Therapeutic use of cannabis: Prevalence and characteristics among adults in Ontario, Canada

Hayley A. Hamilton, PhD,[1,2] Bruna Brands, PhD,[1,3,4] Anca R. Ialomiteanu, MA,[1] Robert E. Mann, PhD[1,2]

ABSTRACT

OBJECTIVE: To investigate the prevalence of therapeutic cannabis use within a general population sample of adults and to describe various characteristics associated with use.

METHODS: Data were derived from the 2013 and 2014 CAMH Monitor Survey of adults in Ontario, Canada. This repeated cross-sectional survey employed a regionally stratified design and utilized computer-assisted telephone interviewing. Analyses were based on 401 respondents who reported using cannabis.

RESULTS: The data indicated that 28.8% of those who used cannabis in the past year self-reported using cannabis for therapeutic purposes. Of therapeutic users, 15.2% reported having medical approval to use cannabis for therapeutic purposes. Cannabis use for therapeutic purposes was associated with more frequent use of cannabis, a moderate to high risk of problematic cannabis use, and a greater likelihood of using prescription opioids for medical purposes. There was little difference in cannabis use for therapeutic purposes according to sex, age, and marital status after adjusting for opioid use and problematic cannabis use.

CONCLUSION: Findings suggest some potential negative consequences of cannabis use for therapeutic purposes; however, further research is needed to better understand the range and patterns of use and their corresponding vulnerabilities.

KEY WORDS: Medical cannabis use; medical marijuana use; prescription opioids; problematic cannabis use

La traduction du résumé se trouve à la fin de l'article.

Can J Public Health 2017;108(3):e282–e287
doi: 10.17269/CJPH.108.6130

Cannabis is the most popular illicit drug worldwide, with prevalence rates in North America exceeding the global average.[1] In the United States, 13.5% of those 12 years of age and older reported past year use in 2015,[2] whereas 11% of those 15 years and older in Canada reported such use in 2013.[3] In the past, much of the attention on cannabis focused on the recreational nature of use. However, more recent changes to laws and regulations in Canada and parts of the US have increased access to cannabis for the treatment of various medical conditions.[4]

Since 2001, Canada has had various regulations for medical access to cannabis. More recent regulations include, for example, the 2013 Marihuana for Medical Purposes Regulations (MMPR) that allowed commercial producers licensed by Health Canada to supply cannabis to adults with medical authorization to use it.[5] This required that therapeutic users obtain a written authorization for cannabis use from a health care practitioner that clearly stated the period of authorization and the quantity of product for daily use.[6] As of August 2016, the Access to Cannabis for Medical Purposes Regulation (ACMPR) replaced the MMPR. The ACMPR includes the aforementioned licensed commercial producers and suppliers of cannabis and the need for medical authorization that were included within the MMPR, and also allows for individuals to produce limited amounts of cannabis for their own therapeutic use, or to designate someone to produce cannabis for them.[5] Additional regulations governing therapeutic cannabis use are also included within the ACMPR.

There has been much debate surrounding cannabis use for therapeutic purposes (CUTP). Those who support CUTP emphasize the broad therapeutic and healing benefits of cannabis. Others, however, encourage caution because of the harms associated with cannabis use and the many unknowns with regard to clinical effectiveness and the impact on broader cannabis use.[7,8] Of particular concern is the wide variety of medical conditions that cannabis is purported to treat and the lack of empirical evidence to support the efficacy of cannabis for many of these conditions.[4,9,10] The cannabis plant contains numerous cannabinoids, some of which have been shown to be effective in attenuating the nausea and vomiting associated with cancer chemotherapy, stimulating appetite and relieving certain types of pain.[11–15] A recent meta-analysis, however, found that cannabis (defined in the review as "… the use of cannabis or cannabinoids as medical therapy to treat disease or alleviate symptoms" (p. 2457)), was moderately effective for reducing chronic pain and for reducing spasticity due to multiple sclerosis, but the evidence for other conditions such as anxiety, depression, sleep disorders, nausea due to chemotherapy,

