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TECH talk

NOVEMBER 2011

BY THE NUMBERS

As of November 1, there were just over 420 registered pharmacy technicians in Canada: 398 in Ontario, 23 in B.C. and six in Alberta. That number could potentially double in the coming months, if the majority of those who wrote the latest qualifying exam (more than 500 in Ontario and 80 to 100 each in B.C. and Alberta) exam receive a passing grade. The Pharmacy Examining Board of Canada (PEBC) is releasing those results in December.

In Ontario, approximately 7,500 assistants have completed the PEBC evaluating exam or the certification exam that was offered by the Ontario College of Pharmacists (OCP) prior to the PEBC exam. This is the first step in the regulation process for assistants already in the workforce. And the province's deadline to complete the evaluating exam is rapidly approaching—January 1, 2012. After that date, assistants who wish to become licenced must complete a pharmacy technician program at a school accredited by the Canadian Council for Accreditation of Pharmacy Programs.

The OCP also estimates that pharmacy assistants already in the workforce have completed roughly 10,000 modules for bridging education. When that is divided by four, since each person has to do four courses, we can deduce that approximately 2,500 assistants are pursuing regulation.

In 2012, the PEBC evaluating exam will take place in April and October in all provinces except Saskatchewan, Quebec, New Brunswick and P.E.I. (this may change as technician regulation moves forward; see www.pebc.ca for updates). The qualifying exams will be in March and September in B.C., Alberta, Ontario and Nova Scotia.

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Treatment of Common Ailments During Pregnancy

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A WINNING COMBINATION

Award-winning techs take lifelong learning to highest level

THE EXEMPLARY DEDICATION OF LESLIE FERNANDES AND JANICE HODGSON has earned them both the prestigious 2011 Commitment to Care and Service Award for Pharmacy Technician Initiatives, hosted by Pharmacy Practice and Drugstore Canada and sponsored by Teva Canada.

Fernandes, who works at Pharmasave in Flin Flon, Manitoba, discovered her vocation while still in high school, when she had the opportunity through a business education program to spend an afternoon a week in a pharmacy. "I was hooked," she says. After graduating from Winnipeg Technical College in 1996, she returned to the same pharmacy and has been there ever since.

She has an insatiable thirst for knowledge. Frustrated by the lack of national standards for technicians at the time, she wrote the Pharmacy Technician Certification Board (PTCB) exam in the U.S., and fulfills the continuing education requirements every two years to retain the certification.

Whether in bone ultrasonography, compression fitting, or medical devices, Fernandes never turns down a learning opportunity. When the pharmacy became too busy to hold its regular clinics on osteoporosis, high blood pressure, and diabetes, Fernandes organized a Health Fair at a local community hall. Pharmacy staff manned booths to provide information or perform screening tests, joined by massage therapists, chiropractors, dieticians and other health practitioners.

On the workflow side, Fernandes has created several reference guides, and is overseeing a software conversion. She has also requested permission to develop a bridging program for the pharmacy's technicians who want to write their Pharmacy Examining Board of Canada exams. "Our province lacks such resources at this time, and I think this would be an invaluable tool to technicians," says Fernandes, who has already completed the exams. Naturally, this avid learner is anxious for regulation to take effect in Manitoba. "It's an amazing opportunity for both technicians and pharmacists to enhance patient care," she says. "I never pass up the chance to learn something new."

Leslie Fernandes: organized a Health Fair involving multiple healthcare professionals

Janice Hodgson: an expert in aseptic technique in pediatrics

Fernandes advises fellow technicians to do likewise. "Ask if there are any training sessions that your pharmacy can sign you up for," as Pharmasave has done for her. She also suggests keeping an eye out for services for which there is a demand, such as device training for diabetic patients.

Janice Hodgson, a technician at Winnipeg's Children's Hospital, Health Sciences Centre, certainly agrees. "The

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TECH talk

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TECH TALK and TECH TALK CE are published by *Pharmacy Practice* magazine, a division of Rogers Publishing Ltd., One Mount Pleasant Road, 7th Floor, Toronto, Ontario M4Y 2Y5.

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advice I give to technicians is to step up and volunteer for any education sessions or extra training that is offered." Hodgson is herself certified as a technician checker, a trainer in aseptic technique, and a preceptor.

