REFERENCES ABOUT THERAPEUTIC EFFECTS OF MUSIC


Abstract:

AIM: To identify how music and singing may be used therapeutically by nurses in caring for older people.

METHOD: A multimethod approach was taken, comprising a search of the Cumulative Index of Nursing and Allied Health Literature (CINAHL) and Medline databases, and the extraction of relevant articles from three existing reviews.

FINDINGS: Two reviews and 16 research reports were identified, the majority of which were intervention studies. All the studies reported benefits from music or singing for older people. Positive findings related to dementia, specific disorders (osteoarthritis pain, post-operative delirium, sleep difficulties, chronic obstructive pulmonary disease), and older people living at home. Recommendations for nursing were made, although there is a need for clarification on how nursing interventions should be implemented.

CONCLUSION: The evidence base to support the benefits of music and singing is increasing, and it is suggested that nurses may contribute to appropriate interventions and referrals. There is a need for further research, both to support these findings and to explore the nursing role in relation to providing music and singing therapies.


**Abstract**

**OBJECTIVE:** To investigate, both objectively and subjectively, the effect of music on children in a pediatric cardiac intensive care unit following heart surgery, in conjunction with standard care.

**METHODS:** Randomized clinical trial with placebo, assessing 84 children, aged 1 day to 16 years, during the first 24 hours of the postoperative period, given a 30 minute music therapy session with classical music and observed at the start and end of the session, recording heart rate, blood pressure, mean blood pressure, respiratory rate, temperature and oxygen saturation, plus a facial pain score. Statistical significance was set at 5%.

**RESULTS:** Five of the initial 84 patients (5.9%) refused to participate. The most common type of heart disease was acyanotic congenital with left-right shunt (41% of cases: 44.4% of controls). Statistically significant differences were observed between the two groups after the intervention in the subjective facial pain scale and the objective parameters heart rate and respiratory rate ($p < 0.001$, $p = 0.04$ and $p = 0.02$, respectively).

**CONCLUSIONS:** A beneficial effect from music was observed with children during the postoperative period of heart surgery, by means of certain vital signs (heart rate and respiratory rate) and in reduced pain (facial pain scale). Nevertheless, there are gaps to be filled in this area, and studies in greater depth are needed.


Abstract

Music is an enjoyable leisure activity that also engages many emotional, cognitive, and motor processes in the brain. Here, we will first review previous literature on the emotional and cognitive effects of music listening in healthy persons and various clinical groups. Then we will present findings about the short- and long-term effects of music listening on the recovery of cognitive function in stroke patients and the underlying neural mechanisms of these music effects. First, our results indicate that listening to pleasant music can have a short-term facilitating effect on visual awareness in patients with visual neglect, which is associated with functional coupling between emotional and attentional brain regions. Second, daily music listening can improve auditory and verbal memory, focused attention, and mood as well as induce structural gray matter changes in the early poststroke stage. The psychological and neural mechanisms potentially underlying the rehabilitative effect of music after stroke are discussed.


**BACKGROUND:** Research-based evidence supports the therapeutic use of music to improve the sleep quality measured by self-reported questionnaires. However, scientific knowledge of the effects of music measured using standard polysomnography in chronic insomnia adults is currently insufficient.

**OBJECTIVES:** The objective of this study was to evaluate the effect of soothing music on objective and subjective sleep quality in adults with chronic insomnia.

**METHODS:** Fifty participants were enrolled in a randomized controlled trial conducted in the sleep laboratory of a hospital, with 25 participants allocated to the music group and 25 to the control group. For four days, the experimental group was exposed to soothing music selected by the participants or researchers for 45min at nocturnal sleep time, whereas the control group was not exposed to music. Sleep was measured using polysomnography (PSG) and self-reported questionnaires. A general estimating equation was applied to analyze the data.

**RESULTS:** After controlling for baseline data, the music group had significantly better scores for rested rating (p=0.01), shortened stage 2 sleep (p=0.03), and prolonged REM sleep (p=0.04) compared to the control group, shown by the generalized estimating equations. However, there was no evidence of the effectiveness of music on other sleep parameters as measured by PSG. Additional findings indicate no difference in sleep quality between those who listened to their own preferred music (n=10) and those who listened to music selected by the researchers (n=15).

**CONCLUSION:** The results contribute to knowledge of the effectiveness of music as a therapy to improve sleep quality in adults experiencing insomnia. Listening to soothing music at nocturnal sleep time improved the rested rating scores, shortened stage 2 sleep, and prolonged REM sleep, but has little effect on sleep quality as measured by polysomnography and self-reported questionnaires.

