• Continuing Education •

TECH talk CE

THE NATIONAL CONTINUING EDUCATION PROGRAM FOR PHARMACY TECHNICIANS 1 CEU FREE

ANSWER ONLINE FOR INSTANT RESULTS AT WWW.CANADIANHEALTHCARENETWORK.CA SEPTEMBER 2012

APPROVED FOR 1 CE UNIT

Approved for 1 CE unit by the Canadian Council on Continuing Education in Pharmacy. File no. 1065-2012-467-I-T. Not valid for CE credits after June 18, 2015.

Answer this CE online for instant results and accreditation. Visit www.CanadianHealthcareNetwork.ca

CE JUST FOR TECHNICIANS

Tech Talk CE is the only national continuing education program for Canadian pharmacy technicians.

As the role of the technician expands, use Tech Talk CE as a regular part of your learning portfolio. Note that a passing grade of 70% is required to earn the CE credit.

Tech Talk CE is generously sponsored by Teva. Download back issues at www.CanadianHealthcareNetwork.ca or www.tevacanada.com.

ANSWERING OPTIONS

1. Answer the lesson online and get your results instantly at www.CanadianHealthcareNetwork.ca
2. Use the reply card inserted with this CE lesson. Circle the answers on the card and mail in the prepaid, self-addressed card or fax to Mayra Ramos, 416-764-3937.

To pass this lesson, a grade of 70% (11 out of 15) is required. If you pass, you will receive 1 CEU. You will be advised of your results in a letter from *Tech Talk*. Please allow 8 to 12 weeks.

CE FACULTY

CE Coordinator:
Margaret Woodruff, RPh, BScPhm, MBA
Humber College

Clinical Editor:
Lu-Ann Murdoch, BScPhm

Authors:
Sassha Orser, BScPhm, ACPR
Alexander Elkader, PhD

Reviewer:
Bobbi Thomas-Bailey, RPhT, BEd

Prescription medication abuse and misuse

by Sassha Orser, BScPhm, ACPR, and Alexander Elkader, PhD

Learning objectives

After successful completion of this lesson, the technician will be better able to do the following:

1. Understand statistics on current opioid use in Canada
2. Understand the etiology of opioid addiction
3. Understand differences among opioid use, misuse, and abuse
4. Know the different tactics provinces employ to attempt to control narcotic misuse

Introduction

Opioids, such as oxycodone, are among the most commonly prescribed medications in Canada. In Ontario, oxycodone prescriptions have increased sharply over the past 20 years. At the same time, nonmedical use of prescription opioids, particularly oxycodone, has also increased. Increases in opioid-related deaths and injuries have accompanied these increased rates of misuse and abuse, including cases in which the drugs have been obtained legally. This lesson will discuss the difference between "legitimate" opioid use and opioid abuse, and highlight the emergence of prescription-opioid abuse. The terms *narcotic* and *controlled* substances will be defined and new prescribing and dispensing regulations for narcotics will also be discussed. Finally, this lesson will highlight the role of the pharmacy technician in the identification of opioid abuse.

Scheduling

Narcotic and controlled substances scheduling in Canada is governed by the Controlled Drugs and Substances Act (CDSA).[1,2] Narcotic medications are found in Schedule N of the CDSA, and include any medications or preparations containing opioids, such as codeine, morphine, oxycodone, hydromorphone, fentanyl, methadone, and nabilone, among other substances. Narcotics are among the most tightly regulated prescription substances in Canada. These medications can only be dispensed upon receipt of a written prescription, with the exception of narcotic preparations that contain one narcotic ingredient in addition to two non-narcotic medicinal ingredients. Refills for these agents are not permitted; however, the prescription can be partially filled. Prescriptions for these agents cannot be transferred among pharmacies.

Controlled substances are found in Schedule G of the CDSA and include all substances containing methylphenidate, dextroamphetamine, and mixed amphetamine salts. Prescriptions for these agents can be written or verbal. Refills are permitted provided that the prescriber specifies, in writing, the dates or intervals for refills. Refills cannot be applied to verbal prescriptions; however, these prescriptions may be partially filled. Prescriptions for these agents cannot be transferred among pharmacies.