Author Affiliations

1. Centre for Addiction and Mental Health, Toronto, ON
2. Dalla Lana School of Public Health, University of Toronto, Toronto, ON
3. Health Canada, Ottawa, ON
4. Department of Pharmacology and Toxicology, University of Toronto, Toronto, ON

Correspondence: Hayley A. Hamilton, PhD, Institute for Mental Health Policy Research, Centre for Addiction and Mental Health, 33 Russell St., Toronto, ON M5S 2S1, Tel: 416-535-8501, E-mail: hayley.hamilton@camh.ca

greater weight gain in HIV cases, and Tourette's Syndrome was poor.[9] Another concern with CUTP is that it may have short-term adverse effects, such as nausea, vomiting, dizziness and hallucinations, about which individual users are not adequately informed.[9] Cannabis use may also develop into problem use or cannabis use disorder, which in severe cases may develop into addiction.[16] Data on cannabis use disorder or dependence among cannabis users vary widely, from estimates of 11%–16%[17] to more recent estimates of 30% among current users in 2012–2013,[18] and 37% among daily or near daily users.[19]

Although there is some debate about the merits of cannabis use therapeutically, there is little surveillance data on CUTP at the population level. Such data are necessary to monitor and better understand the scope of the issue, as well as contribute to policy and education. The current study utilized population-level data to examine the prevalence of CUTP and the demographic and health-related characteristics of those who engage in such use.

METHODS

Data were derived from the 2013 and 2014 cycles of the CAMH Monitor, an annual survey of non-institutionalized adults 18 years of age and older within Ontario.[20] This repeated cross-sectional survey employs a regionally stratified design with the sample equally allocated within each of six regions in Ontario. The survey utilizes computer-assisted telephone interviewing and a two-stage (telephone number and household respondent) probability selection of telephone numbers using list-assisted random digit dialing of landline and mobile numbers. Each annual cycle reflects accumulated data from four quarterly non-overlapping continuous or rolling samples from January to December. In the 2013 survey, the questionnaire item on therapeutic cannabis use was only asked from July to December, thus the total pooled sample (n = 4531) reflects the 18-month period between July 2013 and December 2014. Response rates of 51% and 45% in 2013 and 2014 respectively, were similar to those of other telephone surveys within Canada[21] and the US.[22] The current analyses focus primarily on the sample of 401 adults, interviewed during the 18-month period, who reported using cannabis during the 12 months prior to the survey. The survey design and methods are described in more detail elsewhere.[20,23] The 2013 and 2014 CAMH Monitor were approved by the Research Ethics Boards of the Centre for Addiction and Mental Health and York University.

MEASURES

Substance use measures

Two measures of cannabis use were derived from responses to a question that asked: "How many times, if any, have you used cannabis, marijuana or hash during the PAST TWELVE months?" A binary measure was constructed to reflect any cannabis use in the past year (1) versus no use (0). A second measure was constructed to reflect frequency of cannabis use in the past year and consisted of four categories: less than once per month, 1–3 times per month, 1–5 times per week, and once or more times per day.

A measure of CUTP was based on a question that asked: "In the past 12 months have you ever used marijuana to treat pain, nausea, glaucoma, multiple sclerosis or any other medical condition?" This question was only asked of respondents who reported using any cannabis in the past year. The measure was based on a binary response of yes or no.

Medical authorization for cannabis use was based on the survey question: "In the past 12 months, did you have medical approval to use cannabis, marijuana or hash for medical purposes?" This question was only asked of respondents who reported using cannabis in the previous 12 months for medical purposes. The question was included in the 2014 survey only. A binary measure was created from response options of yes or no.

A measure of cannabis use problem was based on the Cannabis Involvement Score from the Alcohol, Smoking and Substance Involvement Screening Test (ASSIST).[24] The six-item screener, asked only of those who reported using cannabis in the past three months, captures features of harmful use, abuse, and dependence and assesses the risk of experiencing health and other problems as low risk (0–3), moderate risk (4–26) and high risk (27+) based on ASSIST scores ranging in value from 0 to 39. A binary measure was constructed to reflect moderate or high risk (1) versus low risk (0) of cannabis dependence.