Since graduating from Winnipeg Technical College in 1991, Hodgson has also worked at the Health Sciences Centre's adult in-patient pharmacy, out-patient dispensary, and investigation drug services. She is now the primary trainer and validator for aseptic technique in pediatrics, ensuring that all technicians and pharmacists complete theoretical and practical training, and then pass a standardized test in aseptic technique.

As the unofficial "efficiency expert," she constantly seeks ways to streamline processes in the pharmacy. In the face of a critical shortage of pharmacists in paediatrics, for example, she transitioned many tasks from pharmacists to technicians without affecting patient care.

Like Fernandes, she sees regulation as "another opportunity for advancement in my career."

Both Hodgson and Fernandes are role models for technicians who want to expand their responsibilities. As Hodgson urges, "take initiative and show your enthusiasm and pride for your job!"

NEW BRUNSWICK NEWS

Pharmacy regulator surveys techs

THE NEW BRUNSWICK PHARMACEUTICAL Society recently surveyed pharmacy technicians to gather their opinions on the role and training of regulated techs.

The Society will incorporate the findings into a working document it is preparing to submit to government, regarding changes to the Pharmacy Act. In addition to recommending the regulation of technicians, the society is proposing a new authority for pharmacists to prescribe for minor ailments, including prescribing Schedule 1 drugs. It's hoped that the government will pass the new Act in 2012.

New Brunswick pharmacists have been prescribing since 2008, when changes the first round of changes to the Pharmacy Act authorized pharmacists to replace, extend and renew some existing prescriptions, to issue new prescriptions for pre-existing conditions in emergency situations and to alter prescriptions to accommodate special needs. Registered technicians would free pharmacists up from some of the distributive tasks linked to dispensing and allow them to focus their service on other patient medication issues.

The survey asks technicians to describe their current activities, and those they think registered technicians should be able to perform. It also asks about training, job satisfaction and their opinion on a reasonable wage for registered technicians.

As well, the regulatory body is compiling a mailing list of pharmacy technicians to facilitate direct communication. New Brunswick technicians who would like to be included on the list can email their name and email address to info@nbpharmacists.ca.

—Carol Moreira

BRITISH COLUMBIA NEWS

New tech society sponsors annual conference

PHARMACY TECHNICIANS AND ASSISTANTS in British Columbia have a new tool for professional development with the launch of the Pharmacy Technician Society of British Columbia (PTSBC) in May.

Established by Bal Dhillon, former president of the now-defunct Vancouver chapter of the Canadian Association of Pharmacy Technicians (CAPT), the Society recently sponsored the sixth annual Pharmacy Technician Conference at River Rock Casino Resort in Richmond, B.C. The first four annual conferences were sponsored by CAPT Vancouver, and the fifth by the University of British Columbia. Dhillon has played a major role in organizing all six.

The two-day conference attracted close to 100 participants each day to hear sessions on the status of regulation, clinical pharmacy services and more, as well as visit vendor exhibits.

The PTSBC's mission is "to optimize pharmaceutical services in collaboration with pharmacists." Besides the annual conference, the Society plans to hold quarterly educational seminars "with the aim of increasing knowledge, skills, and abilities," says Dhillon. Members also benefit from discounts to a number of businesses in the Lower Mainland, savings on selected conferences and workshops, job postings, updates on regulation, and networking opportunities, including a Facebook page.

The Society has enjoyed a "good response" from pharmacy assistants and technicians, says Dhillon. As of press time, more than 75 members had signed up. For more information, visit www.ptsbc.ca.

The seventh annual conference is scheduled for October 12-13, 2012, at the same location.

Pharmacy owners geared up for licenced techs

ALMOST HALF (45%) OF PHARMACY owners and managers in Ontario, B.C. and Alberta, where technician regulation has taken place, say they plan to actively encourage selected pharmacy assistants to become licensed technicians, based on their current or potential skills. Another 21% say they plan to actively encourage all of their assistants to become registered, according to the *Trends & Insights 2011 Survey of Pharmacists* conducted by *Pharmacy Practice* and *Drugstore Canada*.

Owners and managers in urban locations appear to be more proactive, with 49% actively encouraging selected assistants and 20% encouraging all assistants, compared with 33% and 22%, respectively, in rural locations. Regionally, however, owners and managers in B.C. seem somewhat less receptive: in fact, 22% say they'd prefer not to have any licensed techs on staff, compared to just 5% who say the same in Ontario and Alberta.