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Abstract

PURPOSE: Maternal breast milk is considered the nutritional "gold standard" for all infants, especially premature infants. However, preterm mothers are at risk of not producing adequate milk. Multiple factors affect the production of milk, including stress, fatigue, and the separation of the breastfeeding dyad—for example, when mother or infant is hospitalized. The purpose of this study was to examine the effects of listening and visual interventions on the quantity and quality of breast milk produced by mothers using a double electric breast pump.

SUBJECTS: Mothers of 162 preterm infants were randomly assigned to 1 of 4 groups.

METHODS: The control group received standard nursing care, whereas mothers in the 3 experimental groups additionally listened to a recording of 1 of 3 music-based listening interventions while using the pump.

RESULTS: Mothers in the experimental groups produced significantly more milk (P < .0012). Mothers in these groups also produced milk with significantly higher fat content during the first 6 days of the study.


**Abstract**

There is increasing interest in evaluating the use of nonpharmacologic interventions such as music to minimize potential adverse effects of anxiety-reducing medications. This study used a quasi-experimental design to evaluate the effects of a perioperative music intervention (provided continuously throughout the preoperative, intraoperative, and postoperative periods) on changes in mean arterial pressure (MAP), heart rate, anxiety, and pain in women with a diagnosis of breast cancer undergoing mastectomy. A total of 30 women were assigned randomly to a control group or to the music intervention group. Findings indicated that women in the intervention group had a greater decrease in MAP and anxiety with less pain from the preoperative period to the time of discharge from the recovery room compared with women in the control group. Music is a noninvasive and low-cost intervention that can be easily implemented in the perioperative setting, and these findings suggest that perioperative music can reduce MAP, anxiety, and pain among women undergoing mastectomy for breast cancer.


Abstract

INTRODUCTION: It is well documented that music plays a role in reducing anxiety levels. Its role in reducing intra-operative anxiety levels in surgical patients while awake is less well known. We report the effects of music on intra-operative patient anxiety in both the elective and trauma plastic surgical setting.

METHODS: Two groups of patients undergoing local anaesthetic surgical procedures were identified: those where music was played in the operating theatre (Group 1) and those where it was not (Group 2). Ninety-six patients were included. Subjectively anxiety was evaluated by the patient with a visual analogue scale (VAS) and objectively by the respiratory rate (RR), both pre and post-operatively. The unpaired t-test was used to evaluate the statistical significance of differences between the groups.

RESULTS: The mean pre-operative VAS score was similar in both groups (5.7 in Group 1 and 5.8 in Group 2). The mean pre-operative RR was 15 breaths per minute in both groups. Post-operatively, the VAS score and RR were both lower in Group 1 (VAS: 3.5 vs 4.9; p<0.01 and RR: 11 vs 13 breaths per minute; p<0.05).

CONCLUSIONS: In the era of the patient centred approach to clinical care, it is crucial to minimise patient anxiety. Music appears to reduce intra-operative anxiety in awake patients in both the elective and trauma plastic surgical setting. Easy listening music and chart classics appear to be suitable genres according to patients. We believe there is a role for a large, multicentre, randomised control study to examine the benefits of music in all local anaesthetic procedures across different specialties.


Abstract

OBJECTIVE: To assess the effect of noise-cancelling headphones with or without music on patient pain and anxiety associated with routine, office-based transrectal ultrasound (TRUS)-guided prostate biopsy in a prospective randomized study.

METHODS: Patients scheduled for prostate biopsy as a result of elevated prostate-specific antigen and/or abnormal digital rectal examination were prospectively enrolled and randomized into a control, noise-cancelling headphones, or music-headphones group. Patients completed pain and anxiety questionnaires and had their physiological parameters assessed before and after the procedure and compared across groups.

RESULTS: Eighty-eight patients were enrolled. Pain scores increased from baseline across all study groups, with the lowest mean score in the music group. No appreciable change was noted in anxiety scores after the procedure between groups (P>.05). Although postbiopsy systolic blood pressure values remained comparable with baseline levels in all groups, postbiopsy diastolic blood pressure increased in the control and headphones groups (P=.062 and .088, respectively) but remained stable in the music group (P=.552) after biopsy, indicating lesser physiological response to anxiety and pain in this group.

CONCLUSION: Music-induced attention shift during prostate biopsy may have a beneficial impact on procedural anxiety and pain perception, but no apparent effect was noted for use of headphones alone. Further studies are necessary to explore strategies to reduce perceived anxiety and pain in men undergoing prostate biopsy.

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Abstract

This study examined the effects of music at mealtimes on agitation in 22 nursing home residents with dementia. We used a pretest-posttest research design. We played researcher-composed music to residents at each of two mealtimes daily over a consecutive 4-week period. We observed and recorded agitation 24 hours daily for the 4-week period and the following 2-week period. Results revealed a significant decline in mean agitation scores. A cumulative dose effect and a short-term linger effect were observed. Findings suggest that soothing music may be beneficial in managing agitation in nursing home residents with dementia.