Targeted substances are regulated most similarly to Schedule I prescription medications. They can be accepted as written or verbal prescriptions. However, prescriptions for these agents can be refilled, provided they are not refilled past one year of the original date of the prescription. Additionally, they can only be transferred once from one pharmacy to another. In Ontario, pharmacy technicians are not permitted

pharmacy practice

An educational service for Canadian pharmacy technicians, brought to you by Teva.
www.tevacanada.com

to accept verbal prescriptions for narcotic, targeted, or controlled substances.

Addiction

Addiction (substance dependence), according to the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV), is "a cluster of cognitive, behavioural, and physiological symptoms indicating that the individual continues to use the substance despite significant substance-related problems." In order to meet the diagnostic criteria for substance dependence, three or more of seven criteria must be met; these include aspects of physical (withdrawal and tolerance) and psychological (loss of control over use and negative impact on social functioning or health) dependence. It is important to note that physical dependence is neither sufficient nor necessary to make a diagnosis of substance dependence.[3]

Etiology of addiction

Drug addiction is related to several factors: the pharmacology of the drug in question, neurobiological adaptations that follow repeated exposure, environmental and social issues, mental health status and personality, and genetics. How these factors interact influences an individual's likelihood of developing a substance abuse disorder.[4]

The primary reason for abuse of opioids is the psychological effects they induce—the initial rush and subsequent euphoria.[5] In general, opioids with the greatest analgesic potency tend to produce the greatest euphoria. (For additional information regarding comparative potencies of opioids, please refer to the Canadian Pharmacists Association's Opioid Monograph in the most recent version of the *Compendium of Pharmaceuticals and Specialties*.) A number of factors are important when considering the degree of euphoria experienced by individuals who abuse opioids; these include the dose, route of administration, level of tolerance, and whether the opioid is used in combination with other drugs. In general the larger the dose, the greater the euphoria produced. Routes of administration that are associated with a more rapid onset of action and that produce maximal effects may be preferred (eg, injection and inhalation). The oral route has advantages as well: commercial pharmaceutical preparations have a known purity and needle risks are avoided. When using opioids in combination with other drugs, their effects may be enhanced, while negative effects associated with withdrawal can be mitigated.[5]

Prescription drug use and abuse

Psychotropic medications improve the quality of life of millions of patients. However, some of these medications also have significant *abuse liability*—the likelihood that a substance will be abused. Prescription medications with high abuse liability include opioids, sedative-hypnotics, and stimulants. It is a challenge to balance the need to make these types of medications available to patients for therapeutic reasons while at the same time minimizing the risk of abuse.

Opioids

The principal pharmacologic effects of opioid analgesics are to reduce both sensitivity and the emotional response to pain. Opioid analgesics manage symptoms rather than treat the underlying conditions.[5] Analgesic treatment with opioids for moderate to severe pain is well accepted, particularly in the context of acute pain and chronic pain associated with cancer. More controversial is their role in the treatment of chronic noncancer pain.[6,7] Long-acting opioids, methadone, and buprenorphine can also be used in the maintenance treatment of opioid dependence.

In Canada, opioid prescribing has increased over the past 20 years. In Ontario, the number of opioid prescriptions increased by 29% between 2001 and 2007.[8] While this is considered a moderate increase in prescribing rates, comparing the rates of use of specific opioid medications can reveal further information. For example, while codeine was the most prescribed opioid, the number of codeine prescriptions gradually declined between 2001 and 2007. During the same period, oxycodone prescriptions increased by 850%, accounting for 32% of all opioid prescriptions in 2006. Similarly, hydromorphone, fentanyl, and morphine prescription rates increased significantly during this period.[8] Opioid prescriptions have increased in a similar manner in the US[9] and in the UK.[10]

In recent years, the nonmedical use of prescription opioids, particularly oxycodone, has increased considerably. A study at the Centre for Addiction and Mental Health in Toronto, Ont, found that admissions for withdrawal from controlled-release oxycodone increased from less than 4% (of all withdrawal-related admissions) in 2000 to more than 55% in 2004. During the same period, overall admission rates remained constant.[11]

