

The Need for a Common Language

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*For last year's words belong to last year's language
And next year's words await another voice.*

— T.S. Eliot, *Four Quartets*

As the demand for all things Cannabis, hemp, and cannabidiol (CBD) has exploded in recent years, it's sometimes increasingly hard to tell what's what in an ever-crowded marketplace. If your patient walks into your office and says "I'm taking hemp CBD" or "I'm taking 'CBD oil,'" how do you actually know what this is? And the other terms: full-spectrum, broad-spectrum, natural extract...if you are wanting to understand what is actually being ingested or make a recommendation of a product to take, it's currently not at all a straight-forward proposition.

Warning: I am not going to solve this problem in this essay. What I am going to do is lay out the problem so that it's clear.

LET'S START WITH THE PLANT: CANNABIS SATIVA

We have two cultivars that we talk about with Cannabis: hemp and marijuana. They are the exact same plant, but under different growing environments you can end up with a plant that has a high amount of tetrahydrocannabinol (THC) or a low amount. I am going to toss in here that an increasing number of people feel that the term marijuana is racist, so if that goes away, we are left absent a vocabulary to easily distinguish cannabis with high THC from that with low THC.

We do have an official definition of hemp from the Agricultural Improvement Act of 2018 ("Farm Bill") as "the plant *Cannabis sativa L.* and any part of the plant with a delta-9 THC concentration of not more than 0.3 percent by dry weight."¹ This means that anything that is above 0.3% THC is not hemp by law. So anything higher is schedule 1, and thought it might be available in your state, it is still federally illegal. The term "hot hemp" is now being used as a way to refer to plants that were intended to have legal limits

of THC but didn't turn out that way. This is an increasingly common problem and is likely to get worse as many more novice hemp farmers jump onto the bandwagon.

On October 31st of this year, the US Department of Agriculture (USDA) released their Interim Final Rule² for domestic hemp production, which now clarifies the position of the federal government on key issues such as when plants get tested (15 days prior to harvest), what part of the plant gets tested (flowering tops), what constitutes total THC (they are including THCA in the count), and other critical aspects of laboratory testing, agriculture, and commerce. Comments will be taken through the remainder of 2019, but if the majority of this ruling stays unchanged, we may find that much of what is now called hemp in the US today will not meet the definition in the very near future.

The term "strain" is also commonly used and misapplied (even by doctors and scientists) to cannabis of all types. Strains in biological systems are genetically distinct organisms. The word correctly applies to genetic variants of things like viruses or fungi. Cannabis is one genetic organism. Hemp and marijuana are cultivars of cannabis, meaning they have been cultivated to develop distinct properties. For either cultivar there can be many varieties correctly called chemovars that have unique fingerprints of bioactives including cannabinoids and terpenes. People often use the term strain to refer to these chemovars.

WHAT ARE CONSUMERS ACTUALLY BUYING?

Once cannabis is processed, we have a whole new set of terms that come into use. As a starting point keep in mind that hemp has a lot of compounds in it that are not CBD. We have already mentioned that it has some THC. There are a range of other cannabinoids such as CBC, CBDA, THCV, and more. There can be a range of flavonoids and terpenoids, many of which have important bioactivity in and of themselves—and can greatly influence how a product works. What is clear is that consumers who may all think they are shopping for one thing (CBD) are not. Clinicians may also be unclear about what they are recommending unless they do some homework.

I'm going to stick with the most common terms I come across and try to match some definitions to them.

- **Full Spectrum Extract**—Most industry experts agree that this term should be used to describe an extract from cannabis that has all the naturally occurring constituents including THC—thus the “full.” In practice, however, it is often used interchangeably with the next term. Keep in mind that with any extract the constituents will vary based on the chemovar of the plant, the terroir it was grown in, the storage methods (and how long it was stored before extraction), and the extraction method itself (a CO₂ extract and a ethanolic extract will not be the same).
- **Broad Spectrum Extract**—There is some (but far from universal) agreement that this term should be used for extracts that are not isolates, but don't necessarily have the fully range of cannabinoids and other compounds naturally occurring in the plant. The most common thing that is removed is THC.
- **Natural Extract**—A term intended to reflect that the extract is reflective the natural constituents present in the plant and have not been standardized or enriched to alter the profile of the components. This is somewhat similar to full spectrum though a full spectrum extract could be enriched for example with additional CBD to achieve a standard level.
- **Hemp Oil**—Hemp oil once only referred to hemp seed oil, which is a nutritionally rich oil that does not have cannabinoids. However, as most extracts of hemp are oily in nature, many people refer to the extracts as oils. So, in addition to the terms above, you might also see full or broad spectrum hemp oil. Consumers may genuinely have a hard time telling if they are purchasing a hemp seed oil or an extract with cannabinoids based on how a product is labeled.
- **Hemp CBD**—I have seen this term used several ways on commercial products. First and foremost, manufacturers use the term to say upfront that the CBD (and perhaps other compounds in the product) are from hemp and not from high-THC cannabis/marijuana. Beyond that you may have to read more closely to know what these products are. They could be isolates of CBD, they could be full or broad spectrum extracts. They could be extracts that are enriched by adding isolated CBD back into a natural extract.
- **CBD Oil**—This is similar to the term Hemp CBD in the way it is used, but often does not specify hemp as the source. I'd be especially cautious of anything labeled this way if you are in a state with legal high-THC cannabis/marijuana because there are plenty of high CBD chemovars that are not hemp which might be fine for someone who wants THC, but disastrous for someone who doesn't.
- **CBD Isolate**—This can refer to CBD that is isolated from any kind of cannabis (high or low THC)

A WORD ON DOSING AND COMMON LABELING...

It seems to be very common practice to see two things on the labels of hemp and CBD products that are not common on normal botanical supplement labeling:

1. The front of the label lists a total milligram amount that is supposedly equal to the total amount of CBD in the bottle. Assuming the accuracy of the total milligrams, you have to know how it is dosed to know the amount being dispensed. This might be particularly challenging if you are faced with a one-ounce dropper bottle labeled 1000 mg and trying to figure out what is actually being dosed in a drop.
2. The front of label will list a number such as 15 mg or 30 mg that is supposed to indicate the amount of CBD per dose. This is a bit easier to understand than #1, but as both are common practice, it can be very hard to compare products.

With the popularity of cannabis continuing to soar and products labeled as hemp and CBD showing up literally everywhere, it's also important to keep in mind that this is an emerging industry. The legal status of many products is still in question, the entire supply chain from agriculture to finished goods is very young, and the research to understand safety and efficacy is lagging far behind consumer enthusiasm. Clinicians should take care to understand what patients are using as well as anything they may recommend to best assure patient safety and positive benefits.

REFERENCES

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