

Long-term marijuana use may fog the brain

- 21:00 13 March 2006
- NewScientist.com news service
- Andy Coghlan

Long-term users of marijuana gradually become worse at learning and remembering things, a new study suggests.

“It definitely fogs your brain,” says Lambros Messinis, who led the study at the University Hospital of Patras in Greece.

Messinis and colleagues tested the mental abilities of 20 long-term users who had taken marijuana heavily – smoking at least four joints a week – for an average of 15 years. Their brains were rustier than those of 20 short-term users – who had averaged seven years of use – and 24 controls who had used the drug sporadically or not at all.

Long-term users performed worse in tests to measure memory, learning ability and the capacity to recall information. Asked to recall lists of 15 words that they had seen earlier, for example, the long-term users averaged seven, compared with nine recalled by short-term users and 12 by controls.

“Long-term users found it very difficult to learn through new information given verbally,” says Messinis. “It’s not to do with lack of attention but more the encoding process of memory.” Separate tests to probe attention span found that long-term users were able to pick up information immediately, without trouble.

Initial ability

Although the study is retrospective – that is, the subjects were not tested on their cognitive abilities before they took up marijuana – the researchers are confident that the long-term users’ abilities were not significantly different from the other groups from the beginning. They used a standard test to estimate the long-term users’ original intellectual abilities.

Messinis gave subjects the tests at least 24 hours after they had last taken the drug, to make sure they were not still under the influence. “It wasn’t while they were high,” he says.

“Importantly, we don’t know if it’s reversible,” he says. To find out, he and his colleague plan to re-test the same subjects after abstinence periods of at least a month.

Nadia Solowij, at the University of Wollongong in Australia, says the new findings back previous work by her and colleagues, published in the *Journal of the American Medical Association* in 2002.

“The authors appear to have used the same rigorous criteria for inclusion in their study and confirm that the duration of cannabis use progressively impacts upon cognitive functions,” she told **New Scientist**.

Journal reference: *Neurology* (vol 66, p 737)

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