Medical use of prescription opioids was a binary measure of any use (versus no use) of pain relievers with a prescription in the past 12 months.

Physical health

A measure of overall self-rated health was based on a single item that asked: "In general, would you say your overall health is excellent, very good, good, fair, or poor?" This measure has been shown to be a reliable and valid measure of overall physical and emotional well-being (McDowell, 2006).[25] A binary measure was constructed to represent responses of fair or poor overall health (1) versus good to excellent overall health (0).

Demographic characteristics

Sex was a binary measure of male or female. Age was grouped into three categories of 18–29, 30–54, and 55 and older years of age. Education was classified into three categories: high school or less, some post-secondary, and university degree. Marital status was a three-category measure reflecting 1) never married, 2) married or common-law, or 3) separated, divorced or widowed. Living arrangement was a binary measure that reflected whether or not a respondent lived alone.

Analyses

Given the complex survey sample design, Taylor series methods within Stata 13 were used to compute unbiased variances, standard errors and point estimates.[26] All analyses included weights to adjust for the unequal probability of selection. Detailed information about the weights and complex design are described elsewhere.[20,23] Bivariate associations between CUTP and other behaviours and characteristics were examined using design-adjusted Rao–Scott F-test statistics. Binary logistic regression analyses were used to examine the net association between CUTP and select demographic and health-related characteristics.

RESULTS

Descriptive statistics indicate that, within the overall sample, 3.7% (95% CI: 3.0%–4.5%) of individuals self-reported using cannabis

for therapeutic purposes, whereas 13.0% (95% CI: 11.6%–14.6%) reported using *any* cannabis in the past year. Among those who reported any cannabis use in the past year, the percentage who reported therapeutic use was 28.8% (95% CI: 23.6%–34.5%). In addition, 15.2% (95% CI: 8.4%–26.1%) of those who used cannabis for therapeutic purposes reported that they had medical approval to use it.

Subsequent analyses focused on therapeutic and non-therapeutic use among the pooled sample of individuals who reported using any cannabis in the 12 months prior to the survey. Among the sample who reported any cannabis use, 58.9% (95% CI: 52.6%–64.9%) were male, 16.1% (95% CI: 13.0%–19.8%) were 55 years of age or older (3.2% age 65+ years) and 42% (95% CI: 36.2%–48.2%) were married or living common-law (Table 1).

Bivariate statistics outlined in Table 2 indicate that several demographic and behavioural factors were associated with CUTP. The percentage of older adults (55 years of age and older) using cannabis for therapeutic purposes tended to be lower than the percentage of younger adults doing so, however, the difference was not statistically significant. Cannabis use for therapeutic purposes was more prevalent among individuals who were separated, divorced or widowed compared to their married or never married counterparts; and among those who reported living alone relative to those living with others. CUTP was also more prevalent among those who reported fair to poor overall health, used prescription opioids for medical purposes in the past year, engaged in more frequent cannabis use, and met criteria for moderate to high risk of cannabis use problems.

Results from logistic regression analyses that examined the association between CUTP and self-reported overall health, use of prescription opioids for medical purposes, and cannabis use problems, while controlling for binary measures of age, sex and marital status, are provided in Table 3. Individuals who were at moderate to high risk of cannabis use problems were found to be at greater odds of CUTP (AOR: 7.43, 95% CI: 3.38%–16.30%) compared to those with low risk of cannabis use problems. Individuals who reported the medical use of prescription opioids in the past 12 months were also at greater odds of using cannabis for therapeutic purposes (AOR: 2.66, 95% CI: 1.11%–6.36%) compared to those who did not use prescription opioids. The association between overall health and CUTP was not statistically significant after adjusting for the medical use of prescription opioids and cannabis problems. Age, sex and marital status were also not significant after adjusting for prescription opioid use and cannabis use problems.