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Abstract

AIM AND OBJECTIVE: The study compared the effect of earplug-delivered sleep-inducing music on sleep in persons with percutaneous transluminal coronary angiography in the cardiac care unit.

BACKGROUND: Diverse types of music have been claimed to improve sleeping elsewhere, but relatively little is known in South Korea. Most studies investigating the effect of sleep-inducing music on sleep have involved persons with insomnia, even though many persons with cardiovascular disease in the intensive care unit suffer from sleeping problems. There is a need to investigate the effect of sleep-inducing music on sleep disorders in persons with percutaneous transluminal coronary angiography in the cardiac care unit.

DESIGN: An experimental research design was used.

METHODS: Data collection was conducted in the cardiac care unit of K University Hospital in D city, from 3 September-4 October 2010. Fifty-eight subjects participated and were randomly assigned to the experimental group (earplug-delivered sleep-inducing music for 52 min beginning at 10:00 pm, while wearing an eyeshield, n = 29) and the control group (no music, but earplugs and eyeshield worn, n = 29). The quantity and quality of sleep were measured using questionnaires at 7 am the next morning for each group.

RESULTS: Participants in the experimental group reported that the sleeping quantity and quality were significantly higher than control group (t = 3.181, p = 0.002, t = 5.269, p < 0.001, respectively).

CONCLUSION: Sleep-inducing music significantly improved sleep in patients with percutaneous transluminal coronary angiography at a cardiac care unit. Offering earplugs and playing sleep-inducing music may be a meaningful and easily enacted nursing intervention to improve sleep for intensive care unit patients.

RELEVANCE TO CLINICAL PRACTICE: Nurses working at cardiac care unit can use music to improve sleeping in clients with percutaneous transluminal coronary angiography.

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Abstract

AIM: To determine the effect of music on depression levels in older adults. Background. Depression is a common psychiatric disorder in older adults, and its impacts on this group of people, along with its conventional treatment, merit our attention. Conventional pharmacological methods might result in dependence and impairment in psychomotor and cognitive functioning. Listening to music, which is a non-pharmacological method, might reduce depression.

DESIGN: A randomised controlled study.

METHOD: The study was conducted from July 2009-June 2010 at participants' home in Singapore. In total, 50 older adults (24 using music and 26 control) completed the study after being recruited. Participants listened to their choice of music for 30 minutes per week for eight weeks.

OUTCOME MEASURES: Depression scores were collected once a week for eight weeks.

RESULTS: Depression levels reduced weekly in the music group, indicating a cumulative dose effect, and a statistically significant reduction in depression levels was found over time in the music group compared with non-music group.

CONCLUSIONS: Listening to music can help older people to reduce their depression level.

RELEVANCE TO CLINICAL PRACTICE: Music is a non-invasive, simple and inexpensive therapeutic method of improving life quality in community-dwelling older people.

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Abstract

OBJECTIVE: A music intervention method in the management of pain was recently developed while taking account of recommendations in the scientific literature. The objective of this study was to assess the usefulness of this music intervention to the management of patients with chronic pain.

METHODS: A controlled, single-blind, randomized trial was used. Eighty-seven patients presenting with lumbar pain, fibromyalgia, inflammatory disease, or neurological disease were included in the study. During their hospitalization, the intervention arm (n=44) received at least 2 daily sessions of music listening between D0 and D10, associated with their standard treatment, and then pursued the music intervention at home until D60 using a multimedia player in which the music listening software program had been installed. The control arm received standard treatment only (n=43). The end points measured at D0, D10, D60, and D90 were: pain (VAS), anxiety-depression (HAD) and the consumption of medication.

RESULTS: At D60 in the music intervention arm, this technique enabled a more significant reduction (P<0.001) in pain (6.3 ± 1.7 at D0 vs. 3 ± 1.7 at D60) when compared with the arm without music intervention (6.2 ± 1.5 at D0 vs. 4.6 ± 1.7 at D60). In addition, music intervention contributed to significantly reducing both anxiety/depression and the consumption of anxiolytic agents.

DISCUSSION: These results confirm the value of music intervention to the management of chronic pain and anxiety/depression. This music intervention method appears to be useful in managing chronic pain as it enables a significant reduction in the consumption of medication.

