



## Service Priorities and Programmes Electronic Presentations

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### **Effect of music on adult patients undergoing colonoscopy: a meta-analysis of randomized controlled trials**

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#### **Introduction**

Colonoscopy is a common procedure often experienced anxiety and pain. Music has been reported to reduce discomfort and anxiety during colonoscopy, but various randomized controlled trials have been inconsistent.

#### **Objectives**

To integrate results from RCTs in examining the effectiveness of music interventions on reducing of physiological (pain, heart rate and blood pressure) and psychological (anxiety and satisfaction) outcomes, and sedative and analgesic medication requirements for adult patients undergoing colonoscopy.

#### **Methodology**

A total of 10,448 electronic bibliographic databases in English and Chinese were searched. Two independent reviewers performed critical appraisal on paper quality. Data from randomized controlled trials (RCTs) were pooled statistically.

#### **Result**

Ten RCTs with 1,088 participants were included in this meta-analysis. The results showed music listening had a significant effect on reduction of pain (SMD -0.77, 95%CI -1.25 to -0.29,  $P = 0.002$ ), heart rate (MD -7.85, 95%CI -10.41 to -5.29,  $P < 0.00001$ ) and diastolic blood pressure (MD -5.59, 95% CI -10.13 to -1.06,  $P = 0.02$ ). However, music did not significantly reduce anxiety, sedative and analgesic medication used, systolic blood pressure and procedure satisfaction. Subgroup analysis revealed significant effects on anxiety ( $p < 0.00001$ ), pain ( $p = 0.0002$ ) and procedure satisfaction ( $p < 0.00001$ ) regardless of whether patients were offered classical music or another type of music, or participants used headphones or listened to background music, or participant were allowed to choice of music or no choice. Conclusions: The findings of this meta-analysis provide evidence that music listening has significant effects on reducing of pain, heart rate and diastolic blood pressure

during colonoscopy. More importantly, no any harm effects were observed. Thus, this is a reason for health care providers to offer music listening to adult patients undergoing a colonoscopy procedure. Future study is needed to establish the effects of music listening on other outcomes.