According to the Canadian Alcohol and Drug Use Monitoring Survey (CADUMS), in 2010, opioid pain relievers were used by approximately 21% of Canadians aged 15 years and older over the previous 12 months, with more than 1% reporting use to get "high." In 2010, sampling variability was too high to compare abuse rates between younger and older adults; however, in 2008 and 2009, adults younger than 25 years of age used opioids to get high 5–6 times more often than adults aged 25 years of age and older.[12] In Ontario, 14% of students reported using prescription opioids nonmedically at least once in the past 12 months, with 5% of all students reporting six or more incidents of use. Among individuals who used opioids nonmedically within the past year, 25% reported 10 or more past-year incidents of use.[13] Increased abuse of prescription opioid analgesics is also occuring in the US.[9]

Non-opioids

Prescription medication abuse in Canada is not limited to opioids. Canadians also abused other prescription medications, such as sedatives and stimulants. Nearly 9% of all Canadians reported using sedatives in the past year and 1% reported using stimulants. Of those who reported sedative use, 0.5% reported using sedatives to get high. Rates of stimulant abuse were not gleaned in this national survey.[12] In Ontario, 1.9% of students reported nonmedical use of sedatives at least once in the past 12 months, with less than 1% of students reporting use more than six times. Attention deficit hyperactivity disorder (ADHD) drugs and other stimulants were used nonmedically by 1.0% and 4.1% of Ontario students, respectively.[13]

Users may prefer prescription medications to illicit drugs for a number of reasons. Prescription medications are perceived to be safer, and more pure, because they are manufactured in a controlled and regulated manner. Prescription medications may also be more accessible than illicit drugs.

Opioid use, misuse, and abuse

When considering opioid use, it is important to differentiate between addiction and regular use. Patients who use opioids

chronically will exhibit signs of tolerance, requiring increased opioid doses over time to manage their pain. They may also experience opioid withdrawal symptoms when opioids are absent from their system. As a result, diagnosing addiction in these patients can be quite difficult. The situation is further complicated when patients whose pain is not well controlled exhibit behaviour that resembles drug seeking, eg, visiting multiple doctors or requesting early prescription refills.[14,15] It is a common misconception that using opioids for the treatment of a legitimate pain syndrome prevents the risk of developing opioid use problems. This is not the case; in fact, some pain patients—for example, individuals with a personal or family history of substance use, psychiatric comorbidities, or a history of childhood sexual abuse—may be at higher risk of addiction.

The line between misuse and abuse of prescription medications can be difficult to discern. A person who abuses prescription medications is also misusing them, while a patient whose pain is poorly managed may misuse their prescribed opioids in order to self-medicate but is not abusing them. A simple definition of *misuse* would be any use not prescribed by a physician; *abuse* is related to use associated with harm or negative consequence to the individual. Therefore, misuse could include taking larger doses than prescribed, taking the prescribed dosage more frequently than prescribed, obtaining prescriptions from multiple doctors, using medications from friends or other sources, or even manipulating the formulation to enhance drug effects. The possibilities for the manipulation of a drug's formulation would depend on the pharmacologic properties of the drug and the manner in which the drug itself is originally formulated. Sustained-release preparations, for example, are sometimes chewed to release the full dose at once. They may also be crushed and snorted or dissolved and injected to obtain more intense and rapid drug effects.

In order to combat abuse, different strategies have been employed in the manufacturing of opioid-containing pharmaceuticals. For example, sublingual buprenorphine contains naloxone to deter use by injection. If the product is injected, the naloxone component displaces buprenorphine from the opioid receptor where it acts, leading to unpleasant withdrawal symptoms.[16] Similarly, the manufacturer of controlled-release oxycodone recently made significant changes to the product composition to deter abuse. In the new version, oxycodone is contained within a hardened tablet that is resistant to crushing and chewing. Additionally, when the tablets encounter water, they become a viscous, gel-like substance, which deters use by injection.[16]

