

Medical marijuana

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The current issue of the *Journal* includes an article describing the use of vaporizers for medical marijuana. As respiratory therapists (RTs), we must be aware of the science behind the use of these devices and substances, including their benefits and harms.

Presently, there has not been an application to Health Canada for the approval of dried cannabis for medical purposes under the Food and Drugs Act (1). This is the standard process for approval of a therapeutic drug. Because this submission has not been made, the use of cannabis/marijuana as a therapeutic treatment has not been vetted through the review, regulations and standards associated with Health Canada's approval process. This process would usually include clinical testing, quality control, guidelines for dosage, route of administration, contraindications and reporting/monitoring of adverse reactions (2,3).

In Canada, marijuana is currently regulated under the Controlled Drugs and Substances Act (CDSA) (4). The CDSA prohibits the production, possession and sale of marijuana as a controlled substance, rendering these actions a criminal act. Marijuana is also regulated through an international treaty, the Single Convention on Narcotic Drugs (5), to which Canada is a signatory. This treaty requires that scheduled substances, such as marijuana, be limited to use for medical and scientific research purposes. There are three such forms of marijuana-based pharmaceutical drugs approved by Health Canada for use in Canada: two of these are synthetic drugs in pill form; and one is an oral spray derived from plant extracts.

Health Canada introduced the Marihuana (sic) for Medicinal Purposes Regulations (MMPRs) to cover client access to only the dried cannabis plant and not any of the oil, resins, extracts or tinctures (6). MMPRs grant access to cannabis as a medical therapy for Canadians with grave or debilitating illness when conventional treatments are inappropriate or fail to provide adequate relief. The regulation defines a process in which medical practitioners and nurse practitioners are responsible for providing a medical document prescribing marijuana that clients can use to access marijuana from a licensed supplier.

Cannabinoids are chemicals found in the cannabis plant – a few account for most of the known actions of cannabis on cognitive and body functions. These active cannabinoid may be natural derivatives or synthetic preparations.

EFFECTS OF CANNABIS

Studies suggest that cannabis and cannabinoids are effective for the relief of nausea/vomiting and certain types of pain (specifically neuropathic pain) (7). The substances may also be helpful in stimulating appetite (8). However, research to date does not indicate that they are always the best agents for these purposes compared with some of the newer drugs available (7).

Cannabis smoke contains a mixture of combustion products that are similar to tobacco smoke, and users are exposed to two to three times more carcinogenic hydrocarbons and tar than tobacco smoke. This is partly related to the inhalation pattern of individuals smoking marijuana with deeper, longer inhalations and breath holds, and the lack of filtration on the smoke (9). The level of inhaled carbon monoxide can be significantly higher in marijuana smoke.

For individuals who choose to use medical marijuana, using a method that allows for inhaling the active ingredients of the dried marijuana without being exposed to combustion products may help to reduce, but not completely eliminate, harms to the respiratory system. There is no evidence supporting the use of 'vaping' marijuana oil in electronic cigarettes or other similar delivery devices, and this delivery approach is not currently approved by Health Canada. There is, however, preliminary evidence that commercialization of medical marijuana reduces the perceived risk of "recreational use of marijuana" (10).

WHAT SHOULD BE THE RTs RESPONSE TO MEDICAL MARIJUANA?

The Canadian Society of Respiratory Therapists standards of practice obliges its members to behave within an ethical framework that includes following rigorous science. RTs are required to advocate for lung health, including the safe and effective use of therapeutic interventions, and in the promotion of disease prevention and wellness. For this reason, RTs have supported tobacco protection, prevention and cessation efforts across Canada to reduce the burden of chronic obstructive pulmonary disease and other tobacco-related diseases. As advocates for lung health, RTs should speak out against the use of products that are detrimental while other proven therapies exist. Where the use of medical marijuana has been shown to be effective, RTs should be supporting research to identify safe methods of delivery. While harm reduction may be the rationale for encouraging the use of vaporized cannabis versus smoked cannabis, RTs and other health professionals require evidence that the reduction is actual, not simply hypothesized.

Because there is no sound evidence supporting the benefits outweighing the risk regarding the use of medical marijuana, RTs should add our voices to those of other Canadian professional medical bodies who have expressed a concern that the clinical evidence required to prescribe marijuana in an informed way is lacking (11,12). If marijuana is used as a therapy in Canada, it must be vetted through the same medical review required under the Food and Drugs Act to enable practitioners to make informed decisions. At the same time, RTs should also advocate for the development of synthetic cannabinoids with targeted effect and limited side effect.

