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Introduction/Background

Post Anesthesia Care Unit (PACU) nurses met with the clinical nurse specialist to participate in a music-based intervention research study whose purpose was to reduce anxiety and pain in laparoscopic radical prostatectomy patients. One co-investigator was a nursing student whose expertise was in music. The research team chose to frame their study using a mixed method, randomized comparative design between two complementary music interventions: (1) patient-selected music preferences using Spotify; (2) pre-recorded guided breathing relaxation narrative underscored with minimal, hypnotic music.

Purpose of the Project

To participate as co-investigators in a mixed method randomized comparative study to determine the effectiveness of music listening interventions in reducing anxiety and pain scores in the PACU; learn about patient experiences through qualitative inquiry.

Process of Implementation

1. Co-investigators took CITI protection for human subjects
2. Submitted study protocol; approved by IRB
3. IT Department programmed music interventions on devices
4. Invitation PreOp phone call night prior
5. Night prior, team collates brown envelope; headset/fully charged i-Pods in plastic bag w/coded randomized group; i-Pods checked fully charged/tested
6. PI/Co-investigators consented patients in waiting room
7. Drew music G-cleft by patient's ID
8. Patient escorted to Prep; listened to music
9. Once awake – patient offered assigned music until discharge
10. Blinded RN records "Post" STAI scores; completes PACU data form
11. RN documents patient's own words to qualitative inquiry
12. RN returns plastic bag/data sheet to LCN desk. All equipment sanitized; placed in locked drawer for recharging; ready for next patient
13. Nurses shared results of their study with nursing leaders and surgeons
14. Surveyed nursing staff regarding their experiences participating in a mixed method randomized comparative clinical trial

Interventional Music Listening Devices

Apple iPod Touch 32 GB devices were pre-programmed by the hospital IT Department staff to automatically log in to each email account and were set to the following:
Group I was coded as ABA devices—set to Spotify Home screen to play patient's preferred music choices from a search or featured album.
Group II was coded as BAB devices—set to JHH Playlist with one instrumental minimalist track (relaxation and breathing exercises) downloaded on a loop playback.
The pre-programmed iPods used the Maxell Solid2 Black Stereo over ear with noise-canceling Headphones with HygenX, Disposable Ear Covers. Spotify premium account created with x4 unique login emails for each iPod device.

Procedure/Description of Data Collection

Procedure: PACU Co-investigators, using a preapproved research recruitment script, called patients the day prior to their scheduled surgery to invite them to participate in the study.

- Day of surgery, principal investigator/co-investigators consented subjects in waiting room
- Subjects also completed Spielberger STAI-Y questionnaire in waiting room
- Patients escorted to PreOp (changed into gowns, vital signs, pain score goals were obtained)
- Patients listened in PreOp to assigned music interventions for 15 uninterrupted minutes of music

Data Collection: In PACU, postoperative patients listened to assigned interventions after emergence from anesthesia until discharge criteria met at which time they were asked about music listening experience and transferred to inpatient rooms.

Discussion

Even though the PACU nurses were blinded to the music listening interventions, the nurses reported their excitement with the patients' beneficial experience listening to both the music interventions. Pain medication use did not differ between the two groups. Notably, three study participants did not require any pain medication throughout their entire PACU stay. One nurse was so surprised when the patient stated "I don't need any pain medication. My music keeps me calm and distracted." Both interventions reduced STAI scores and pain scores to a similar degree; this reduction was clinically and statistically significant. These interventions should be important complementary techniques for all surgical patients, especially in a busy, fast paced perianesthesia clinical setting.

Statement of Successful Practice

The PACU nurses successfully completed the research study, authored a music listening manuscript, submitted manuscript for publication, and disseminated results of the study through local and national poster presentations.

Implications for Advancing Perianesthesia Nursing Practice

Participating in the conduct of research inspires bedside PACU nurses to continue their scientific inquiry by creating new knowledge to improve perianesthesia nursing practice and patient care. Future research should focus on the benefits of PACU nurses participating in research and contributing to nursing theory.

