Research should also be expanded to include the effects of music therapy on other treatment-related side effects, such as nausea and vomiting.

References

Chang, Y., Chu, H., Yang, C., Tsai, J., Chung, M., Liao, Y., . . . Chou, K. (2015). The efficacy of music therapy in people with dementia: A meta-analysis of randomised controlled trials. *Journal of Clinical Nursing, 24*.

Chen, L., Wang, T., Shih, Y., & Wu, L. J. (2013). Fifteen-minute music intervention reduces pre-radiotherapy anxiety in oncology patients. *European Journal of Oncology Nursing, 17*(4), 436-441.

Chi, G. C., Young, A., Mcfarlane, J., Watson, M., Coleman, R. L., Eifel, P. J., . . . Richardson, M. (2014). Effects of music relaxation video on pain and anxiety for women with gynaecological cancer receiving intracavitary brachytherapy: A randomised controlled trial. *Journal of Research in Nursing, 20*(2), 129-144.

Cholburi, J. S., Hanucharurnkul, S., & Waikakut, W. (2004). Effects of music therapy on anxiety and pain in cancer patients. *Thai Journal of Nursing Research, 8*(3), 173-180.

Cooper, L., & Foster, I. (2008). The use of music to aid patients' relaxation in a radiotherapy waiting room. *Radiography, 14*(3), 184-188.

Ganong, L. H. (1987). Integrative reviews of nursing research. *Research in Nursing & Health, 10*(1), 1-11.

Kwekkeboom, K. L. (2003). Music versus distraction for procedural pain and anxiety in patients with cancer. *Oncology Nursing Forum, 30*(3), 433-440.

Li, X., Zhou, K., Yan, H., Wang, D., & Zhang, Y. (2011). Effects of music therapy on anxiety of patients with breast cancer after radical mastectomy: A randomized clinical trial. *Journal of Advanced Nursing, 68*(5), 1145-1155.

Lin, M., Hsieh, Y., Hsu, Y., Fetzer, S., & Hsu, M. (2011). A randomised controlled trial of the effects of music therapy and verbal relaxation on chemotherapy-induced anxiety. *Journal of Clinical Nursing, 20*, 988-999.

Portenoy, R. K., & Dhingra, L. K. (2015, May 15). Assessment of cancer pain. Retrieved January 21, 2017, from https://www.uptodate.com/contents/assessment-of-cancer-pain?source=search_result&search=cancer%2Band%2Bpain&selectedTitle=3~150

Roy-Byrne, P. P. (2016, September 29). Management of psychiatric disorders in patients with cancer. Retrieved January 21, 2017, from https://www.uptodate.com/contents/management-of-psychiatric-disorders-in-patients-with-cancer?source=search_result&search=cancer%2Band%2Banxiety&selectedTitle=1~150

Smith, M., Casey, L., Johnson, D., Gwede, C., & Riggin, O. Z. (2001). Music as a therapeutic intervention for anxiety in patients receiving radiation therapy. *Oncology Nursing Forum, 28*(5), 855-862.

Spielberger, C. D., Gorsuch, R. L., Lushene, R., Vagg, P. R., & Jacobs, G. A. (1983). *Manual for the State-Trait Anxiety Inventory*. Palo Alto, CA: Consulting Psychologists Press

Spielberger, C. D. (1989). *State-Trait Anxiety Inventory: Bibliography* (2nd ed.). Palo Alto, CA: Consulting Psychologists Press