

## Marijuana Use in Canada

Marijuana use – by youth and adults – is a subject of much discussion in the media today. We refer to marijuana as the most commonly available and used form of cannabis – the product from the *cannabis sativa* plant that can be used in the form of marijuana, hash or hash oil.

With so much attention focused on the substance, it is reasonable to wonder if marijuana use has become the norm among Canadians.

The prevalence rate of marijuana use among Canadians varies slightly in different publications. To understand how marijuana fits into Canadian culture we look at how many people (typically ages 15 and older) have used marijuana at least once during their lifetime, thereby showing at least some experience with the drug, how many used during the past year, and how many used it frequently or consistently. While the percentages show some change year to year, and province to province, the different statistical surveys show similarities in the information they present.

The *Clearing the Smoke on Cannabis Series Highlights* (2010) from the Canadian Centre on Substance Abuse (CCSA) notes that “Cannabis is the most widely used illicit drug in Canada... (and) almost half of all Canadians have used cannabis at least once in their life”. (1) The *Canadian Alcohol and Drug Use Monitoring Survey* (CADUMS) results from the 2009 survey showed that 42% of Canadians over 15 years of age used some form of cannabis during their lifetime, while the 2011 CADUMS report saw a decrease in that number to 39%. Considering the use in the past year, rather than lifetime, the number drops to 9%. (2)

It is likely that among those who reported using cannabis in their lifetime – for example, twenty-five years ago – would have had a different experience from those who used it in the past year. The average THC level (i.e. the psychoactive ingredient in marijuana) was found to be 4.8% in marijuana confiscated in 1988 compared to the average level of 11.1% in 2008. (3)

## Marijuana Use by Youth

The national prevalence of past year marijuana use by *youth*, ages 15 – 24, at 21.6% is “three times higher than that of adults.” (4)

From the national data, the average age of initiation for cannabis use among youth 15 to 24 years of age has remained unchanged over the past 7 years at approximately 15.6 years of age. (4)

In Ontario, the statistics for the *Ontario Drug Use and Health Survey* (OHDUHS) is gathered from students in grades 7 to 12, a slightly younger age range than the national data. We see that 22% of students used cannabis at least once in the past year and that use increases with grade to 36% among 11<sup>th</sup> and 12<sup>th</sup> graders. The Ontario survey shows the age of initiation slightly lower than the national, at about 14 years of age. Among students in grades 7-12, 9% report using less than 5 times in the year. (5)

From the national and provincial statistics we can see that some experimentation with marijuana is common, particularly at around age 15, but that continuing and/or frequent use is not. Even among the older high school students, the majority (over 60%) did not use marijuana even once in the past year. And among those students who used in the past year, a third report not using at all in the recent 4 weeks and an additional third smoked one joint or less during that 4-week span. (5)

## Extensive/ “Chronic” Marijuana Use

Concerns for the effects of marijuana are often linked to more extensive - or “chronic” – use, referring to “weekly or more frequent use over months or years.” (4)

From the OSDUHS we see that 6% of students use weekly, with 2.3% of these students using daily. The study shows that about 10% of *users* report signs of dependence, such as feeling their use is out of control, feeling anxious about their use or about stopping using and feeling it would be difficult to stop. (4)

In fact, in Ontario (2009-10), “cannabis was identified as the presenting problem substance by 38.2% of individuals (includes youth and adults) seeking addiction treatment... a significant increase from that reported in 2005-2006.” (6)

This kind of use “is associated with deficits in memory, attention, psychomotor speed and executive functioning ... and can also increase the risk of psychosis, depression and anxiety, breathing problems and respiratory conditions and possibly lung cancer”. (6)

A major concern is the impact of frequent use that begins in the teenage years. As some of Canada’s experts note: “Starting cannabis use early in adolescence – while the brain is still developing – may lead to more lasting problems. Although the cognitive deficits caused by cannabis use are likely reversible after a month of discontinued use in adults, the same may NOT be true for those who start using cannabis in early adolescence.” (4)

There have been multiple studies of marijuana recently, building evidence about what the health and safety issues are, particularly for adolescents.

The key concerns around marijuana focus on evidence related to mental health, cognitive development and impaired driving.

## **Marijuana and Brain Functioning/IQ**

Research making headlines recently was a prospective study by Meir and colleagues of over 1,000 individuals in Dunedin, New Zealand who were followed from birth to age 38. Neuropsychological testing was conducted when the participants were 13 years old, before the initiation of cannabis use and again when they were 38. They were questioned about their use at ages 18, 21, 26, 32, and 38. Testing was done for intelligence, memory and attention.

