Sound, Music and Healing

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The effects of live therapeutic music on patient's affect and perceptions of care: A randomized field study
J Complementary Ther Clinical Practice Vol 19, (4) 2013, Pgs 188-192
Mulubrhan F. Mogos, Nancy Angard, Lloyd Goldstein, Jason W. Beckstead

Aim
This article examines the effects of live therapeutic music (LTM) on patients in a hospital setting. LTM was hypothesized to directly increase patients' positive affect and to indirectly influence their perceptions of the care they received.

Method
One hundred patients participated in a two group (fifty per group), quasi-experimental design in which they completed a very brief questionnaire assessing their affect and perceptions of care. Half of the participants were exposed to LTM at the bedside. The other half served as a comparison group. A structural equation model was used to test the hypothesized effects of LTM.

Results
The model explained 63% of the variance in patient's affect and 10% of the variance in perceptions of care.

Conclusions
Patients respond to LTM with increased positive affect and by assigning higher ratings to the care they receive. LTM could be used as a viable means to improve patient outcomes and satisfaction.

Unpublished study (Presented at ISQRMM Conference July 2013 University of Georgia: to be published in the Conference Proceedings Journal)
Authors: Karen Peterson, CMP and Elizabeth Fanning, PhD

Collecting information on observable and measurable effects pre- and post- live therapeutic music sessions at patient’s bedside

Background: This study is a prototype, based on a random sample, to begin to explore the effects and quality of effects of live, bedside music provided by Certified Music Practitioners® (CMPs) on different types of patients. The purpose of the study is to determine if effects documented from live, bedside music are significant or due to chance, and to compare where effects are the strongest in benefitting the patient’s well-being.

Methodology: The sample in this study included randomly selected data from 101 live music sessions. Data analysis involved repeated measures (pre- and post-) to identify effects in observable and measurable conditions. Data was collected by CMPs on a standardized form.

Results: Data from this study demonstrates that live bedside music that addresses as well as changes in response to the patient’s condition has a stabilizing effect on the patient’s physical and emotional well-being, as evidenced by changes in observed conditions, including agitation, restlessness, and disorientation, and, in measured effects, as evidenced by the patient’s lower blood pressure post-music.

Conclusions: Further data collection and analysis, with possible additional data to clarify effects, will confirm the strengths of this study's determinations, and elucidate opportunities for adaptation in order to ensure that goals in healing and well-being are met. Further data collection and analysis will also substantiate opportunities for facilities considering using CMPs to support the care of their patients. In addition, findings from comparative studies may be generalizable to support the practice of live, therapeutic musicians.
The contribution of intimate live music performances to the quality of life for persons with dementia
Maaike van der Vleuten, Adriaan Visser, and Ludwien Meeuwesen
Patient Educ Couns 89(3):484-488 (2012), PMID 22742983

OBJECTIVE: The aim of this study was to assess the effect of intimate live music performances delivered by professional singers on the quality of life of persons with mild and severe dementia in nursing homes. METHODS: A sample of 54 persons with varying degrees of dementia participated in the study. Complete data sets are available for 45 persons. Using a quasi-experimental design, quality of life was assessed on the dimensions of participation (human contact, care relationship and communication) and mental well-being (positive emotions, negative emotions and communication). Observational rating scales were completed by caregivers and family after the performance.

RESULTS: Intimate live music performances have a positive effect on human contact, care relationships, positive emotions and negative emotions, especially for the mild dementia group. They lead to improved human contact, better communication, more positive and less negative emotions, and an improved relationship between caregiver and receiver.

CONCLUSION: Intimate live music performances are an inexpensive, non-invasive, feasible way to improve a deteriorating quality of life for persons suffering from dementia. This form of supplementary care may also alleviate the task of caregivers.

PRACTICE IMPLICATIONS: Nursing homes should make more use of intimate live music performances as forms of complementary care. Copyright © 2012 Elsevier Ireland Ltd. All rights reserved.

Randomized Trial of Harp Therapy during In Vitro Fertilization–Embryo Transfer
Erin M. Murphy, MD, Jennifer Nichols, DO, Steve G. Somkuti, MD, PhD, Michael Sobel, DO, Andrea Braverman, PhD, Larry I. Barmat, MD
Journal of Evidence-Based Complementary & Alternative Medicine, April 2014 vol. 19 no. 2

