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Measured Impacts of High Potency THC on Health

A mini-scientific review provided by the Quaboag Hills Substance Use Alliance

High potency (>20%) THC) cannabis products are commonly sold in Massachusetts cannabis dispensaries in multiple forms (leaf, edibles, dabs), but the effects of these products are not well understood. Cannabis researchers can only administer cannabis products with 6% THC to humans in laboratory settings because cannabis is classified federally as a Schedule 1 illicit drug. Additionally, results from past observational studies of cannabis with <10% THC may not be applicable to current products with 20%+ THC ([reference here](#)). Therefore, the cannabis market in Massachusetts operates without a strong scientific background to make any claims, positive or negative, about high potency cannabis products.

In our experience as a substance use organization, we have heard that healthcare providers are most concerned about the potential relationship between high potency cannabis and psychosis and/or severe mental health outcomes. This concern is not unfounded - there have been decades of research examining the relationship between cannabis use and development of psychosis and/or schizophrenia in particular. Although there is a debate about if and to what extent cannabis use *causes* long-term psychiatric dysfunction, it is generally accepted that among certain vulnerable populations (e.g. people with a family history of schizophrenia) caution around cannabis use is warranted ([review here](#), and a [brief opinion here](#)).

In regards to high potency cannabis, research is slim due to the reasons listed above (i.e. Federal classification, newness of these products). That being said, some noteworthy studies include:

(1) A multi-country study from 2019 found that people with a first-time psychotic event were 1.6 times more likely to have ever used cannabis products with 10%+ THC than people similar to them in the general population who have never used cannabis. Use of lower dose cannabis products did not differ between those with psychotic events and those who did not have one. People with a first-time psychotic event were almost 5 times more likely to use 10%+ THC products daily than those who did not have a psychotic event ([link](#)).

(2) A 2015 study from London found that people with first time psychotic episodes were almost 3 times more likely to have used a cannabis strain with 12-18% THC than those who did not have a psychotic episode. Similar to the above study, those with a psychotic episode were 5.4 times more likely to use this cannabis product daily than those without a psychotic episode. (Link for [this study](#), and a similar [2009 study](#)).

Often people are worried about acute effects of cannabis on memory, but the evidence for this relationship is poor. An article published in Nature ([link here](#)) looked at the short-term effect of different high potency cannabis strains on memory and decision making over Zoom-interviews. Of the 13 tests on memory, cannabis-using participants performed significantly worse on only 2 compared to sober participants. Another study looking at THC concentrations and memory also found few changes ([link](#)).

How or why higher doses of THC *may* cause negative psychiatric effects is not well understood. Interestingly, a recent study suggests that people don't "feel higher" when using THC concentrate product versus flower ([link](#)), though all participants in this study were using products with >10% THC. One reason that high-THC products *may* cause negative psychiatric outcomes is because these products often have little to no CBD in them ([scientific article](#), [news report with expert opinion](#)). CBD in high enough amounts relative to THC may lessen the impact of THC, but more research is needed.

In summary, from a public health and behavioral health care perspective, we are concerned that high-potency cannabis products make up such a large percentage of the overall sales of legal cannabis products in Massachusetts given how new and under-researched these products are.

Sincerely,

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the Quaboag Hills Substance Use Alliance, www.qhsua.org