References

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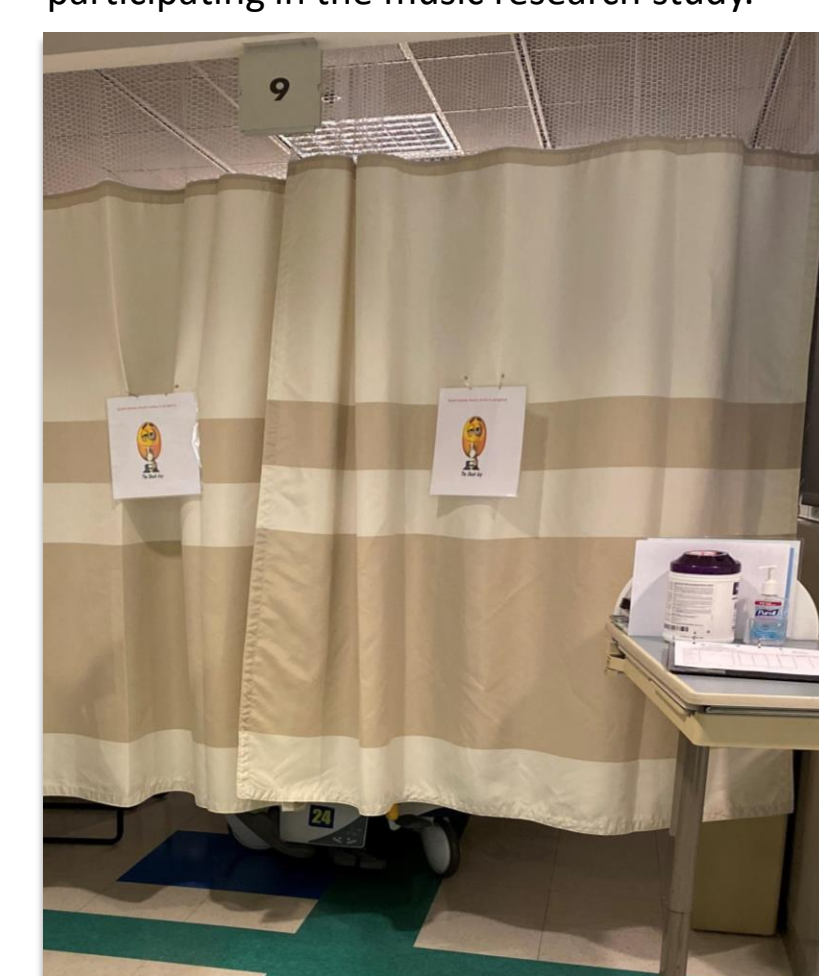
Outcome Measures/ Results

Reflections of Perianesthesia Nurses Research Participation



A Nurse (above) helps a patient with the music listening device.

Curtains closed (below) and a quiet sign placed to indicate a patient in the room is actively participating in the music research study.



100% of Perianesthesia nurses want to participate in future research studies!

Reflective Inquiry: Narratives from PACU Nurses' Experience in Participating in Research

Themes	Quotes/Stories
Professional Growth	"Being one of the participants, my contribution to the success of the study is an accomplishment for personal and professional growth as a nurse."
	"Having the sense of involvement in participation with our unit's music research study gave me the opportunity to advance my practice."
	"The music study gave me the opportunity to try something new and to look forward to advancing my knowledge and professional growth. Work was more exciting and I really valued participating in research."
	"It was exciting to be part of a real randomized clinical trial that compared two nursing interventions."
Effectiveness of Providing Benefits of Music Intervention	"I learned a lot about our research study. It was so interesting to observe what the different patients enjoyed during music listening experience. Participating in this research study gave me a new perspective on how I as a nurse could make a difference. It also made me want to participate in more research studies."
	"It was a great opportunity to learn about the research process and to see how the two music interventions affected the patients' anxiety and pain scores. I learned a lot more about research than I learned in my college course. I feel confident and want to participate in another study."
	"I liked being part of the research team. I learned a lot."
	"It was a great opportunity to get to know more about our patients' emotional responses to surgery, pain management, anxiety and variable stressors."
	"As a nurse participating in this music research, I was better able to care for the patients' pain and anxiety during their PACU stay."
	"Participating in our research study, gave me the opportunity to try something new to help my patients and increase their patient satisfaction by listening to music."
	"Providing nursing music interventions in the PACU, helped my patients feel better, alleviate their pain, and helped them relax."
	"I was very happy to witness patients who listened to music because they reported feeling very good and relaxed with the breathing meditation narrative."
	"It gave me the opportunity to try new music therapies to help patients feel better during their recovery."
	"This research was one of the many interventions that we can help our patients feel better and recover faster."
100% reduction of patients reported anxiety when listening to music	"My participation in this study helped me see how the music intervention benefited patients' relaxation and breathing. This was very beneficial."
	"I liked patients' experiences dealing with pain."
	"Giving patients the iPods with music, helped alleviate patients' anxiety."
	"I was able to help them relax and be very comfortable."
	"I saw my patients enjoy listening to their preferred music selections on the device."
	"It was amazing because I actually benefited – just seeing my patient happy."
	"The patients' experiences were positively affected."
	"Participating in research was rewarding to see patients really relaxed."
80% reduction of patients reported pain when listening to music	"It was great learning and seeing how my patients reported that they enjoyed the music listening because it was relaxing."
	"I felt like I was really helping my patients feel better and made a difference in their recovery with my research interventions."