Opioid-related morbidity and mortality

Chronic opioid use can cause a number of physiological and psychological impairments. These can include constipation, pupillary constriction, reduced libido, respiratory impairment, mood instability, impaired memory function, and poor impulse control.[5] It is also important to consider other related morbidity. Injection drug use is associated with local needle-site issues, as well as transmission of viral infections (such as hepatitis and HIV). Potential lifestyle consequences should also be considered—theft, prostitution, deceiving doctors, increased risk-taking (sharing needles, unprotected sexual encounters), and involvement with the legal system.[5] It is important to note that individuals who abuse prescription opioids tend to have fewer health issues and higher social standing compared with those who abuse heroin.[18]

In opioid-dependent patients, overdose (and associated respiratory depression) is the greatest cause of mortality.[19] The concurrent use of other drugs that can depress the central nervous system, including alcohol and benzodiazepines, can increase the likelihood of overdose on opioids. For example, there are reports of deaths associated with the use of methadone and benzodiazepines related to additive respiratory depression.[20]

Prescription drug monitoring in Canada

The dramatic increase in prescription medication abuse has highlighted the need for controlled or targeted substances to be monitored at a national or provincial level. There are many benefits to widespread monitoring of prescription dispensing. These systems can serve to identify patients who visit multiple prescribers or who receive prescriptions for large quantities of opioids. Monitoring systems can be used to identify problematic patterns of prescribing or dispensing.

To date, Canada does not have a harmonized or national method of monitoring prescription medication prescribing and dispensing. Because each province or territory is responsible for the development and implementation of individual monitoring systems, significant variation exists among the provinces. Some jurisdictions, including Nova Scotia, Manitoba, British Columbia, and the Yukon Territories have implemented multiple copy–prescription systems for certain controlled or targeted substances. In Alberta, for example, the prescriber writes each prescription for a substance listed in the Triplicate Prescription Program on a specialized prescription pad, which results in three copies of the prescription. One copy is retained by the prescriber, the second is retained by the dispensing pharmacy, and the third is forwarded by the dispensing pharmacy to the College of Physicians and Surgeons of Alberta. In order to minimize the circulation of triplicate prescription copies, triplicate prescriptions must be dispensed within three days of the date that the prescription was written.[20]

In Newfoundland and Labrador, all prescriptions for listed substances must be written on a specialized tamper-resistant prescription pad provided by the NL Department of Health and Community Services. Medications included in this program include opioids, ketamine, and amphetamine-containing products. Prescriptions cannot be taken verbally and faxed prescriptions must be written on a tamper-resistant pad.[21]

Monitoring programs employing specialized prescription pads have been criticized for their potential negative impact on patient care. When Saskatchewan stopped its triplicate prescription program, one of the reasons cited was concern that some patients were denied access to controlled substances owing to lack of available forms. This program was replaced in 2006 by the Prescription Review Program, which gathers prescribing and dispensing information for all substances listed in the regulations, including opioids, amphetamines, and benzodiazepines.[22]

Similarly, some provinces (eg, Alberta, British Columbia) have incorporated monitoring of controlled or targeted substances into existing programs that monitor prescription medications dispensed within the province.[23,24] An advantage to programs like PharmaNet in British Columbia is that

medication interaction and potential duplications in therapy can be readily identified. The system is an integral tool aimed at enhancing patient care in addition to identifying problematic prescriptions and prescribing patterns.[23]

Recently, the Ontario Ministry of Health and Long-Term Care (MOHLTC) launched the Ontario Narcotic Strategy, a cross-professional initiative designed to address the rise in prescription medication abuse and misuse in Ontario. One of the key elements of the program is the development of a narcotic database to monitor the use of prescription opioids and targeted substances (called "monitored drugs") throughout the province, and identify problematic patterns of prescribing or dispensing. Other elements of the strategy include educational initiatives and enhanced treatment of addictions.[25] Of these elements, the development of the "monitored drugs" database is expected to have the greatest impact on pharmacy practice, particularly community practice.

The implementation of the Ontario Narcotic Strategy has led to important changes in dispensing monitored substances. Patients receiving prescriptions for these medications must provide the prescriber with a piece of identification approved by the MOHLTC. The prescriber must document the type of identification and corresponding number as well as their regulatory college registration number on the prescription. When the patient presents to the pharmacy to pick up the prescription, they must present one of the forms of identification specified by the MOHLTC. Any third parties picking up prescriptions must also present identification.

