



Review Article

Cannabis use: A look at different factors and a reflection on its susceptibility to work-related accidents

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Abstract

Misinformation and popular beliefs on cannabis use have had an impact on the Canadian population. The trivialization of the substance and poor understanding of its side effects tend to add to the risks of work-related environments that already require acute senses and sharp attention. In this research project, we aim to observe different concurrent factors of cannabis use in Canada and how it articulates with the rising rates of work-related accidents. Since recreational cannabis use has been legalized, and with the onset of the COVID-19 pandemic, more people appear to be consuming and/or appear to have increased their usage. We will take a closer look at the impact of these factors, the role that misinformation plays on cannabis use, and how we can contribute towards healthier and safer working environments in Canada.

Introduction

With the enactment of Law C-45, “The Cannabis Act,” on October 17, 2018, Canada became the first Western country to legalize the recreational usage of cannabis [1]. It was the first G7 & G20 nation to do so and the second country, after Uruguay, to legalize the cultivation, acquisition, possession, and consumption of the drug [1]. Since the COVID-19 pandemic, a growing number of individuals reported feeling more anxious and distressed. That came conjointly with a wide range of coping attitudes and mechanisms that were also reported throughout that time. Since the pandemic, a significant amount of the population started to use cannabis or started to increase their usage [2] as well. It appears that cannabis use is also rising in social acceptability, which gives a certain sense of generalized trivialization or of poor understanding of the wide range of side effects that this consumption carries [3,4]. While recreational cannabis use remains legal in Canada, new questions have

arisen since the rise of both its use and work-related accidents in Canada. It can be worrisome to reflect on these observable concurrent trends and their potential correlations [2,5-7]. Therefore, it is possible to ask the following question: does cannabis, through different factors of use and misinformation, make the Canadian population more vulnerable to work-related accidents?

Discussion/Literature review

- The potential positive effects of cannabis and cannabinoids have been researched and published under the title “The Health Effects of Cannabis and Cannabinoids: The Current State of Evidence and Recommendations for Research, Therapeutic Effects of Cannabis and Cannabinoids, 2017” [8]. In specific situations, it was reported that: “In adults going through chemotherapy-induced nausea and vomiting, oral cannabinoids are effective antiemetics.



- In adults with chronic pain, patients who were treated with cannabis or cannabinoids are more likely to experience a clinically significant reduction in pain symptoms.
- In adults with Multiple Sclerosis (MS)-related spasticity, short-term use of oral cannabinoids improves patient-reported spasticity symptoms.
- For these conditions, the effects of cannabinoids are modest; for all other conditions evaluated, there is inadequate information to assess their effects."

Therefore, this information shows positive therapeutic responses with certain groups, but most of the focus in similar research is recent and stretched over a short period of time [8]. The association was unchanged in the subgroup analysis limited to high injury risk occupational groups." It was interesting to notice that the "past years" the researchers, mentioned above refer to data that was assessed as far as 7 years before publication. Some of the data used dates from a while back, which makes its relevance questionable, especially in the context of a fast-changing culture, environment, and North American societal trends. It is also important to underline that the article from these authors was published just a few months after the beginning of the pandemic. That means it may not have taken into consideration important events that influenced cannabis use, such as cannabis legalization and COVID-19 [1]. These are, in fact, events of great importance because they significantly influenced trends in cannabis use [2,6,7]. A more in-depth look at these events will be done below. It is also important to mention that the presence or absence of work-related accidents was also assessed over a short amount of time.

In opposition, it is possible to find a wide range of peer-reviewed articles that discuss the adverse health effects of the use of marijuana. One research article, among many others, underlines the negative effects of cannabis use: "Marijuana may impair judgment, motor coordination and reaction time, and studies have found a direct relationship between blood THC concentration and impaired driving ability". Another research article also discusses the adverse effects of marijuana and mentions a list of short-term side effects, including, but not limited to: "Impaired short-term memory, making it difficult to learn and to retain information, impaired motor coordination, interfering with driving skills and increasing the risk of injuries, altered judgment (...)" [3]. In that same article, a list of long-term side-effects are also mentioned and includes but is also not limited to: "addiction, altered brain development, cognitive impairments (...) risk of involvement in an accident increases by a factor of about 2 when a person drives soon after using marijuana." If the risk of involvement in an accident increases by a factor of two after the use of cannabis, it is reasonable to conclude that the represented impairment can also translate to a significant risk when using cannabis before going to work or while at the workplace [3]. In 2022, more research articles continue to explore the adverse health effects of cannabis use and reinforce the risks that are related to its consumption at

