

Randomized clinical trial examining the effect of soothing music in response to relaxation during bed rest after open-heart surgery.

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Background. Music interventions have been evaluated as an appropriate intervention to reduce pain, stress and anxiety in a number of clinical settings. A new challenge is to study if music can influence the relaxation system that incorporates oxytocin, which is a hormone synthesised in the hypothalamus and takes part in the cardiovascular regulation.

Aim. To evaluate the effect of bed rest with music on relaxation for patients who had undergone heart surgery on postoperative day one.

Method. A randomised controlled trial with 40 patients undergoing open coronary artery bypass grafting and/or aortic valve replacement surgery randomly allocated to either music listening during bed rest or bed rest only. The music was distributed through a music pillow connected to a MP3 player (Wellness Musicpillow) and the music, MusiCure, (MusiCure) was soft, relaxing, and included different melodies of 60 to 80 beats per minute (bpm) and was played for 30 minutes with a volume of 50-60 dB. Relaxation was assessed during bed rest the day after surgery by determining serum oxytocin, heart rate, mean arterial blood pressure (MAP), arterial oxygen tension (PaO₂), arterial oxygen saturation (SaO₂) and subjective relaxation levels.

Results: In the music group levels of oxytocin increased significantly in contrast to the control group for which the trend over time was negative i.e. decreasing values. Subjective relaxation levels increased significantly more and there were also a significant higher levels of PaO₂ in the music group compared to the control group. There was no difference in MAP, heart rate and SaO₂ between the groups.

Conclusion. Listening to music during bed rest after open-heart surgery has some effects on the relaxation system as regards s-oxytocin and subjective relaxations levels. This effect seems to have a causal relation from the psychological (music makes patients relaxed) to the physical (oxytocin release). Music intervention should be used as an integral part of the multimodal regime administered to the patients that have undergone cardiovascular surgery. It is a supportive source that increases relaxation.

Patients' perception of music versus ordinary sound in a postanaesthesia care unit; a randomised crossover trial.

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Abstract

We performed an experimental single-blind study with crossover design in a postanaesthesia care unit (PACU): (i) to test the hypothesis that patients will experience a higher degree of wellbeing if they listen to music compared to ordinary PACU sounds during their early postoperative care, (ii) to determine if there is a difference over time, and (iii) to evaluate the importance of the acoustic environment and whether patients prefer listening to music during their stay. Two groups received a three phase intervention: One group (n=23) experienced music-ordinary sound-music and the second group (n =21) experienced ordinary sound-music-ordinary sound. Each period lasted 30 minutes, and after each period the patients assessed their experience of the sound. Over time, we found a significant difference ($p < 0.001$) between groups in the proportions of patients reporting that the acoustic environment was of *great importance* for their wellbeing during the three phase intervention, and most participants (n=36 versus n=8) noticed that they were exposed to different sounds during the PACU period. The results also revealed that most participants (n=32) preferred listening to *music* versus listening to *ordinary sound* (n=3) while in the PACU ($p < 0.001$). These findings promote use of music interventions by nurses to establish a healing environment for patients in a postanaesthesia care unit.

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The effect of music intervention in relation to gender during coronary angiographic procedures ; a randomized clinical trial.

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Abstract

Several studies have evaluated music interventions prior and after coronary angiography and percutaneous coronary intervention (PCI), but there is no clear evidence showing that music has an effect on patients during these procedures. The purpose was to investigate the effects of music on anxiety, angina, pain, relaxation, and comfort in patients during angiographic procedures and to evaluate gender differences. The study was a four-armed, prospective randomized controlled trial included 240 patients undergoing coronary angiography and/or PCI. Patients were allocated to receive relaxing music, MusiCure[®] or standard care during the procedure. Outcome measures were; puncture pain and the discomfort related to it, angina and the discomfort related to it, anxiety, experience of the sound environment, discomfort of lying still, and the doses of anxiolytics and analgesics during the procedure. No differences were found between the music and control groups regarding any of the trial endpoints or gender-related differences. The overall rating of the sound environment and feeling of relaxation was high. In conclusion, music intervention in patients undergoing angiographic procedures was highly feasible, but not effective in this study though the delivery of music went smoothly and did not disturb the examination and patients and staff alike looked favorably on it.

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The effect of music intervention in stress response to cardiac surgery in a randomized clinical trial

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ABSTRACT

Objective

To evaluate the effect of bed rest with music on the first postoperative day to decrease stress for patients who have undergone heart surgery.

Methods

A repeated-measures randomized controlled trial was used. The study took place in a cardiothoracic intermediary unit of a university hospital in Sweden. Fifty-eight patients who had undergone open coronary artery bypass grafting or aortic valve replacement surgery were included. Stress response was assessed by determining the serum cortisol, heart rate, respiratory rate, mean arterial pressure, arterial oxygen tension, arterial oxygen saturation, and subjective pain and anxiety levels. At 12:00 noon on postoperative day 1, patients were allocated to receive 30 minutes of uninterrupted bed rest with music and then 30 minutes of bed rest or alternatively 60 minutes of uninterrupted bed rest. The music was soft and relaxing, included different melodies, played with a volume at 50 to 60 dB, and distributed through a music pillow connected to an MP3 player.

Results

After 30 minutes of bed rest, there was a significant difference in s-cortisol levels between the groups; 484.4 nmol/L in the music group versus 618.8 nmol/L in the control group ($P < .02$). However, this difference in s-cortisol levels was not found 30 minutes later (ie, after a total of 60 minutes). There was no difference in heart rate, respiratory rate, mean arterial pressure, arterial oxygen tension, arterial oxygen saturation, and subjective pain and anxiety levels between the groups.

Conclusion

There is sufficient practical evidence of stress reduction to suggest that a proposed regimen of listening to music while resting in bed after open heart surgery be put into clinical use.

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School-aged children's experiences of postoperative music medicine on pain, distress and anxiety

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Abstract

Aim: To test if postoperative music listening reduces morphine consumption and influence pain, distress and anxiety after day surgery and to describe the experience of postoperative music listening in school-aged children who had undergone day surgery.

Background: Music medicine has been proposed to reduce distress, anxiety and pain. There has been no other study that evaluates effects of music medicine (MusiCure[®]) in children after minor surgery.

Methods: Numbers of participants who required analgesics, individual doses, objective pain scores (Face, Legs, Activity, Cry, Consolability (FLACC), vital signs and administration of antiemetics were documented during postoperative recovery stay. Self-reported pain (Coloured Analogue Scale (CAS)), distress (Facial Affective Scale (FAS)) and anxiety (short State-Trait Anxiety Inventory (STAI)) were recorded before and after surgery. In conjunction with the completed intervention semi-structured qualitative interviews were conducted.

Results: Data were recorded from 80 children aged seven to 16 years. Forty participants were randomized to music medicine and another 40 participants to a control group. We found evidence that children in the music group received less morphine in the postoperative care unit, 1/40 compared to 9/40 in the control group. Children's individual FAS scores were reduced but no other significant differences between the two groups concerning FAS, CAS, FLACC, short STAI and vital signs were shown. Children experienced the music as "calming and relaxing".

Conclusions: Music medicine reduced the requirement of morphine and decreased the distress after minor surgery but did not else influence the postoperative care.

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