Role of the pharmacy technician

Pharmacy technicians can play an important role in monitoring prescriptions for signs of problematic use and ensuring the pharmacy adheres to narcotic regulations. As front-line pharmacy staff members, pharmacy technicians are in an ideal position to identify potentially problematic uses of opioid and controlled medications. For example, when dispensing medications, technicians may note patterns of, or requests for, early refills of narcotic and controlled substances. They can also identify patients who receive these medications from a number of different prescribers. This information can then be discussed with the rest of the members of the patient's healthcare team.

Regardless of the prescription medication monitoring system employed in their area of practice, pharmacy technicians will continue to play an integral role in ensuring that their pharmacy complies with narcotic regulations. At the point of prescription intake, technicians can review prescriptions to ensure that they contain all of the information required by the narcotic monitoring system used in their provinces. In provinces or territories where identification is required before patients receive their prescription, technicians can also verify and record identification information for patients, or third party agents. As many patients may be unaware of narcotic legislation, technicians can also educate them regarding the role of these systems in public health and safety.

References are available at www.CanadianHealthcareNetwork.ca in the CE section.

QUESTIONS

Please select the best answer for each question or answer online at www.CanadianHealthcareNetwork.ca for instant results.

1. Which statement about prescription opioid use is FALSE?

a) The use of opioids is well accepted in the treatment chronic noncancer pain.
b) Pharmacologically, opioids work by reducing sensitivity and emotional response to pain.
c) In recent years, opioid prescriptions have increased in Canada, the United States, and England.
d) Opioids enhance quality of life in patients with pain syndromes.

2. According to a 2010 national survey, what percentage of Canadians used opioid pain relievers for any reason?

a) 10%–14% b) 15%–19%
c) 20%–24% d) 25%–29%

3. Which of the following is not a narcotic according to CDSA schedules:

a) Oxycodone b) Nabilone
c) Morphine
d) Mixed amphetamine salts

4. Which of the following is not a reason why individuals may prefer prescription opioids over "street" opioids":

a) Perception of safety
b) Purity of prescription agents
c) Increased euphoria, or "high"
d) Accessibility

5 The term *abuse liability* can be defined as

a) the use of prescription medications for nonmedical purposes.
b) the likelihood that a substance will be abused.
c) the use of any substance by injection.
d) how difficult it is to withdraw from, or "quit" a substance.

6. Which of the following statements about reported drug use in Ontario is true?

a) Nearly half of all Ontario students reported nonmedical use of prescription opioids in the past year.
b) ADHD medications are used more frequently by Ontario students than all other prescription stimulant medications combined.
c) Of students who used opioids nonmedically in the previous year, 25% reported using opioids on more than 10 occasions.
d) Nearly 2% of Ontario students use tranquillizers daily.

7. Which of the following is not associated with prescription opioid misuse/abuse:

a) Using oxycodone more frequently than prescribed.
b) Chewing morphine CR tablets before swallowing.
c) Experiencing withdrawal symptoms in the absence of opioids.
d) Visiting multiple prescribers to obtain opioids.

8. Sustained-release opioid preparations can be abused by which of the following methods:

a) Chewing b) Snorting
c) Injecting d) All of the above

QUESTIONS (Continued)

Please select the best answer for each question or answer online at www.CanadianHealthcareNetwork.ca for instant results.

9. Which of the following statements is most correct?
a) Nonmedical use of opioids, particularly oxycodone, has increased in recent years.
b) Benzodiazepines, stimulants, and opioids are all considered substances of abuse.
c) In recent years, prescriptions for codeine in Canada have declined.
d) All of the above.

10. Under the Ontario Ministry of Health and Long-Term Care Narcotic Strategy, which of the following is not a monitored substance:
a) Lorazepam
b) Oxycodone with acetaminophen
c) Zopiclone d) Morphine

11. Which of the following statements regarding prescription medication monitoring is false:
a) Each province, or territory is responsible for monitoring prescription drug use.
b) Multiple copy–prescription methods of surveillance are considered the most effective method of prescription medication monitoring.
c) In some provinces, narcotic prescription monitoring has been incorporated into existing provincial prescription systems.
d) None of the above.

