

Introduction

Preoperative anxiety is common among surgical patients and refers to emotional distress, fear, or worry that occurs before a surgical procedure. It is often associated with concerns about anesthesia, pain, and possible complications. Preoperative anxiety affects a wide range of surgical populations, with approximately 48% of surgical patients worldwide experiencing preoperative anxiety based on a pooled analysis of more than 14,000 individuals (Friedrich et al., 2022). High levels of anxiety before surgery can negatively affect the patient's overall experience. Therefore, exploring accessible interventions, such as music, to reduce preoperative anxiety is important.

Objectives

- Key Objectives of this study include:
- Examine the impact of preoperative music therapy on anxiety levels in surgical patients
 - Compare anxiety outcomes between patients receiving a music intervention and patients who aren't receiving music as an intervention.

Methods

Articles were found using Pubmed to identify studies on preoperative music and anxiety in surgical patients. Search terms included “preoperative music,” “music therapy,” “anxiety,” and “surgical patients”. Studies were screened by title and abstract, followed by full-text review to determine eligibility. Anxiety scores were extracted from the included studies and compared to see whether preoperative music was associated with lower anxiety levels in surgical patients. Studies using the STAI (State-Trait Anxiety Inventory) generally found lower anxiety scores among patients who listened to music before anesthesia.

References



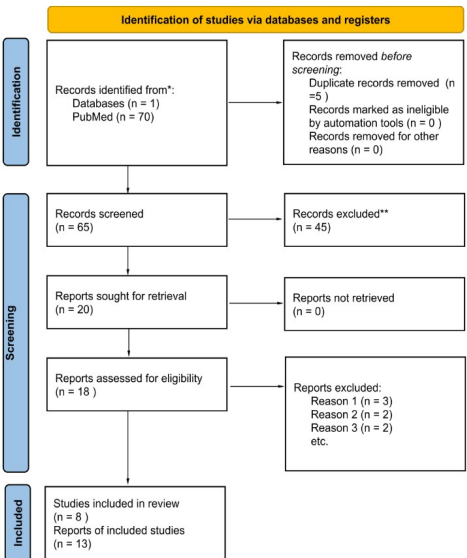
Results

Study	Sample Size	Music Intervention	Anxiety Measure	Main Anxiety Result	Statistical Result
Wang et al. (2002)	93 (48 music, 45 control)	30-min patient-selected music	STAI	Music group anxiety decreased 16% from baseline; post-intervention anxiety was significantly lower than control	P = .001
Bringman et al. (2009)	372 randomized; 177 music completed	Relaxing music before surgery	STAI X-1	Music: 34 ± 8 → 30 ± 7; decrease of about 4 points	Music produced a significantly greater decrease than midazolam; P < .001, 95% CI -3.8 to -1.8
Bradt et al. (2013)	2,051 participants / 26 trials	Pre-recorded music	STAI-S and VAS-A/VAS	Music reduced anxiety 5.72 units more than standard care on STAI-S	95% CI -7.27 to -4.17; P < .00001. Other scales: SMD -0.60, 95% CI -0.90 to -0.31; P < .0001
Palmer et al. (2015)	207	Patient-selected live or recorded music preoperatively	GA VAS	Live music: -30.9 ± 36.3; recorded music: -26.8 ± 29.3; usual care: 0.0 ± 22.7	Music groups had significantly greater anxiety reductions than usual care; P < .001
Ding et al. (2025)	104 enrolled; 95 analyzed	Two music sessions: evening before surgery + anesthesia preparation room	STAI-State	Music: -5.0 vs control: +3.0; between-group difference -8.0	95% CI -14.0 to -2.5; P = .003
Uğraş et al. (2018)	180	30-min natural sounds, Classical Turkish Music, or Western Music	STAI-S	All music groups had significantly lower post-music STAI-S than pre-music measurements	Significant reduction; Classical Turkish Music was reported as most effective
Wakana et al. (2022)	60	Music in waiting room until immediately before IV sedation	VAS + HRV	No significant difference in VAS anxiety between music and non-music groups	Not significant

Table 1. Included Studies and Findings

Risk Of Bias Assessment						
Study	Random ization	Treatment Differences	Missing Data	Outcome Measuremen t	Reporting	Overall
Wang et al. (2002)	2	1	2	2	1	1.6
Bringman et al. (2009)	2	1	2	2	1	1.6
Palmer et al. (2015)	2	1	2	2	1	1.6
Ding et al. (2025)	2	2	2	2	2	2
Uğraş et al. (2018)	2	1	1	2	1	1.4
Wakana et al. (2022)	2	1	2	2	1	1.6

Table 2. Risks of Bias Assessment



Conclusion

Preoperative anxiety can affect a patient’s overall surgical experience. The findings of this review suggest that music can provide comfort and reduce anxiety before surgery without medication. Across the studies reviewed, patients who listened to music generally had lower anxiety levels than those receiving standard care, including reductions measured by the State-Trait Anxiety Inventory (STAI). However, differences in study methods, music selection, duration, and anxiety measures may have influenced the results. Future research should use larger studies with consistent methods to determine which types and durations of music are most effective. Overall, preoperative music shows potential as a simple, non-invasive way to reduce anxiety before anesthesia.