A FINAL NOTE

RTs have a duty to accommodate, as do all health providers. This duty does not extend to the use of medical marijuana in public places (eg, hospitals and health services sites, where it may place others at risk). Health Canada has made the following statement regarding the use of medical marijuana in public spaces (13):

Given the nature of marihuana and the fact that the provision of marihuana is for your personal treatment needs, Health Canada recommends not consuming this controlled substance in a public place. Please take note that persons in charge of public or private establishments (eg, bars and restaurants) can request that you not smoke marihuana on their premises, even if you have authority to possess marihuana for medical purposes. There may also be municipal bylaws that prevent smoking. In addition, others should not be exposed to second-hand marihuana smoke.

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Therefore, while some hospitals may allow use of medical marijuana with a vaporizer, they are not required to do so by Health Canada. Based on this, many hospitals are including 'smoking medical marijuana' under their smoke-free guidelines. The presence of a

prescription for medical marijuana does not supersede these policies; however, some hospitals may consider the use of a vaporizer with similar precautions that are taken for nebulizing antibiotics (eg, negative pressure, filters on exhaled gases, etc).

REFERENCES

1. Marihuana Exemption (Food and Drugs Act) Regulations SOR2013-120 last amended 2014-04-01 <<http://laws.justice.gc.ca/eng/regulations/SOR-2013-120/page-1.html#h-3>> (Accessed December 9, 2014).
2. Health Canada. Information for Health care professionals: Cannabis (marihuana, marijuana) and the cannabinoids. February 2013 <www.hc-sc.gc.ca/dhp-mps/alt_formats/pdf/marihuana/med/infoprof-eng.pdf> (Accessed November 30, 2014).
3. Canadian Centre on Substance Abuse Policy Brief: Marijuana for medical purposes, October 2014 <www.ccsa.ca/Resource%20Library/CCSA-Medical-Marijuana-Policy-Brief-2014-en.pdf> (Accessed November 30, 2014).
4. Controlled Drugs and Substances Act (S.C. 1996, C19) Section 7 last amended 2012-11-06 <<http://laws-lois.justice.gc.ca/eng/acts/C-38.8/page-4.html#docCont>> (Accessed December 9, 2014).
5. United Nations Office on Drugs and Crime, Single convention on Narcotic Drugs, 1961 <www.unodc.org/unodc/en/treaties/single-convention.html?ref=menu> (Accessed December 9, 2014).
6. Marihuana for Medical Purposes Regulations (SOR/2013-119) <www.laws-lois.justice.gc.ca/eng/regulations/SOR-2013-119/> (Accessed December 9, 2014).
7. Ellis RJ, Toperoff W, Vaida F, et al. Smoked medicinal cannabis for neuropathic pain in HIV: A randomized, crossover clinical trial. *Neuropsychopharmacology* 2009;34:672-80.
8. Haney M, Gunderson EW, Rabkin J, et al. Dronabinol and marijuana in HIV-positive marijuana smokers: Caloric intake, mood, and sleep. *J Acquir Immune Defic Syndr* 2007;45:545-54.
9. Wu TC, Tashkin DP, Djahed B, Rose JE. Pulmonary hazards of smoking marijuana as compared with tobacco. *N Engl J Med* 1988;318:347-51.
10. Schuermeier J, Salomonsen-Sautel S, Price RK, et al. Temporal trends in marijuana attitudes, availability and use in Colorado compared to non-medical marijuana states: 2003-11. *Drug Alcohol Depend* 2014;40:145-55.
11. Makkar J. Medical marijuana update: Summary of regulations; new role for physicians and possible concerns, March 2014, OMA Health Policy Department <www.oma.org/Resources/Documents/March14_Medical_Marijuana_pp17-19.pdf> (Accessed November 30, 2014).
12. Cooper J. CPhA's Response to Proposed Marihuana for Medical Purposes Regulations (MMPR) February 28, 2013 Canadian Pharmacists Association. <www.pharmacists.ca/cpha-ca/assets/File/cpha-on-the-issues/MedicalMarihuanaConsultationResponse.pdf> (Accessed November 30, 2014).
13. Health Canada, Application For Authorization To Possess Dried Marihuana: E1-4 Notice to Applicants, Declaration and Signature Content archived June 19, 2014. <www.hc-sc.gc.ca/dhp-mps/marihuana/how-comment/forms_complete-eng.php> (Accessed December 9, 2014).

ERRATUM

Re: Melvin D, Markham A. Medical marijuana. *Can J Respir Ther* 2015;51(1):11-12.

In the Winter 2015 issue of the *Journal*, the copyright for this article was incorrectly attributed to Pulsus Group Inc. Copyright should have been attributed to the Canadian Society of Respiratory Therapists.