work. Some even declared SCs as a "public health problem" and that "Cannabis use and its negative consequences have increased over the last several years in parallel with increasing cannabis potencies" [4]. Conclusively, it is possible to observe that the adverse health effects that are being elaborated in research articles on cannabis use share a similar message that has remained constant through the years while reinforcing the need for the population to be cautious and sensitizing them to the use of the substance at work. In a concomitant manner, the OHS has declared that Canadians' workplaces are becoming "less safe": "Canadian workplaces are becoming less safe, according to the latest data on occupational health and safety across the country". An article even made the headlines in April 2022, declaring an "epidemic of workplace injuries and death" with the following title: "Official Work Fatality Rates Are Skyrocketing in Canada. Ontario in Particular Is Witnessing an Unprecedented Number of Serious Injuries and Deaths" [4].

With this information, it is possible to understand that cannabis impairs one's ability to fulfill a task at the workplace. In the same order of thought, someone who uses cannabis in both the short- and long-term may present side effects that alter their ability to fulfill a task with the same finesse that they would, in juxtaposition, while being sober [3,4]. It is also important to notice that these messages in research publications have been constantly supported and perpetuated through the years, while many worrisome articles about the health and safety of Canadian workers at the workplace are starting to make a dramatic entrance simultaneously [3-5]. From that, many questions arise on the potential correlation between the two significant poles (cannabis use and work-related accidents) and how other factors of use and misinformation on the substance could play a role of significance over its trivialization and use.

In terms of law, the province of Ontario prohibits the use of cannabis at the workplace: "Ontario prohibits smoking or vaping cannabis for a recreational or medical purpose in an enclosed workplace. An employee can consume edible cannabis for a medical purpose related to a disability in an enclosed workplace, as long as it does not interfere with workplace health and safety or performing essential job duties". These prohibitions were placed by the government of Ontario in the same year as the legalization of cannabis in Canada [1,9]. By establishing this very early in the process of the federal decriminalization of marijuana, the provincial government seemed already carefully aware of the correlation that is being explored in this research, which involves the causation of cannabis use and work-related accidents. Regardless of that law, it still appears, as addressed above, that Canadian workplaces are becoming less and less safe [9]. Subsequently, this highlights an urgent need for further investigation.

A rise in cannabis use during recent events

During the COVID-19 pandemic), among the population who was previously consuming cannabis, 34% said their consumption has increased compared to the pre-pandemic period, which is over 1 tier [2]. As Statistics Canada's Health Reports continues to cite: "Among respondents aged 15 to



29 who had previously consumed cannabis, 43% reported increasing their consumption during the pandemic. By comparison, 20% of respondents aged 50 to 64 and 22% of those aged 65 or older reported a consumption increase: "It's estimated that 1 in 3 who use cannabis will develop a problem with its use. It's also estimated that 1 in 11 (9%) of those who use cannabis will develop an addiction to it. This statistic rises to about 1 in 6 (17%) for people who started using cannabis as a teenager. If a person smokes cannabis daily, the risk of addiction is 25% to 50%." [2,6].

Since legalization, it was reported by Statistics Canada's Health Reports that cannabis use for those aged 15 to 24 has increased from 17.5% to 27.6%. This is a net raise of approximately 10.1% for over a quarter of Canadian youths [1,7].

Following the increase of cannabis use after legalization in 2018 and after the onset of the COVID-19 pandemic in 2020, work-related accidents have also increased [1,2,5-7]. Furthermore, it is possible to acknowledge that not only is the use of cannabis on the rise but so is its social acceptability [2]. The Canadian population finds it worse to use tobacco and nicotine than to eat and smoke cannabis [2]. Eating and smoking cannabis has increased social acceptability, while tobacco and nicotine are seeing a decrease in social acceptability [2]. "The social acceptability of the occasional use of tobacco, e-cigarettes, and vaping cannabis decreased slightly and the social acceptability of occasionally smoking and eating cannabis increased slightly compared to 2019" [2]. It becomes less socially acceptable to consume tobacco, and more to smoke and eat cannabis. In that same lecture, the Canadian population was also asked to what extent they would think a person risked harming themselves when using different substances occasionally and on a regular basis (short- and long-term use). The perceived risks found an increase in the use of nicotine and tobacco and a decrease in both smoking and eating cannabis [2].