Table 1. Sample characteristics of respondents who used cannabis in the past year (n = 401)

	Weighted percent	95% CI	Unweighted, *n*
Age (years)			
18–29	41.9	35.4–48.6	87
30–54	42.1	36.1–48.3	184
55 and over	16.1	13.0–19.8	127
Sex			
Male	58.9	52.6–64.9	225
Female	41.1	35.1–47.4	176
Education			
High school or less	29.5	24.0–35.7	126
Some post-secondary	39.5	33.6–45.8	157
University degree	31.0	25.4–37.2	118
Marital status			
Married/cohabitation	42.1	36.2–48.2	194
Separated/divorced/ widowed	9.0	6.8–11.8	80
Never married	48.9	42.6–55.3	126
Living arrangements			
Do not live alone	93.4	91.5–94.9	318
Live alone	6.6	5.1–8.5	82
Cannabis use for therapeutic purposes			
No	71.2	65.5–76.4	269
Yes	28.8	23.6–34.5	131

Note: All analyses include weights that adjust for the sample design.

Table 2. Characteristics of cannabis users by their use or non-use of cannabis for therapeutic purposes in the past 12 months

	Used cannabis for therapeutic purposes		Did not use cannabis for therapeutic purposes		*n*
	Percent	95% CI	Percent	95% CI	
Total	28.8	[23.6–34.5]	71.2	[65.5–76.4]	400
Age (years)†					
18–29	21.3	[13.6–31.7]	78.7	[68.3–86.4]	87
30–54	33.1	[25.5–41.8]	66.9	[58.2–74.5]	183
55 and over	36.1	[27.1–46.3]	63.9	[53.7–72.9]	127
Sex					
Male	27.5	[20.9–35.3]	72.5	[64.7–79.1]	225
Female	30.6	[23.0–39.3]	69.4	[60.7–77.0]	175
Education†					
High school or less	36.8	[26.5–48.5]	63.2	[51.5–73.5]	126
Some post-secondary	29.9	[22.0–39.3]	70.1	[60.7–78.0]	157
University degree	19.6	[12.9–28.4]	80.4	[71.6–87.1]	117
Marital status*					
Married/cohabiting	26.8	[20.2–34.6]	73.2	[65.4–79.8]	193
Separated/divorced/ widowed	49.6	[36.6–62.7]	50.4	[37.3–63.4]	80
Never married	25.7	[18.1–35.1]	74.3	[64.9–81.9]	126
Living arrangements***					
Do not live alone	26.8	[21.5–32.8]	73.2	[67.2–78.5]	317
Live alone	50.3	[38.6–62.0]	49.7	[38.0–61.4]	82
Overall health**					
Excellent to good	25.8	[20.5–31.9]	74.2	[68.1–79.5]	332
Fair to poor	48.7	[34.2–63.5]	51.3	[36.5–65.8]	67
Medical use of prescription opioid, past 12 months**,‡					
No	23.6	[17.2–31.4]	76.4	[68.6–82.8]	202
Yes	45.0	[31.2–59.7]	55.0	[40.3–68.8]	74
Frequency of cannabis use, past 12 months***					
Less than once/ month	10.8	[6.9–16.5]	89.2	[83.5–93.1]	181
1–3 times/month	21.9	[12.6–35.2]	78.1	[64.8–87.4]	66
1–5 times/week	36.3	[24.7–49.8]	63.7	[50.2–75.3]	82
1 or more times/day	67.6	[52.3–79.9]	32.4	[20.1–47.7]	71
Problematic cannabis use***,‡					
Low risk	10.2	[6.0–16.9]	89.8	[83.1–94.0]	138
Moderate to high risk	45.1	[34.7–55.9]	54.9	[44.1–65.3]	133

Note: *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, † $p < 0.10$; significance is based on the Pearson chi-square adjusted for the survey design and transformed into an *F*-statistic (Rao–Scott *F*-statistic).

‡ Question(s) used to construct this variable were only included in questionnaires completed by one (Panel B) of the two panels of respondents participating in the annual surveys (n = 278 cannabis users).