12. Which of the following is a side effect of opioid use:
a) Constipation b) Mood stability
c) Increased libido d) Dilated pupils

13. Which of the following statements is incorrect?
a) While opioid use has increased in recent years, so have opioid-related injuries and deaths.
b) Canadians aged 25 and over are 5–6 times more likely to use prescription opioids to get high.
c) Pharmacy technicians are in an ideal position to identify potentially problematic use of controlled medications.
d) Not only have oxycodone prescription rates increased in recent years, so have prescription rates for hydromorphone, fentanyl, and morphine.

14. A patient whose pain is poorly managed may misuse prescription opioids in an effort to self-medicate, yet is not abusing prescription opioids.
a) True b) False

15. Which of the following statements about regular prescription opioid use is incorrect?
a) A patient who uses opioids regularly will develop tolerance and require increased opioid doses over time.
b) A patient who uses opioids regularly then abruptly stops will experience withdrawal when opioids are absent from the system.
c) Patients with poorly managed pain may exhibit behaviours that resemble drug seeking.
d) Regular use of prescription opioids for the treatment of legitimate pain issues prevents the risk of developing opioid use problems.

TECH talk CE

Presented by pharmacy practice

Sponsored by: TEVA

Prescription medication abuse and misuse: key concepts for pharmacy technicians
1 CEU • SEPTEMBER 2012
CCCEP # 1065-2012-467-I-T Tech.
Not valid for CE credits after June 18, 2015.

Now accredited by the Canadian Council on Continuing Education in Pharmacy

1. a b c d	**4.** a b c d	**7.** a b c d	**10.** a b c d	**13.** a b c d
2. a b c d	**5.** a b c d	**8.** a b c d	**11.** a b c d	**14.** a b
3. a b c d	**6.** a b c d	**9.** a b c d	**12.** a b c d	**15.** a b c d

First Name _____ Last Name _____

Pharmacy Name _____

Primary Licensing Province _____ Licence # _____ Secondary Licensing Province _____ Licence # _____

Home Address _____ City _____ Province _____

Postal Code _____ Telephone _____ Fax _____

Email _____ Year Graduated _____

Type of practice
❑ Drug chain or franchise ❑ Grocery store pharmacy
❑ Banner ❑ Hospital pharmacy
❑ Independent ❑ Other (specify): _____
❑ Mass merchandiser

❑ Full-time technician
❑ Part-time technician

Are you a certified technician?
❑ Yes ❑ No

Please help ensure this program continues to be useful to you by answering these questions.

1. Do you now feel more informed about prescription medication abuse and misuse ? ❑ Yes ❑ No
2. Was the information in this lesson relevant to you as a technician? ❑ Yes ❑ No
3. Will you be able to incorporate the information from this lesson into your job as a technician? ❑ Yes ❑ No ❑ N/A
4. Was the information in this lesson... ❑ Too basic ❑ Appropriate ❑ Too difficult
5. How satisfied overall are you with this lesson? ❑ Very ❑ Somewhat ❑ Not at all
6. What topic would you like to see covered in a future issue? _____

HOW TO ANSWER: **Answer ONLINE for immediate results at www.CanadianHealthcareNetwork.ca**

For information about CE marking, please contact Mayra Ramos at 416-764-3879 or fax 416-764-3937 or email mayra.ramos@rci.rogers.com. All other inquiries about Tech Talk CE should be directed to Tasleen Adatia at 416-764-3926 or tasleen.adatia@rci.rogers.com.

