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, which incorporates oxytocin which is a hormone synthesised in the hypothalamus.

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.