Table 3. Logistic regression of cannabis use for therapeutic purposes by overall health, cannabis use problems, and prescription opioid use among cannabis users

	Odds ratio (95% CI)*
Sex	
Male	1.00
Female	1.38 (0.63–3.04)
Age (years)	
<55	1.00
55 or over	1.43 (0.65–3.14)
Marital status	
Married or never married	1.00
Separated/divorced/widowed	1.93 (0.70–5.33)
Overall health	
Good to excellent	1.00
Fair to poor	2.41 (0.91–6.38)
Problematic cannabis use	
Low risk	1.00
Moderate to high risk	7.43 (3.38–16.30)
Medical use of prescription opioid, past 12 months	
No	1.00
Yes	2.66 (1.11–6.36)
Constant	0.05 (0.02–0.13)

Note: $n = 266$.
* Adjusted odds ratios (AOR) with 95% confidence intervals (CI).

DISCUSSION

Given that regulatory changes in Canada and the US have increased access to cannabis for therapeutic purposes, monitoring the scope of therapeutic use can contribute in significant ways to future policies. There was little recent data, however, on the prevalence of therapeutic use and the characteristics of individuals who used cannabis therapeutically. In the current study, CUTP was estimated at 3.7% within the overall Ontario sample and 28.8% among past-year cannabis users. Thus, over one in four adults who used cannabis in the past year reported using it to treat pain, nausea, glaucoma, multiple sclerosis or other medical conditions. These figures are similar to those of a 2004 Canadian national survey of those 15 years of age and older that indicated that 29% of cannabis users, and 4% of the overall sample, reported CUTP.[27,28] Although direct comparisons of the 2004 and current survey results are not possible because of differences in age range and region, the results suggest similarities in the proportion who engaged in cannabis use for therapeutic purposes between 2004 and 2014. For the most part, the data used for the current analysis reflect CUTP that preceded the more recent and significant changes to the medical access to cannabis regulations, namely the MMPR and ACMPR in March 2014 and August 2016 respectively. Additional research will be necessary to assess the potential impact of more recent regulatory changes on CUTP.

Although a finding of a bivariate association between fair to poor health and CUTP was no longer significant within multivariate regression, the finding does suggest some consistency in reports of fair to poor health and CUTP. There were also findings indicating that CUTP was associated with more frequent use of cannabis and greater odds of moderate to high risk of cannabis use problems compared to non-therapeutic users. Findings of more frequent use among therapeutic users were not surprising as the intent is to treat a medical condition, which is likely to entail consistent use. Findings of greater odds of meeting the threshold for moderate to high risk of cannabis use problems among therapeutic users are consistent with their greater frequency of use. The findings with regard to problematic cannabis use are concerning and highlight the need for special attention to the potential negative consequences for individuals who engage in CUTP. It is important, however, to also recognize the low threshold required for a classification of moderate risk of problematic use within the ASSIST. The low threshold score of 4 out of 39 can be met by frequency of use alone, without any indication of health, social or other problems from cannabis use.[29] Thus, many individuals who use cannabis therapeutically may be classified as being at moderate to high risk of problematic cannabis use because of their frequency of use, but it may not mean that they are in need of interventions for their cannabis use. Recommendations that assessments of problematic cannabis use incorporate frequency of use, quantity of use, and context[29] may be particularly important for therapeutic users.

Findings also indicated an association between past-year medical use of prescription opioids and CUTP. This suggests that individuals were using multiple substances therapeutically in the past year. Unfortunately, it was unclear from the data whether prescription opioids and cannabis were being used simultaneously and for the same medical condition during the reference period. This is an important area for future research as the interaction effects between cannabis and opioids have not been fully investigated.[30,31] Interestingly, some studies have found that jurisdictions where cannabis is available for therapeutic purposes tend to see a decrease in prescription opioid/pain medication use,[32,33] suggesting that some people with chronic pain may be using therapeutic cannabis as a substitute for prescription opioids.[34,35]

This study also indicated that among those who reported CUTP, 15.2% reported that they had medical approval to use cannabis therapeutically. Such medical approval, however, does not necessarily mean that cannabis was obtained through Health Canada's regulatory system,[6] as proof of medical authorization is required to access that system. The current data cannot address the nature of medical approval nor can it identify the source of cannabis used for therapeutic purposes.