The survey then asked staff pharmacists as well as owners and managers whether employers should contribute towards the cost of licensing existing pharmacy assistants. The majority (61%) agree there should be some cost-sharing, while 11% say techs should pay all the costs and 27% indicate they weren't sure or it depends on the technician. On average, respondents suggest employers should pick up about half (54%) of the costs, which the survey estimated to be between $2,000 and $3,000 for bridging education, the national exam, and provincial jurisprudence. Regionally, this figure ranges from 41% in B.C. to 64% in the Atlantic provinces.

Some confusion still exists over the tasks that community pharmacists would like licensed technicians to perform; they most often cite third-party drug plan issues (67%) and inventory management (66%), despite the fact that neither requires the skill sets of a licensed tech. Meanwhile, the "dispensing" of prescriptions, in which only licensed technicians can be involved, ranks a relatively distant third with 33% of total responses, followed by specialty compounding at 31%.

However, at the time of the survey (March to May 2011) the definition of "dispensing" may have become open to misinterpretation with the advent of technician regulation. The proposed Model Standards of Practice for Pharmacy Technicians, developed by the National Association of Pharmacy Regulatory Authorities and currently in the final stages of review and approval, clarifies that dispensing is a joint function between pharmacists and technicians. Licenced technicians can independently perform and sign off on the technical aspects of a prescription, while pharmacists must determine and sign off on its therapeutic appropriateness.

In Ontario, pharmacists are more likely to indicate that "dispensing" is an important function for licenced techs (42% compared to 33% nationally); as well, 48% look forward to technicians taking over the job of physician follow-up on such matters as refills and special authorizations.

MOST IMPORTANT FUNCTIONS FOR REGULATED TECHNICIANS

Third-party drug plan issues	67%
Drug distribution/inventory management	66%
Dispensing prescriptions	33%
Specialty compounding	31%
General follow-up with physicians	27%
Support for pharmacists' expanded services	22%
General follow-up with patients	14%
Maintenance of patient-care documentation	12%
Gathering drug/medication safety information	10%

Source: Trends & Insights 2011 Survey of Retail Pharmacists, n=903, moe +/- 3.2%, 19/20

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Treatment of Common Ailments During Pregnancy

by Ema Ferreira, B.Pharm., M.Sc., Pharm.D., FSCPH

Learning Objectives:

Upon successful completion of this lesson, technicians will be able to:

1. Assist the pharmacist in identifying areas of counselling for prenatal care;
2. Identify women who are pregnant and may require the pharmacist's assistance; and
3. Describe the appropriate treatment for common disorders of pregnancy that may be treated with OTC medications.

Introduction

Pharmacy technicians can play a valuable role in the care of pregnant women. By becoming familiar with optimal health habits, nutrition requirements and common ailments during pregnancy, they can help pharmacists provide preconception and prenatal care.

Health habits

Tobacco Tobacco is associated with several adverse outcomes during pregnancy and ideally women should stop smoking before becoming pregnant.[1] In preconception/prenatal counselling, the pharmacy team should assess each woman's smoking status, explore her readiness to quit or cut down, identify strategies to help her, and refer her to the appropriate services for individual counselling.[2] As well, if appropriate, smoking cessation aids sold in pharmacies can be recommended or prescribed. Nicotine replacement products (e.g., transdermal patches and gums) can be used if deemed appropriate.[3]

Alcohol use Alcohol intake can cause birth defects, fetal and postnatal growth retardation, and central nervous system impairment.[2] Every woman who receives preconception counselling should be asked about alcohol consumption. Since the exact amount of alcohol associated with fetal harm is not known, women who plan to become pregnant or are pregnant should abstain from alcohol.[2]

Nutrition and vitamin supplements

Before pregnancy, women should be evaluated to ensure they have healthy eating habits, adequate intakes of calcium, vitamin D, folic acid and iron, and are not consuming excessive amounts of vitamin A (retinol; tolerable upper intake levels are 9,333-10,000 IU per day). Table 1 (available online) lists recommended daily allowances for calcium, folic acid, iron and vitamin D. Women planning a pregnancy should be encouraged to consume a healthy diet, according to Canada's Food Guide (www.hc-sc.gc.ca/fn-an/food-guide-aliment/index_e.html).[5]

