

Research reveals anti-nausea medicine more effective when chemo patients listen to their favorite music

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While listening to a favorite song is a known mood booster, researchers at Michigan State University have discovered that music-listening

interventions also can make medicines more effective.

"Music-listening interventions are like over-the-counter medications," said Jason Kiernan, an assistant professor in the College of Nursing. "You don't need a doctor to prescribe them."

While previous research studies have used [music](#)-listening interventions as a tool to treat pain and anxiety, Kiernan took a novel approach by studying the effects of music-listening interventions on chemotherapy-induced nausea.

"Pain and anxiety are both neurological phenomena and are interpreted in the brain as a state," Kiernan said. "Chemotherapy-induced nausea is not a stomach condition; it is a neurological one."

The small pilot study, published in *Clinical Nursing Research*, included 12 [patients](#) undergoing chemotherapy treatment who agreed to listen to their favorite music for 30 minutes each time they needed to take their as-needed anti-nausea medication. They repeated the music [intervention](#) anytime nausea occurred over the five days beyond their chemotherapy treatment. The patients in the study provided a total of 64 events.

"When we listen to music, our brains fire all kinds of neurons," Kiernan said.

While Kiernan did see a reduction in the ratings of patients' nausea severity and their distress (how much it bothered them to be nauseous), he cautions that it is difficult to isolate whether it was the gradual release of the medication doing its job or the increased benefit of the music. For future studies, Kiernan is drawing inspiration from another previously published study that measured the amount of [serotonin](#), a neurotransmitter, that was released by platelets in the blood after listening to unpleasant and pleasant music.

"Serotonin is the major [neurotransmitter](#) that causes chemotherapy-induced nausea," Kiernan said. "Cancer patients take medications to block serotonin's effects."

During that previous study, researchers found that patients who listened to pleasant music experienced the lowest levels of serotonin release, indicating that the serotonin stayed in the blood platelets and was not released to circulate throughout the body. Results also showed that after listening to music they found unpleasant, patients experienced greater stress and increased levels of serotonin release.

"This was intriguing because it provides a neurochemical explanation and a possible way to measure serotonin and the blood platelet release of serotonin in my study," Kiernan said. "In 10 to 20 years, wouldn't it be neat if you could use a nonpharmacological intervention like listening to 10 minutes of your favorite music to complement a medicine?"

More information: Jason Micheal Kiernan et al, Mitigation of Chemotherapy-Induced Nausea Using Adjunct Music Listening: A Pilot Study, *Clinical Nursing Research* (2023). [DOI: 10.1177/10547738221149895](#)

Provided by Michigan State University

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