There are several limitations to this study. First, the study is cross-sectional and thus cannot address causation or temporal order. Second, the sample is relatively small, especially for the 65 years and older age group. As such, additional research on this population is needed to confirm findings from this study of greater prevalence of CUTP. This is particularly important given our aging population and the acute and chronic health concerns that are often highly prevalent within older age groups. Third, the data are based on self-reports and thus do not necessarily reflect the number of individuals who received medical approval for CUTP and who received cannabis through Health Canada's regulatory system. Fourth, the nature of the questions within the surveys do not permit an investigation into whether or not cannabis and other substances (e.g., prescription opioids) were being used at the same time or on the same occasion for the same therapeutic condition during the 12-month reference period. This is an important area for future research. Finally, our results compare therapeutic versus non-therapeutic users, but it is important to

recognize that there may not be a clear dichotomy between therapeutic and non-therapeutic (or recreational) use. Also, the survey questions do not permit a differentiation between those who use cannabis for therapeutic purposes only and those who use it for both therapeutic and recreational purposes.

Given debates about the safety and efficacy of cannabis use for therapeutic purposes and the broader implications on cannabis policy, regular monitoring of therapeutic use within the general population is needed to guide policies. There is also a need for research that can lead to greater knowledge of the usage patterns, product types, dosages, quantities and frequencies of cannabis use for therapeutic purposes and the risks associated with different levels of use.