Abstract
Objective: This study evaluated whether harp therapy reduces levels of stress and improves clinical outcomes in patients undergoing embryo transfer.
Design: This prospective randomized trial enrolled 181 women undergoing embryo transfer, who were randomized to harp therapy during embryo transfer or standard treatment. Patients underwent standardized psychological testing and physiologic assessment of stress.
Setting: The study was conducted in a reproductive medicine practice.
Results: No statistically significant differences were found in the heart and respiratory rates, nor was there a significant difference in event-based anxiety at baseline. Harp therapy had a significantly larger decrease in state anxiety from pre- to post-embryo transfer. Clinical pregnancy was 53% versus 48% for the harp therapy and standard treatment groups, respectively.
Conclusion: Harp therapy decreases state, or event-based, anxiety, significantly lowering state scores post transfer and having a positive effect on acute levels of stress. There was an increased pregnancy rate, but larger sample sizes are needed to evaluate whether harp therapy has an effect on clinical outcomes.
A randomized controlled trial exploring the effect of music on quality of life and depression in older people with dementia.
Marie Cooke, Wendy Moyle, David Shum, Scott Harrison, Jenny Murfield
J Health Psychol 15(5):765-76 (2010), PMID 20603300
This randomized controlled trial investigated the effect of live music on quality of life and depression in 47 older people with dementia using the Dementia Quality of Life and Geriatric Depression Scale. The control/reading group reported higher mid-point feelings of belonging than the music group (F(1, 45) = 6.672, p < .05). Sub-analyses of >/= 50 percent music session attendance found improvements in self-esteem over time (F(2, 46) = 4.471, p < .05). Participants with scores that were suggestive of increased depressive symptoms had fewer depressive symptoms over time (F(2, 22) = 8.129, p < .01). Findings suggest music and reading activities can improve self-esteem, belonging and depression in some older people with dementia.

Effect of live music therapy for patients undergoing magnetic resonance imaging.
Darcy DDD Walworth
J Music Ther 47(4):335-50 (2010), PMID 21488602
The purpose of the current study was to identify the effects of live music therapy interventions compared with preferred recorded music for patients undergoing MRI scans. To date, there has not been a published study involving the use of live music therapy during MRI scans. The current study investigated the differences between teenage through adult patients receiving live music therapy intervention during outpatient MRI scans versus the standard protocol of care listening to recorded music (N = 88). Subjects ranged in age from 15 to 93 years old. Results indicated subjects who received the live music therapy protocol reported significantly better perception of the MRI procedure (p < 0.05). Additionally, subjects receiving the live music therapy protocol had fewer scans repeated due to movement. Of the repeated images, 26% occurred in the live music group and 73% occurred in the recorded music group. Subjects receiving live music therapy also requested less breaks from the scan. Two percent of the live music subjects requested a break and 17.6% of the control patients requested breaks. When comparing the same type of scan between groups, subjects receiving the live music protocol required less time to complete the scans. For lumbar scans without contrast (N = 14, n = 7, n = 7), live music subjects spent an average of 4.63 less min per scan for a total of 32 less min for 7 subjects. For brain scans (N = 8, n = 4, n = 4), live music subjects spent an average of 5.8 less min per scan for a total of 23 less min for 4 subjects. Results of the current study supports the use of live music therapy intervention for teenage and adult patients undergoing MRI scans to reduce patient anxiety and improve patient perception of the scan experience. Additionally, live music therapy has the potential to shorten the length of time required for patients to complete MRI scans due to decreased patient movements and fewer breaks requested during the scans. The cost savings impact of reduced procedure time can positively impact the facility productivity by allowing more scans to be scheduled daily.

The impact of a live therapeutic music intervention on patients' experience of pain, anxiety, and muscle tension.
Kari Sand-Jecklin and Howard Emerson
This exploratory study demonstrated the positive impact of live music as a holistic patient intervention directed toward reducing pain, anxiety, and muscle tension levels of patients admitted to a tertiary care center for an emergent medical condition. Music can be combined with other holistic interventions to positively impact patient outcomes.
Effects of live music therapy sessions on quality of life indicators, medications administered and hospital length of stay for patients undergoing elective surgical procedures for brain.

Darcy D Walworth, Christopher S CS Rumana, Judy J Nguyen, Jennifer J Jarred
J Music Ther 45(3):349-59 (2008), PMID 18959455

The physiological and psychological stress that brain tumor patients undergo during the entire surgical experience can considerably affect several aspects of their hospitalization. The purpose of this study was to examine the effects of live music therapy on quality of life indicators, amount of medications administered and length of stay for persons receiving elective surgical procedures of the brain. Subjects (N = 27) were patients admitted for some type of surgical procedure of the brain. Subjects were randomly assigned to either the control group receiving no music intervention (n = 13) or the experimental group receiving pre and postoperative live music therapy sessions (n = 14). Anxiety, mood, pain, perception of hospitalization or procedure, relaxation, and stress were measured using a self-report Visual Analog Scale (VAS) for each of the variables. The documented administration of postoperative pain medications; the frequency, dosage, type, and how it was given was also compared between groups. Experimental subjects live and interactive music therapy sessions, including a pre-operative session and continuing with daily sessions until the patient was discharged home. Control subjects received routine hospital care without any music therapy intervention. Differences in experimental pretest and posttest scores were analyzed using a Wilcoxon Matched-Pairs Signed-Rank test. Results indicated statistically significant differences for 4 of the 6 quality of life measures: anxiety (p = .03), perception of hospitalization (p = .03), relaxation (p = .001), and stress (p = .001). No statistically significant differences were found for mood (p > .05) or pain (p > .05) levels. Administration amounts of nausea and pain medications were compared with a Two-Way ANOVA with One Repeated Measure resulting in no significant differences between groups and medications, F(1, 51) = 0.03; p > .05. Results indicate no significant differences between groups for length of stay (t = .97, df = 25, p > .05). This research study indicates that live music therapy using patient-preferred music can be beneficial in improving quality of life indicators such as anxiety, perception of the hospitalization or procedure, relaxation, and stress in patients undergoing surgical procedures of the brain.

