Music Listening as a Postanesthesia Care Unit (PACU) Nursing Intervention for Laparoscopic Radical Prostatectomy Patients: A Mixed Method Randomized Comparative Clinical Trial

Primary Investigator: Myrna Mamaril DNP RN NEA-BC CPAN CAPA FAAN FASPAN
Johns Hopkins Hospital, Baltimore, Maryland
Co-Investigators: Maria Liza Anicoche MSN RN ACNS-BC CPAN CAPA,
Patricia Anne Bulacan BSN RN CCRN, Kelly Webber MSN RN MUS MAT-Integrated,
Sylvia Urso BSN RN, Laura Kaiser MSN BSN CPAN

Introduction/Background: Laparoscopic radical prostatectomy surgery patients have reported severe pain post operatively and experienced psychological distress for potential urinary incontinence and sexual dysfunction. Over this past year, PACU nurses identified anxiety and pain management as the primary cause of these patients' increased length of stay in PACU.

Identification of the problem: Patients undergoing major cancer surgery frequently express increased anxiety about how severe their pain will be as well as their oncology surgical outcomes. Mid-Atlantic academic teaching hospital's postanesthesia care unit (PACU) Standards of Care Committee met to discuss investigating complementary music listening methods to enhance pharmacologic pain management to address concerns in this surgical population.

Purpose of the Study: To compare two methods of music listening interventions on anxiety, pain, heart rate, blood pressure, and oxygen saturation among post anesthesia care unit (PACU) patients who are recovering from laparoscopic radical prostatectomy surgeries: a) patient-preferred music listening via Spotify selections; and b) relaxation breathing narrative over minimalistic hypnotic music.

Methodology: Randomization of participants by computer-generated table of random numbers for effective balance between the two groups. A power analysis was calculated to have 77 male participants: Group I (n=37) and Group II (n=40). Inclusion criteria/exclusion criteria established. Nurses blinded to study interventions. The study started in December 2019 and concluded in December 2020. Data collection began in PreOP and continued through discharge.

Results: Both Groups I and II had reduced pain scores at discharge as compared to PACU admission; both groups had significant reduction (p=0.046 Group I, and Group II (p=0.002), but changes for comparative groups (I and II) were not significant between the two groups (p=0.53).

Discussion: Both interventions reduced State Trait Anxiety Inventory scores and pain scores to a similar degree; this reduction was clinically and statistically significant. 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. Qualitative inquiry question on discharge revealed significant relaxation, distraction, pain relief, and comfort when listening to music.

Conclusion: Study revealed both relaxation/breathing track and personally selected music can meaningfully improve patients' anxiety and PACU pain scores.

Implications for perianesthesia nurses and future research: Future multicenter studies of music listening methods should be studied in other surgical/procedural patients recovering in PACU.