REFERENCES

1. United Nations Office on Drugs and Crime. *World Drug Report*. New York, NY: UNODC, 2014.
2. Center for Behavioral Health Statistics and Quality. *Results From the 2015 National Survey on Drug Use and Health: Detailed Tables*. Rockville, MD: Substance Abuse and Mental Health Services Administration, 2016. Available at: https://www.samhsa.gov/data/sites/default/files/NSDUH-DetTabs-2015/NSDUH-DetTabs-2015/NSDUH-DetTabs-2015.pdf (Accessed February 2, 2016).
3. Health Canada. *Summary of Results for 2013: Canadian Tobacco Alcohol and Drugs Survey (CTADS)*. Ottawa, ON: Health Canada, 2015. Available at: http://healthycanadians.gc.ca/science-research-sciences-recherches/data-donnees/ctads-ectad/summary-sommaire-2013-eng.php (Accessed July 18, 2016).
4. Hill KP. Medical marijuana for treatment of chronic pain and other medical and psychiatric problems: A clinical review. *JAMA* 2015;313(24):2474–83. PMID: 26103031. doi: 10.1001/jama.2015.6199.
5. Health Canada. *Understanding the New Access to Cannabis for Medical Purposes Regulations*. Ottawa, ON: Health Canada, 2016. Available at: https://www.canada.ca/en/health-canada/services/publications/drugs-health-products/understanding-new-access-to-cannabis-for-medical-purposes-regulations.html (Accessed February 2, 2017).
6. Health Canada. *Procedures for Accessing Marijuana for Medical Purposes Under the Marihuana for Medical Purposes Regulations*. Ottawa, ON: Health Canada, 2016. Available at: http://www.hc-sc.gc.ca/dhp-mps/marihuana/access-acceder-eng.php (Accessed July 18, 2016).
7. Kalant H. Marihuana: Medicine, addictive substance or both? A common-sense approach to the place of cannabis in medicine. *Can J Addict* 2013;4(3):4–8.
8. Reid A. Medical marihuana: More knowledge and clinical guidance needed. *Can J Addict* 2013;4(3):21–22.
9. Whiting PF, Wolff RF, Deshpande S, Nisio MD, Duffy S, Hernandez AV, et al. Cannabinoids for medical use: A systematic review and meta-analysis. *JAMA* 2015;313(24):2456–73. PMID: 26103030. doi: 10.1001/jama.2015.6358.
10. Health Canada. *Information for Health Care Professionals: Cannabis (Marihuana, Marijuana) and the Cannabinoids*. Ottawa, ON: Health Canada, 2013. Available at: http://www.hc-sc.gc.ca/dhp-mps/alt_formats/pdf/marihuana/med/infoprof-eng.pdf (Accessed August 6, 2016).
11. Kalant H, Porath-Waller A. *Clearing the Smoke on Cannabis: Medical Use of Cannabis and Cannabinoids*. Ottawa, ON: Canadian Centre for Substance Abuse, 2014.
12. Grotenhermen F, Müller-Vahl K. The therapeutic potential of cannabis and cannabinoids. *Deutsch Arzteblatt Int* 2012;109(29–30):495–501. PMID: 23008748. doi: 10.3238/arztebl.2012.0495.
13. Karst M, Wippermann S, Ahrens J. Role of cannabinoids in the treatment of pain and (painful) spasticity. *Drugs* 2010;70(18):2409–38. PMID: 21142261. doi: 10.2165/11585260-000000000-00000.
14. Elikkottil J, Gupta P, Gupta K. The analgesic potential of cannabinoids. *J Opioid Manag* 2009;5(6):341–57. PMID: 20073408.
15. Narang S, Gibson D, Wasan AD, Ross EL, Michna E, Nedeljkovic SS, et al. Efficacy of dronabinol as an adjuvant treatment for chronic pain patients on opioid therapy. *J Pain* 2008;9(3):254–64. PMID: 18088560. doi: 10.1016/j.jpain.2007.10.018.
16. Budney AJ, Roffman R, Stephens RS, Walker D. Marijuana dependence and its treatment. *Addict Sci Clin Pract* 2007;4(1):4–16. PMID: 18292704. doi: 10.1151/ASCP07414.
17. Anthony JC. The epidemiology of cannabis dependence. In: Roffman RA, Stephens RS (Eds.), *Cannabis Dependence: Its Nature, Consequences and Treatment*. Cambridge, UK: Cambridge University Press, 2006; 58–105.
18. Hasin DS, Saha TD, Kerridge BT, Goldstein RB, Chou SP, Zhang H, et al. Prevalence of Marijuana use disorders in the United States between 2001–2002 and 2012–2013. *JAMA Psychiatry* 2015;72(12):1235–42. PMID: 26502112. doi: 10.1001/jamapsychiatry.2015.1858.
19. van der Pol P, Liebregts N, de Graaf R, Korf DJ, van den Brink W, van Laar M. Predicting the transition from frequent cannabis use to cannabis dependence: A three-year prospective study. *Drug Alcohol Depend* 2013;133(2):352–59. PMID: 23886472. doi: 10.1016/j.drugalcdep.2013.06.009.
20. Ialomiteanu A, Hamilton HA, Adlaf EM, Mann RE. *CAMH Monitor eReport: Substance Use, Mental Health and Well-Being Among Ontario Adults, 1977–2013 (CAMH Research Document Series No. 35)*. Toronto, ON: Centre for Addiction and Mental Health, 2014.
21. Health Canada. *Canadian Alcohol and Drug Use Monitoring Survey (CADUMS): Summary of Results for 2012*. Ottawa, ON: Health Canada, 2014. Available at: http://www.hc-sc.gc.ca/hc-ps/drugs-drogues/stat/_2012/summary-sommaire-eng.php (Accessed July 11, 2016).
22. Centers for Disease Control and Prevention. *Behavioral Risk Factor Surveillance System: 2013 Summary Data Quality Report*. Atlanta, GA: Centers for Disease Control and Prevention, 2014. Available at: https://www.cdc.gov/brfss/annual_data/2013/pdf/2013_dqr.pdf (Accessed July 18, 2016).
23. Ialomiteanu A, Adlaf E. *CAMH Monitor 2013 Metadata User's eGuide*. Toronto, ON: Centre for Addiction and Mental Health, 2014.
24. WHO ASSIST Working Group. Alcohol, smoking and substance involvement screening test (ASSIST): Development, reliability and feasibility. *Addiction* 2002;97:1183–94. PMID: 12199834. doi: 10.1046/j.1360-0443.2002.00185.x.
25. McDowell I. *Measuring Health: A Guide to Rating Scales and Questionnaires*, 3rd ed. New York, NY: Oxford University Press, 2006.
26. Statacorp. *Stata Statistical Software: Release 13.1* [Computer Program]. College Station, TX: StataCorp, 1985–2013.
27. Adlaf EM, Begin P, Sawka E. *Canadian Addiction Survey (CAS): Prevalence of Use and Related Harms: Detailed Report*. Ottawa, ON: Canadian Centre on Substance Abuse, 2005.
28. Adlaf E, Begin P, Deguire AE, Garlick R, Racine S, Sawka E, et al. *Canadian Addiction Survey: Public Use Microdata File*. Ottawa, ON: Canadian Centre for Substance Abuse, 2004.
29. Asbridge M, Duff C, Marsh DC, Erickson PG. Problems with the identification of 'problematic' cannabis use: Examining the issues of frequency, quantity, and drug use environment. *Eur Addict Res* 2014;20(5):254–67. PMID: 25196945. doi: 10.1159/000360697.
30. Abrams DI, Couey P, Shade SB, Kelly ME, Benowitz NL. Cannabinoid-opioid interaction in chronic pain. *Clin Pharmacol Ther* 2011;90(6):844–51. PMID: 22048225. doi: 10.1038/clpt.2011.188.
31. Ware MA. Clearing the smoke around medical marijuana. *Clin Pharmacol Ther* 2011;90(6):769–71. PMID: 22089341. doi: 10.1038/clpt.2011.241.
32. Bradford AC, Bradford WD. Medical marijuana laws reduce prescription medication use in medicare part D. *Health Aff* 2016;35(7):1230–36. PMID: 27385238. doi: 10.1377/hlthaff.2015.1661.
33. Boehnke KF, Litinas E, Clauw DJ. Medical cannabis use is associated with decreased opiate medication use in a retrospective cross-sectional survey of patients with chronic pain. *J Pain* 2016;17(6):739–44. PMID: 27001005. doi: 10.1016/j.jpain.2016.03.002.
34. Piper BJ, DeKeuster RM, Beals ML, Cobb CM, Burchman CA, Perkinson L, et al. Substitution of medical cannabis for pharmaceutical agents for pain, anxiety, and sleep. *J Psychopharmacol* 2017;31:569–75. PMID: 28372506. doi: 10.1177/0269881117699616.
35. Lucas P, Walsh Z. Medical cannabis access, use, and substitution for prescription opioids and other substances: A survey of authorized medical cannabis patients. *Int J Drug Policy* 2017;42:30–35. PMID: 28189912. doi: 10.1016/j.drugpo.2017.01.011.