Facts vs. beliefs: Cannabis, the "Magic Wand" to every issue

Is cannabis often familiarly marketed as the solution to "everything?" An article from Ishida et al., and Keyhani, 2019 [10], takes a closer look at the commercialization of the substance and from where the general population takes its information: "The commercialization of marijuana has been accompanied by a proliferation of false claims regarding the therapeutic potential of marijuana, which are popularized by several different information sources (...) Individuals reporting the most significant source of information regarding marijuana was from social media or the Internet, the marijuana industry, or friends or relatives were more likely to believe unsupported claims about marijuana. Public health campaigns to counter the misinformation about marijuana to the public are needed. It seems urgent to acknowledge that there is a proliferation of false claims about the effects of cannabis use. Misinformation about substances can have tremendous negative effects [10,11]. To this date, only a few potential positive effects, which are very specific to certain conditions, were reported in the introduction of this research (Committee on the Health Effects of Marijuana:

An Evidence Review and Research Agenda, 2017 January 12) [8]. This is especially true when the most significant source of information of the population appears to come from social media and the Internet, which makes it urgent to counter misinformation with additional public campaigns from the Canadian Public Health, as is reported by the citation above [10]. It is always suggested to consult your family doctor or a health professional for health-related information.

Discussion

We must further educate ourselves on the side effects of cannabis use and how it will alter and impair our cognitive and physiological abilities. This is especially important when conducting highly skilled tasks, such as piloting a plane, operating machinery, or simply, driving. Safety and performance in the workplace are also factors that should be considered. More research is needed in the emergent area of interest on short- and long-term effects of cannabis use as well as longer periods of time for work-related accidents and death assessments. The research also needs to be up-to-date and more comprehensive of the non-exclusive factors that play significant roles in past years' cannabis consumption.

It is important to recall that employers have the legal duty to accommodate employees who are struggling with cannabis addiction or using medical cannabis [6] if they can "prevent it from being a risk to the environment." "Under the Canadian Human Rights Act, employers have the obligation to accommodate to the point of undue hardship an employee who has identified as having a disease, injury or disability, including substance dependence and medical authorizations to use cannabis for medical purposes." (For more information on how to accommodate substance dependence, please read the Canadian Human Rights Commission's Guide Impaired at Work – A guide to accommodating substance dependence) [6].

The Canadian Centre of Occupational Health and Safety has developed a tool called "Fit to Work" or "Fitness to Work" [12]. It is a "(...) medical assessment done when an employer wishes to be sure an employee can safely do a specific job or task." [12-15].

To ensure safe working environments, both the employers and the employees have a legal duty [6]. "Everyone has a role to play in workplace health and safety. Both employees and employers have a responsibility to address impairment in the workplace, whether it is caused by using cannabis or other substances. The Labor Program, through Employment and Social Development Canada, oversees occupational health and safety for federally regulated workplaces in Canada. Read about impairment and cannabis in the workplace to find out about your responsibilities as an employer and employee" [6].

Conclusion

- Misinformation is a major public health issue that requires more attention from public health services and needs to be further investigated. Actions need to be taken to facilitate access to reliable information



on substance use in Canada to prevent work-related accidents. It appears that other interconnected factors like the growing social acceptability of cannabis could be intimately linked to a growing use of cannabis among the Canadian population as reviewed earlier in the frame of different contexts. An article by Zhang, et al. declares no correlation between cannabis use and work-related accidents. However, Ontario prohibited the use of cannabis at the workplace in the same year it was legalized. Therefore, it is reasonable to predict that with the increase in cannabis consumption (pre-legalization cannabis use of those aged 15 to 24 has changed from 17.5% to 27.6%. This is a net raise of approximately 10.1%, in 1 quarter of the Canadian youth population, we will observe an increase in work-related accidents, because of: Widespread misinformation of the substance, false claims and proliferation,

- Growing social acceptability, and
- Lack of research that acknowledges and sensitizes the population to the correlation between cannabis use and work-related accidents.

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