SYNOPSIS

KEY POINT SUMMARY

OBJECTIVES

This study evaluated the effect of music played for elderly outpatients undergoing cataract surgery with retrobulbar block and monitored anesthetic care.

Music increases satisfaction in elderly outpatients undergoing cataract surgery

Cruise, C., Chung, F., Yogendran, S., Little, D. 1996 | *Canadian Journal of Anaesthesia.* Volume 44, Issue 1, Pages 43-48

Key Concepts/Context

Cataract surgery is one of the most common surgical procedures performed on elderly patients in North America. Sedative medications are often used to reduce patient anxiety throughout the surgical procedure, but elderly patients are more likely to experience adverse health effects from these medications. The anxiety-reducing effects of music have been widely studied previously, but never in the context of elderly patients undergoing cataract surgery.

Methods

121 cataract surgery outpatients were prospectively and randomly assigned an audiotape from one of 4 sound groups: relaxing verbal suggestions ("Operation is going well," "Everything is going smoothly," etc.), white noise sounds, operating room sounds, or relaxing classical music accompanied by nature sounds.

30 patients heard relaxing suggestions (average age of 68.5), 29 heard white noise (average age of 73.6), 30 heard operating room noises (average age of 68.3), and 32 heard relaxing music (average age of 70.8).

Patients who had hearing loss or were receiving sedative or psychotropic drugs were excluded from the study.

No overhead music was allowed in the operating room used during the study. Instead, headphones were adjusted to a comfortable volume level for the patient.

An anesthetist blinded to the randomized audiotapes sedated patients with fentanyl or alfentanil and midazolam.

2-3 minutes after intravenous sedation, an ophthalmologist performed retrobulbar block. To test memory, patients were shown a picture before the retrobulbar block and asked to recall it later.

Systolic blood pressure, diastolic blood pressure, heart rate, and respiratory rate were recorded before and after the retrobulbar block, and at 15-minute intervals following until the procedure was completed.

Anxiety was assessed using the State-Trait Anxiety Inventory (STAI). STAI measures trait anxiety and state anxiety; the former is not expected to change over time while the latter is expected to change. This test was conducted before and after surgery. A Visual Analogue Scale (VAS) was also conducted after surgery.

A questionnaire was administered after the surgery to assess patient satisfaction. The questionnaire asked for Yes/No responses in response to satisfaction with the operative experience, satisfaction with the audiotape, whether they were nervous during surgery, whether the audiotape relaxed them, whether noise bothered them, and whether they would use the audiotape again.

Ophthalmologists were also blinded to the audiotape randomization and were asked if they were satisfied with the anesthetic technique using VAS, with 0mm indicating extreme dissatisfaction and 100mm indicating extreme satisfaction.

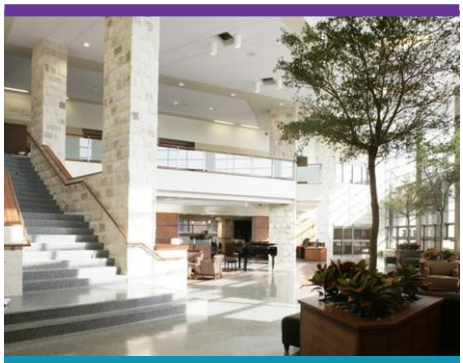
Data were analyzed using an SAS statistical package (version 6.08 for Windows). A P value of < 0.05 was considered significant.

Findings

Data analysis revealed that relaxing suggestions and music were consistently more satisfactory for both patients and surgeons as opposed to operating room noise or white noise. However, no objective evidence of reduction of anxiety was found in any of the groups. Following the surgery, there was an unexpected increase in systolic blood pressure in the relaxing suggestion, white noise, and relaxing music groups, but not in the group exposed to operating room noise. Systolic blood pressure instead decreased over time in the group exposed to operating room noise. Overall, types of auditory exposure did not influence levels of patient anxiety, but relaxing music did increase the patients' sense of satisfaction.

Design Implications

Individual audio players equipped with headphones could be given to patients before surgery to potentially increase overall satisfaction with the surgical process. Standards of electrical safety for these portable music devices should be considered, along with the use of comfortable headphones and convenient device placement. Noise levels within operating rooms should be considered; individual audio players for patients could further improve surgeon satisfaction and communication during surgery.



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Limitations

The use of standardized anesthetic medication may have eliminated possible differences in anxiety among the four patient groups. A possible bias may have existed since the research assistant conducting the study procedures was not blinded to the types of audiotapes used on specific patients. There are many variations possible among the four sound groups, including the nature of the music, white noise, relaxing suggestions, or operating room sounds, which can drastically affect satisfaction or anxiety levels based on unique patient preferences.

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