

DWB – Driving While Baked



By *Chuck Dinerstein, MD, MBA* — December 14, 2020

More and more states are legalizing recreational marijuana, a drug that remains difficult to detect at a traffic stop. The only data to suggest that marijuana has played a role in motor vehicle accidents is the slight rise in accidents after legalization. But ask a stoner - do a few tokes impair driving? Let's follow the science.



Image courtesy of Jantaaa on Pixabay

[1]

The research involved 26 healthy "occasional cannabis users" [1] in a double-blind study. Each participant acted as their own controls, along with vaping cannabis combinations, and then let loose on the roads for a 100-km ride. Not to worry, the car had dual controls and a safety officer to take over if necessary. The participants vaped either THC-dominant, CBD-dominant, THC-CBD equivalent, or placebo mixtures. THC has all the psychoactive properties, while CBD is believed, especially by the supplement community, to provide a host of non-psychoactive but useful cannabinoids (presumably to reduce stress and anxiety). Both THC and CBD were given at specific doses, although the amount inhaled versus the amount absorbed varies with how long you retain the inhalation.

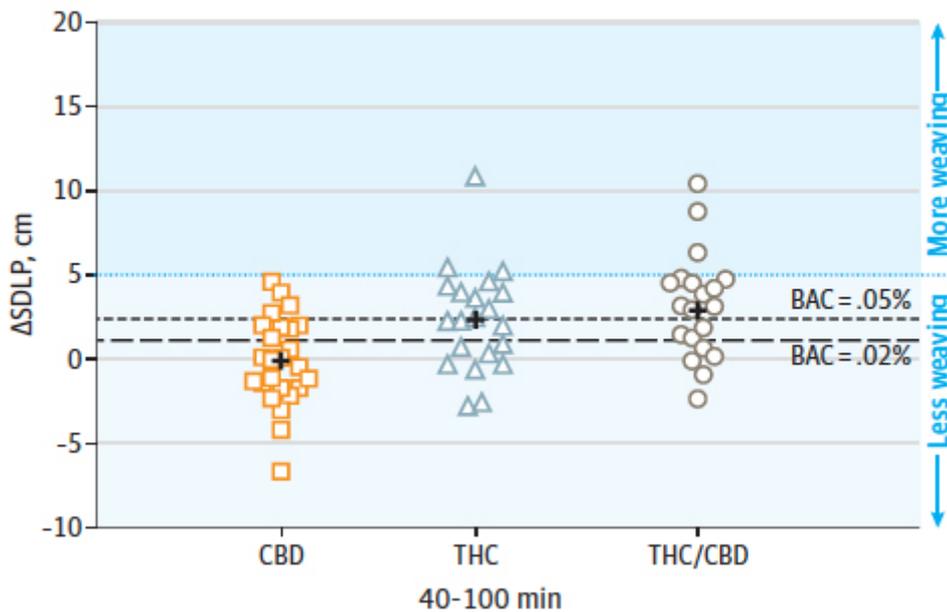
Forty or 240 minutes after toking up, the participants underwent a series of laboratory and cognitive tests along with that road test. The road test required them to drive in the right lane at approximately 60 mph for an hour. The measure of impaired driving is SDLP, a new term for me. It stands for "the standard deviation of lateral position ... a measure of lane weaving, swerving, and

overcorrecting" – basically your car's position relative to the left-hand boundary of that right lane. For the comparison, a 2.4 cm increase in overall weaving, the SDLP, is consistent with a blood alcohol level of 0.05%, a value that represents impaired driving in New York. [2]

Results

- THC used by itself or with CBD resulted in a 2.33cm increase in SDLP 40-100 minutes after "lighting up," compared to placebo, but there was no difference in the two groups at 240 minutes.
- CBD by itself did not significantly increase SDLP at any interval.
- Speed of driving was unaffected under all conditions.

B Change in individual SDLP values from placebo



The researchers also

performed a battery of cognitive tests. When asked to rate their confidence in their driving ability, those solely under the influence of THC recognized a greater degree of impairment than when vaping the THC/CBD mix, the CBD mix alone, or a placebo – in short; they knew they were buzzed. Moreover, having taken the car out for a spin increased their belief that they were impaired. Of course, that might be too late a realization to prevent an accident.

	% of participants Impaired to Equivalent to BAC* 0.02%		% of participants Impaired to Equivalent to BAC* 0.05%	
	40-100 minutes	240-300 minutes	40-100 minutes	240-300 minutes
THC	62%	36%	48%	27%
THC/CBD	75%	50%	60%	32%
CBD	40%	16%	16%	8%

*Blood alcohol level

As you can see from the table, marijuana appears to result in impaired driving that persists for several hours. As the authors write,

"...this impairment was modest in magnitude and similar to that seen in drivers with a 0.05% BAC."

Furthermore, CBD seemed to reduce anxiety and make drivers vaping CBD and THC's combination more confident in their abilities to drive. While CBD itself impairs driving only slightly, it seems to have a synergistic effect on impairment when used in conjunction with THC. However, these values may not have risen to statistical significance. The impact of CBD lotions, edibles, and bubble baths may result in different ingested dosages so let us not rush to generalizations.

The study has limitations; don't they all? Critically, the dosage of ingested THC was controlled, but the amount absorbed was not. Additionally, commercial THC strengths may differ from those used in the study, as do CBD dosages, which are basically unregulated.

One last thought, alcohol reduces your inhibitions; you feel less anxious, making you feel less impaired than you might actually be. Similarly, CBD also seems to reduce your anxiety. Perhaps it is the combination of actual impairment by THC or alcohol, combined with that reduction in anxiety that makes the buzzed and baked driver feel that they are up to the task of driving. But, the research indicates that driving while baked appears to be equivalent to drinking and driving.

[1] Age about 23, slightly more women than men. 85% completed all eight road test variations.

[2] A BAC of 0.08% is the federal standard for impaired driving.

Source: Effect of Cannabidiol and Δ^9 -Tetrahydrocannabinol on Driving Performance A Randomized Clinical Trial JAMA DOI:10.1001/jama.2020.21218

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Links

[1] <https://pixabay.com/photos/weed-smoke-drug-marijuana-joint-837125/>