

THE EFFECTS OF MEDICAL MARIJUANA ON ALZHEIMER'S TREATMENT

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Marijuana is a controversial topic in the medical community, with some well-respected doctors advocating for its use and others concerned about its addictive properties and long term effects. As researchers continue to explore the drug as a potential treatment to chronic and terminal illnesses, some studies are focusing their efforts on the effects of medical marijuana on Alzheimer's treatment and symptoms.

Learn more about these studies and why more work needs to be done in evaluating it as a treatment for the disease.

Medical Marijuana Brings Controversy to the Medical Community

Medical marijuana or medical cannabis has been used throughout the world and for thousands of years to treat disease or alleviate symptoms from disease.

Currently, the Food and Drug Administration (FDA) has approved two medical marijuana medications in pill form, "dronabinol" and "nabilone." These two drugs are being used to treat nausea caused by chemotherapy and increase the appetites of people with AIDS.

However, because of its addictive properties and unknown long term effects, its usage today is controversial in the medical community. While medical marijuana has been shown to reduce nausea in people undergoing chemotherapy and help people living with HIV/AIDS some medical professionals are wary of using it as a treatment method.

Several organizations, including the American Medical Association and the American Society of Addiction Medicine, have issued statements opposing its usage for medical treatment purposes.

The Effects of Medical Marijuana on Alzheimer's Prevention

A preclinical study published in the Journal of Alzheimer's Disease found that very small doses of tetrahydrocannabinol (THC), a chemical found in marijuana, can slow the production of beta-amyloid proteins, thought to be a hallmark characteristic and key contributor to the progression of Alzheimer's.

The study, published in 2014, is among others to support the effectiveness of THC in prohibiting the growth of toxic amyloid plaques.

Co-author of the study, Neel Nabar, cautions against drawing quick conclusions from their study saying:

"It's important to keep in mind that just because a drug may be effective doesn't mean it can be safely used by anyone. However, these findings may lead to the development of related compounds that are safe, legal, and useful in the treatment of Alzheimer's disease."

Another study from the Salk Institute in La Jolla, California has also found that tetrahydrocannabinol and other compounds found in marijuana may reduce the amount of beta amyloid in the brain. Beta amyloid is a hallmark characteristic of Alzheimer's and is commonly thought to cause the neurodegenerative disease.

While the findings are preliminary, researchers are optimistic about their findings. David Schubert, professor at the Salk Institute and senior author on the study says, "Although other studies have offered evidence that cannabinoids might be neuroprotective against the symptoms of Alzheimer's, we believe our study is the first to demonstrate that cannabinoids affect both inflammation and amyloid beta accumulation in nerve cells."

In the study, researchers found that by exposing beta amyloid proteins to THC, it reduced the levels of beta amyloid, stopped the inflammatory response from the nerve cells caused by beta amyloid and allowed the nerve cells to survive. Antonio Currais, a postdoctoral researcher and first author on the paper noted:

"Inflammation within the brain is a major component of the damage associated with Alzheimer's disease, but it has always been assumed that this response was coming from immune-like cells in the brain, not the nerve cells themselves. When we were able to identify the molecular basis of the inflammatory response to amyloid beta, it became clear that THC-like compounds that the nerve cells make themselves may be involved in protecting the cells from dying."

Researchers caution that their findings were conducted in a laboratory model and that further research needs to be done in a clinical trial before any conclusive evidence can be produced.

Using Medical Marijuana to Treat Dementia

While researchers have seen some success in using medical marijuana to fight the formation of beta amyloid plaques, studies are showing differing results in using it to treat the disease.

A research team from Radboud University Medical Center in Nijmegen, Netherlands, recently investigated the effects of medical marijuana on symptoms of dementia including aggression, anxiety, depression, insomnia and hallucinations, and did not see a statistically significant difference when using medical marijuana to treat symptoms associated with the disease.

The team divided their 50 participants into two groups with one group receiving 1.5 mg of medical marijuana pills and the other receiving a placebo pill. Participants took the pill three times a day for three weeks. After comparing the behavioral symptoms of both groups, researchers found there was no difference in the two groups.

Contrarily, a recent study published in The Journal of Alzheimer's Disease has concluded that cannabis extract containing THC can relieve these symptoms of Alzheimer's.

Researchers from the Abarbanel Mental Health Center and the Sackler Faculty of Medicine at Tel-Aviv University along with the Department of Psychology at Bar-Ilan University conducted the study, which was one of the first clinical studies observing the effects of cannabis on Alzheimer's.