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RIA neuroscience study points to possible use of medical marijuana for depression



By Cathy Wilde

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BUFFALO, N.Y. — Scientists at the University at Buffalo’s Research Institute on Addictions (RIA) are studying chronic stress and depression, with a focus on endocannabinoids, which are brain chemicals similar to substances in marijuana.

The findings raise the possibility that components of marijuana may be useful in reducing depression that results from chronic stress.

“In the animal models we studied, we saw that chronic stress reduced the production of endocannabinoids, leading to depression-like behavior,” says RIA senior research scientist Samir Haj-Dahmane, PhD.

Endocannabinoids are naturally produced chemical compounds in the brain that affect motor control, cognition, emotions and behavior. As the name suggests, they are similar to the chemicals found in marijuana (*Cannabis sativa*) and its active ingredient, delta-9-tetrahydrocannabinol (THC).

“Chronic stress is one of the major causes of depression,” Haj-Dahmane says. “Using compounds derived from cannabis — marijuana — to restore normal endocannabinoid function could potentially help stabilize moods and ease depression.”

He cautions this is preliminary research. “Our research thus far has used animal models; there is still a long way to go before we know whether this can be effective

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in humans," he says. "However, we have seen that some people who suffer from post-traumatic stress disorder have reported relief using marijuana."

Haj-Dahmane says the next step in the research is to see if using a marijuana extract, cannabidiol (CBD), restores normal behaviors in the animals without leading to dependence on the drug.

The study, co-authored by Roh-Yu Shen, PhD, RIA senior research scientist, was funded by a grant from the National Institute of Mental Health. It appeared in the fall issue of the *Journal of Neuroscience*.

Medical marijuana remains a controversial issue. Although 23 states and the District of Columbia have approved its use to provide relief for health problems such as glaucoma, nerve pain, epilepsy, multiple sclerosis and nausea from chemotherapy, some experts are concerned that medical use of marijuana may normalize attitudes about the drug and lead people — especially youth — to believe it is completely safe.

RIA is a research center of the University at Buffalo and a national leader in the study of alcohol and substance abuse issues. RIA's research programs, most of which have multiple-year funding, are supported by federal, state and private foundation grants. Located on UB's Downtown Campus, RIA is a member of the Buffalo Niagara Medical Campus and a key contributor to UB's reputation for research excellence. To learn more, visit buffalo.edu/ria.



Roh-Yu Shen

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Samir Haj-Dahmane,
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