Persistent cannabis use (e.g. daily smoking) was associated with declines in all these domains, even when education was controlled for. The researchers found that the neuropsychological effects were most damaging if use started before the user was 18 years old, and much less if onset began later. Stopping cannabis use did not fully restore functioning among the adolescent-onset users, leading to concerns about the effect of cannabis on the adolescent brain.

They comment that their findings “are suggestive of a neurotoxic effect of cannabis on the adolescent brain”. (7)

## **Mental Health**

There is growing evidence of a relationship between mental health problems and frequent marijuana use, especially for adolescents.

Current studies suggest that depression is more common among marijuana users than non users, particularly for those who use during youth and exhibit symptoms in the long term. This relationship is often found in frequent users (8). However, youth who are diagnosed with depression are also more likely to use marijuana to cope with the symptoms of distress (8). But marijuana also seems to sometimes exacerbate the symptoms of depression (8).

For anxiety, while some may self-medicate with marijuana to reduce their anxiety symptoms, marijuana use may increase these symptoms (8). Individuals with social anxiety have been found to use marijuana to cope with their symptoms; but its calming effects have been strongly tied to individual expectations regarding its effects.

Frequent users are at an increased risk for psychosis and experiencing symptoms such as hallucinations and distorted perceptions. Those with a family member with psychosis are particularly vulnerable. (4)

Finally regarding schizophrenia, marijuana seems to worsen psychotic effects in patients with schizophrenia (8). Animal and human studies suggest that cannabis use is a risk factor for schizophrenia, in particular for those with a predisposition to such disorders.

Renowned scientist, David Suzuki, produce an interesting documentary explaining the relationship between marijuana and mental illness in the “The Downside of High, Facts About Marijuana Use: The Nature of Things” for CBC TV. (3)

## Impaired Driving

Driving while impaired – by any type of drug (medication, alcohol, in combination) is an extremely serious issue. Under the Criminal code of Canada, drug impaired driving refers to the offence of to driving any motor vehicle while impaired by any type of drug (illegal, prescription or over the counter medication) or any combination of drugs and alcohol. The Tackling Violent Crime Act in 2008 provided police with the authority to demand that a driver who they suspect of being impaired to submit to testing and the Drug evaluation and Classification program provides information to provide evidence about whether cannabis and six other drugs are involved. (4)

From “surveys of the Canadian population, it appears that the number of people driving after using cannabis is on the rise. Younger people are more likely to drive after using cannabis – and it’s as common if not more frequent than drinking and driving in this age group”. (4)

The 2011 OSDUHS reported that more Ontario student drivers report driving after smoking marijuana than drinking – about 12% of students in grades 10-12 report driving after smoking marijuana within an hour at least once during the past year. (5)

A recent study drew media attention to the issue of cannabis impaired driving. Asbridge and colleagues showing smoking cannabis three hours before driving nearly doubled a driver’s risk of having a motor vehicle accident. This was a meta-analysis of nine observational studies with a total sample of almost 50,000 accident victims. (9)

## “Mixing Marijuana and Alcohol

“When people mix cannabis and alcohol together at one time, the results can be unpredictable. The effects of either drug may be more powerful, or the combination may produce different and unpredictable reactions.” Reactions can be physical or psychological, including panic, anxiety or paranoia. (10)

“There is some evidence to support that having alcohol in your blood causes a faster absorption of THC (the active ingredient in cannabis that cause intoxication). This can lead to the cannabis having a much stronger effect than it would normally have and can result in ‘greening out’”, which is a feeling of sickness, nausea and dizziness. (10)

## Other Issues Concerning Marijuana Use

### Use During Pregnancy

While the effects of marijuana use during pregnancy might not have immediate relevance for most teenagers, knowing that a “child who was exposed to cannabis as a fetus may experience problems with academic functioning” (4) is an important piece of information.

For young women who may be pregnant, having this information is essential.

- See: [Young, Pregnant and in Control: Making healthy choices for you and your baby](#), a *Young Moms to Young Moms* resource from Parent Action on Drugs.

### Medical Use – “medical marijuana”

A big issue of interest to Canadians is the growing focus on cannabis chemicals for medical uses. There is “good quality evidence ... that cannabis and cannabinoids are effective for the relief of nausea/vomiting and certain types of pain, as well as for the stimulation of appetite”. (4)

Questions remain about the method of delivering the cannabinoid to medically needy people and whether the use of smoked marijuana versus synthetic preparations is safe. The consensus seems to be that there is need for further research and clinical testing but that support for medical applications of cannabis does not lessen the adverse effects of recreational use by adolescents. (4)

## References

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