

Marijuana component could ease pain from chemotherapy drugs

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A chemical component of the marijuana plant could prevent the onset of pain associated with drugs used in chemo therapy, particularly in breast cancer patients, according to researchers at Temple University's School of Pharmacy.

The researchers published their findings, "Cannabidiol Prevents the Development of Cold and Mechanical Allodynia in Paclitaxel-Treated Female C57Bl6 Mice," in the journal *Anesthesia and Analgesia*.

The researchers developed animal models and tested the ability of the compound cannabidiol, which is the second most abundant chemical found in the marijuana plant, to relieve chemo-induced neuropathic pain, said Sara Jane Ward, research assistant professor of pharmaceutical sciences in Temple's School of Pharmacy and the study's lead author.

"We found that cannabidiol completely prevented the onset of the neuropathic, or [nerve pain](#) caused by the chemo drug Paclitaxel, which is used to treat [breast cancer](#)," said Ward, who is also a research associate professor in Temple's Center for Substance Abuse Research.

Ward said that one of cannabidiol's major benefits is that, unlike other chemicals found in marijuana such as THC, it does not produce psychoactive effects such as euphoria, increased appetite or cognitive deficits. "Cannabidiol has the therapeutic qualities of marijuana but not the side effects," she said.

Ward's research has long focused on systems in the brain that are impacted by marijuana and whether those systems could be targeted in the treatment of various disorders. "Marijuana binds to the [cannabinoid receptors](#) in the body and researchers have long been interested in whether there is therapeutic potential for targeting this receptor system," she said.

Ward became interested in this current study after attending a conference in which she learned about a pain state that is induced by chemo-therapeutic agents, especially those used to treat breast cancer, which can produce really debilitating neuropathic pain.

Cannabidiol has also demonstrated the ability to decrease tumor activity in animal models, said Ward, which could make it an effective therapeutic for breast cancer, especially if you "combined it with a chemo agent like Paclitaxel, which we already know works well."

According to Ward, there are currently about 10 clinical trials underway in the United States for cannabidiol on a range of different disorders, including cannabis dependence, eating disorders and schizophrenia. Because of this, she believes it will be easier to establish a clinical trial for cannabidiol as a therapeutic against [neuropathic pain](#) associated with chemo drugs.

Provided by Temple University

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