REFERENCES

1. National Association of Pharmacy Regulatory Authorities. Controlled drugs and substances act and regulations. 2011 Nov 3. (http://napra.ca/pages/Legislation/ControlledDrugs_SubstancesAct.aspx)
2. Ontario College of Pharmacists. Prescription regulation summary chart. 2011 Nov 4. (http://www.ocpinfo.com/client/ocp/OCPHome.nsf/object/Summary+of+Laws/$file/Summary+of+Laws.pdf)
3. Diagnostic and statistical manual of mental health disorders (4th ed). Washington DC: American Psychiatric Association; 1994.
4. Sproule B. Substance abuse. Pharmacotherapy self-assessment program, 4th edition. Book 7: Neurology, Psychiatry. American College of Clinical Pharmacy.
5. Drugs and drug abuse: a reference text. 3rd Edition. Brands B, Sproule B, Marshman J, editors. Toronto, ON: Addiction Research Foundation; 1998.
6. Dhalla IA, et al. Clustering of opioid prescribing and opioid-related mortality among family physicians in Ontario. Can Fam Physician 2011;57(3):e92-6.
7. Noble M, et al. Long-term opioid therapy for chronic noncancer pain: a systematic review and meta-analysis of efficacy and safety. J Pain Symptom Manage 2008;35(2):214-28.
8. Dhalla, I.A., et al., Prescribing of opioid analgesics and related mortality before and after the introduction of long-acting oxycodone. CMAJ 2009;181(12): 891-6.
9. Compton WM, Volkow ND. Major increases in opioid analgesic abuse in the United States: concerns and strategies. Drug Alcohol Depend 2006;81(2):103-7.
10. Dhalla IA, Persaud N, Juurlink DN. Facing up to the prescription opioid crisis. BMJ 2011;343:d5142.
11. Sproule B. et al. Changing patterns in opioid addiction: characterizing users of oxycodone and other opioids. Can Fam Physician 2009;55(1):68-9, e1-5.
12. Canadian alcohol and drug use monitoring survey. Ottawa, ON: Health Canada; 2010.
13. Paglia-Boak A, Adlaf EF, Mann RE. Drug use among Ontario students, 1977-2011: detailed OSDUHS findings (CAMH Research Document Series No. 32) Toronto, ON: Centre for Addiction and Mental Health; 2011.
14. Canadian guidelines for safe and effective use of opioids for CNCP—Part B, cluster 1: deciding to initiate opioid therapy, version 5.6. 2010.
15. Savage SR, Kirsh KL, Passik SD. Challenges in using opioids to treat pain in persons with substance use disorders. Addict Sci Clin Pract, 2008;4(2):4-25.
16. Suboxone [product monograph]. In: Compendium of Pharmaceutical and Specialties. Ottawa, ON: Canadian Pharmacists Association; 2012.
17. Purdue Pharmacy. Prescription opioid misuse: what pharmacists really need to know. CCCEP file no. 1004-2011-338-L-P.
18. Fischer B, et al. Comparing heroin users and prescription opioid users in a Canadian multi-site population of illicit opioid users. Drug Alcohol Rev 2008;27(6):625-32.
19. Degenhardt L, et al., Mortality among regular or dependent users of heroin and other opioids: a systematic review and meta-analysis of cohort studies. Addiction 2011;106(1):32-51.
20. Mikolaenko I, Robinson CA Jr, Davis GG. A review of methadone deaths in Jefferson County, Alabama. Am J Forensic Med Pathol 2002;23(3):299-304.
21. College of Physicians and Surgeons of Alberta. Triplicate Prescription Program: information for the Pharmacist. (www.cpsa.ab.ca/Libraries/Pro_TPP/TPP_Info_for_Pharmacist_with_Drug_List_Jan_11_2007.pdf)
22. Newfoundland and Labrador Department of Health and Community Services. Tamper Resistant Prescription Pad Program. (www.health.gov.nl.ca/health/prescription/hcp_tamperresistantdrugpad.html)
23. College of Physicians and Surgeons of Saskatchewan. Prescription Review Program. (www.quadrant.net/cpss/guide/prp.html).
24. British Columbia Ministry of Health. PharmaNet: wwhat is PharmaNet? (www.health.gov.bc.ca/pharmacare/pharmanet/netindex.html#redirect_notice_display_301).
25. Government of Alberta Health and Wellness. What is Alberta Netcare EHR? (www.albertanetcare.ca/9.htm)
26. Ontario Ministry of Health and Long-Term Care. Ontario's Narcotic Strategy. (www.health.gov.on.ca/en/public/programs/drugs/ons).