Music stimulation has been shown to provide significant benefits to preterm infants. We hypothesized that live music therapy was more beneficial than recorded music and might improve physiological and behavioral parameters of stable preterm infants in the neonatal intensive care unit.


METHODS: Thirty-one stable infants randomly received live music, recorded music, and no music therapy over 3 consecutive days. A control of the environment noise level was imposed. Each therapy was delivered for 30 minutes. Inclusion criteria were postconceptional age > or = 32 weeks, weight > or = 1,500 g, hearing confirmed by distortion product otoacoustic emissions (DPOAEs), and no active illness or documentation of hyperresponsiveness to the music. Heart rate, respiratory rate, oxygen saturation, and a behavioral assessment were recorded, every 5 minutes, before, during, and after therapy, allowing 30 minutes for each interval. The infant’s state was given a numerical score as follows: 1, deep sleep; 2, light sleep; 3, drowsy; 4, quiet awake or alert; 5, actively awake and aroused; 6, highly aroused, upset, or crying; and 7, prolonged respiratory pause > 8 seconds. The volume range of both music therapies was from 55 to 70 dB. Parents and
medical personnel completed a brief questionnaire indicating the effect of the three therapies.

RESULTS: Live music therapy had no significant effect on physiological and behavioral parameters during the 30-minute therapy; however, at the 30-minute interval after the therapy ended, it significantly reduced heart rate \((150 +/- 3.3 \text{ beats/min before therapy vs } 127 +/- 6.5 \text{ beats/min after therapy})\) and improved the behavioral score \((3.1 +/- 0.8 \text{ before therapy vs } 1.3 +/- 0.6 \text{ after therapy, } p < 0.001)\). Recorded music and no music therapies had no significant effect on any of the tested parameters during all intervals. Both medical personnel and parents preferred live music therapy to recorded music and no music therapies; however, parents considered live music therapy significantly more effective than the other therapies.

CONCLUSIONS: Compared with recorded music or no music therapy, live music therapy is associated with a reduced heart rate and a deeper sleep at 30 minutes after therapy in stable preterm infants. Both recorded and no music therapies had no significant effect on the tested physiological and behavioral parameters.

The Effects of Music Therapy on Vital Signs, Feeding, and Sleep in Premature Infants

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Abstract

OBJECTIVES: Recorded music risks overstimulation in NICUs. The live elements of music such as rhythm, breath, and parent-preferred lullabies may affect physiologic function (eg, heart and respiratory rates, \(O_2\) saturation levels, and activity levels) and developmental function (eg, sleep, feeding behavior, and weight gain) in premature infants.

METHODS: A randomized clinical multisite trial of 272 premature infants aged \(\geq 32\) weeks with respiratory distress syndrome, clinical sepsis, and/or SGA (small for gestational age) served as their own controls in 11 NICUs. Infants received 3 interventions per week within a 2-week period, when data of physiologic and developmental domains were collected before, during, and after the interventions or no interventions and daily during a 2-week period.

RESULTS: Three live music interventions showed changes in heart rate interactive with time. Lower heart rates occurred during the lullaby \((P < .001)\) and rhythm intervention \((P = .04)\). Sucking behavior showed differences with rhythm sound interventions \((P = .02)\). Entrained breath sounds rendered lower heart rates after the intervention \((P = .04)\) and differences in sleep patterns \((P < .001)\). Caloric intake \((P = .01)\) and sucking behavior \((P = .02)\) were higher with parent-preferred lullabies. Music decreased parental stress perception \((P < .001)\).

CONCLUSIONS: The informed, intentional therapeutic use of live sound and parent-preferred lullabies applied by a certified music therapist can influence cardiac and respiratory function. Entrained with a premature infant’s observed vital signs, sound and lullaby may improve feeding behaviors and sucking patterns and may increase prolonged periods of quiet–alert states. Parent-preferred lullabies, sung live, can enhance bonding, thus decreasing the stress parent’s associate with premature infant care.