Contradictory results have been presented on how music listening affects patients' blood pressure, heart rate, and respiratory rate. The aim of the present study was to evaluate the effects of music listening on blood pressure, heart rate, and respiratory rate on operation day, and on the first, second, and third postoperative days in abdominal surgery patients. Using a quasi-experimental pretest-post-test design, 168 abdominal surgery patients were assigned every second week to the music group (n=83) or to the control group (n=85) for 25 months. In the music group, the respiratory rate was significantly lower after intervention on both the first and second postoperative days compared with the control group. A significant reduction in systolic blood pressure was demonstrated in the group that received music compared with the control group on both the first and second postoperative days. Evaluation of the long-term effects of music on physiological factors showed that the respiratory rate in the music group was significantly lower compared with the control group. Nurses should offer music listening to surgery patients because of its potential benefit.

Abstract

AIMS: To evaluate the effects of music listening on pain intensity and pain distress on the first and second postoperative days in abdominal surgery patients and the long-term effects of music on the third postoperative day.

BACKGROUND: Music has been found to relieve pain intensity in surgery patients. There are only a few studies on music intervention in abdominal surgery. Music intervention studies assessing multidimensional pain such as pain intensity and pain distress are also scarce.

DESIGN: Prospective clinical study with two parallel groups.

METHODS: Patients undergoing elective abdominal surgery (n = 168) were divided into either a music group (n = 83) or a control group (n = 85). Patients assessed pain intensity and pain distress in bed rest, during deep breathing and in shifting position once in the evening of the operation day and on the first and second postoperative days in the morning, at noon and in the evening. On the third postoperative day, the patients assessed their pain intensity and pain distress only once.

RESULTS: In the music group, the patients’ pain intensity and pain distress in bed rest, during deep breathing and in shifting position were significantly lower on the second postoperative day compared with control group of patients. On the third postoperative day, when long-term effects of music on pain intensity and pain distress were assessed, there were no significant differences between music and control groups.

CONCLUSION: This study demonstrates that the use of music alleviates pain intensity and pain distress in bed rest, during deep breathing and in shifting position after abdominal surgery on the second postoperative day. Music intervention is safe, inexpensive and easily used to improve the healing environment for abdominal surgery patients.

RELEVANCE TO CLINICAL PRACTICE: Music intervention should be offered as an adjunct alternative to pharmacological pain relief after abdominal surgery in nursing practice.

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Abstract

Although the potential influence of music in eliciting organic reactions has been appreciated since the ancient Assyrian and Greek cultures, its relationship with body responses has been believed for long to belong to the field of magic. Growing experimental evidence now attests that some kind of music might indeed modulate several cardiac and neurological functions, as well as trigger biochemical measurable stress-reducing effects in certain individuals, mostly depending on their subjective musical education. On this basis, music has been increasingly used as a therapeutic tool in the treatment of different diseases in healthy and ill subjects over recent years (e.g., the so called "Mozart effect"), although the underlying scientific background is still poorly understood. The aim of this article is to review the current scientific evidences about the complex and multifaceted interactions between music and human biology.

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Abstract

Music may not only improve quality of life but may also affect changes in heart rate and heart rate variability. It has been shown that cerebral flow was significantly lower when listening to 'Va pensiero' from Verdi's 'Nabucco' (70.4±3.3 cm/s) compared with 'Libiam nei lieti calici' from Verdi's 'La Traviata' (70.2±3.1 cm/s) (p<0.02) or Bach's Cantata No. 169 'Gott soll allein mein Herze haben' (70.9±2.9 cm/s) (p<0.02). There was no significant difference in cerebral flow during rest (67.6±3.3 cm/s) or when listening to Beethoven's Ninth Symphony (69.4±3.1 cm/s). It was reported that relaxing music significantly decreases the level of anxiety of patients in a preoperative setting (State-Trait Anxiety Inventory (STAI)-X-1 score 34)-to a greater extent even than orally administered midazolam (STAI-X-1 score 36) (p<0.001). In addition the score was better after surgery in the music group (STAI-X-1 score 30) compared with the midazolam group (STAI-X-1 score 34) (p<0.001). Higher effectiveness and absence of apparent adverse effects make relaxing, preoperative music a useful alternative to midazolam for premedication.

In addition, there is sufficient practical evidence of stress reduction suggesting that a proposed regimen of listening to music while resting in bed after open-heart surgery is important in clinical use. After 30 min of bed rest, there was a significant difference in cortisol levels between the music (484.4 mmol/l) and the non-music group (618.8 mmol/l) (p<0.02). Vocal and orchestral music produce significantly better correlations between cardiovascular or respiratory signals compared with music with a more uniform emphasis (p<0.05). The greatest benefit on health is visible with classical music and meditation music, whereas heavy metal music or techno are not only ineffective but possibly dangerous and can lead to stress and/or life-threatening arrhythmias. The music of many composers most effectively improves quality of life, will increase health and probably prolong life, particularly music by Bach, Mozart or Italian composers.