Received: February 16, 2017
Accepted: May 6, 2017

RÉSUMÉ

OBJECTIF : Examiner la prévalence de la consommation de cannabis thérapeutique au sein d'un échantillon d'adultes de la population générale et décrire les caractéristiques associées à cette consommation.

MÉTHODE : Nos données provenaient des éditions 2013 et 2014 du *CAMH Monitor Survey*. Cette enquête transversale répétée, menée auprès des adultes en Ontario, au Canada, est stratifiée par région et utilise des entretiens téléphoniques assistés par ordinateur. Nos analyses ont été fondées sur les 401 répondants qui ont déclaré consommer du cannabis.

RÉSULTATS : Selon les données obtenues, 28,8 % des personnes ayant consommé du cannabis au cours de l'année écoulée ont dit l'avoir fait à des fins thérapeutiques. De ces consommateurs de cannabis thérapeutique, 15,2 % ont dit détenir une autorisation médicale. La consommation de cannabis à des fins thérapeutiques était associée à une consommation plus fréquente de cannabis, à une probabilité accrue d'appartenir à une catégorie de risque moyen à élevé de consommation abusive de cannabis,

et à une probabilité accrue de consommer des opioïdes d'ordonnance à des fins médicales. Après élimination des effets de la consommation d'opioïdes et de la consommation abusive de cannabis, la consommation de cannabis à des fins thérapeutiques différait peu selon le sexe, l'âge et l'état matrimonial.

CONCLUSION : Ces constatations indiquent qu'il pourrait y avoir des conséquences négatives à la consommation de cannabis à des fins thérapeutiques; il faudrait cependant pousser la recherche pour mieux comprendre l'étendue et les habitudes de cette consommation et les vulnérabilités correspondantes.

MOTS CLÉS : Consommation de cannabis médical; consommation de marijuana médicale; opioïdes d'ordonnance; consommation abusive de cannabis