Folic acid plays an important role in the prevention of congenital malformations, particularly neural tube defects (e.g., spina bifida). It may also help reduce other congenital anomalies, including cardiovascular, oral clefts, limb deformities and urinary malformations.[6] All women of child-bearing age should be counselled on the appropriate dose of folic acid to prevent congenital anomalies and the pharmacy technician can help to identify women who might benefit from this counselling.[7]

Use of drugs during pregnancy

Pregnancy is normally 40 weeks in duration and is usually divided into three trimesters of 13 weeks each. The use of prescribed and over-the-counter (OTC) medications is common during pregnancy. In an American study, after excluding prenatal vitamins and iron supplements, 76.5% of pregnant women took at least one other medication, 62.8% used OTC medications, and 4.1% used herbal medications and/or alternative remedies. Multiple drug use occurred in 33.5% of patients, with up to 13.6% taking four or more remedies. In this study, the most common OTC medication taken by pregnant women was acetaminophen (39.6%), followed by antacids (32.9%) and ibuprofen (10.1%).[8]

Treatment of common ailments

Pregnant women will consult the pharmacy team for different reasons (contraception, family planning, renewal of drugs, etc.), and pharmacists can provide them with useful advice and information. The pharmacy team should be able to recognize the signs and symptoms that require a medical referral and women should be advised to contact their physician at once if any of the signs listed in Table 2 appear. Such signs could indicate pregnancy loss, antepartum hemorrhage, preterm labour, and preterm rupture of membranes, hypertensive disorders of pregnancy, clots, infection, or hyperemesis gravidarum.

Nausea and vomiting

The exact cause of nausea and vomiting during pregnancy is not known. The condition occurs in 75–80% of women, beginning early in the pregnancy and subsiding in a majority of women after the 14th week.[11] Even though it is often called morning sickness, it can occur at any time of the day. The recommendations in Table 3 may alleviate symptoms, although there is no evidence to prove the effectiveness of dietary changes.[5,10,11]

Medications can be used to control nausea and vomiting when the means mentioned in Table 3 do not work. A medical referral is required if symptoms affect daily activities, and medications can be prescribed to alleviate symptoms. OTC medications can be used to tide patients over until they see their physician.

Doxylamine/pyridoxine is the most widely used prescription antiemetic during pregnancy[11]. This combination is efficacious and its safety during pregnancy is well-established. OTC antihistamines, such as dimenhydrinate, diphenhydramine and doxylamine, are generally regarded as safe during pregnancy.[12] Pyridoxine (vitamin B6) 10–25 mg three times a day may be effective to relieve nausea during pregnancy, with minimal side effects.[13]

Ginger is effective in the treatment of pregnancy-related nausea in doses ranging from 500–1500 mg per day.[13-15] Not all studies have evaluated pregnancy outcomes, although data suggest that ginger is safe during pregnancy, without causing a higher incidence of miscarriage or birth defects.[14,15] However, until all herbal products are well-regulated in Canada, ginger products should not be recommended routinely, since contamination with prescriptions drugs, heavy metals, and other substances is possible. If a patient insists on ginger, only products labelled with a Natural Product Number (NPN) should be recommended, since these have been evaluated by Health Canada for efficacy, safety and quality.

If a pregnant patient has severe symptoms and presents signs of dehydration (postural hypotension, dark urine, constant thirst, and dry skin), immediately refer her to the emergency room of the closest hospital.[5,11]

Heartburn and acid reflux

More than 50% of pregnant women experience heartburn.[5,16,17] Symptoms usually appear during the first trimester and worsen as the pregnancy evolves.[16] Heartburn and indigestion are thought to be caused by the increase in hormones in early pregnancy, which slows digestion and relaxes the esophageal sphincter.[5,18] Increased intra-abdominal pressure due to the expansion of the uterus also contributes to the symptoms.[16] Simple dietary and lifestyle changes can relieve heartburn, such as eating frequent, small meals and eliminating causes of gastrointestinal discomfort (hot, spicy, fried, fatty foods, processed meats, caffeine, and alcohol). Also, women should avoid lying down immediately after eating, and rest and sleep with the head of the bed elevated (at least 15 cm or 6 inches).[19]

Despite dietary and lifestyle changes, some women will require pharmacological measures to relieve their heartburn.[16] Antacids containing aluminum hydroxide and magnesium hydroxide, calcium carbonate or alginic acid at usual recommended doses can be used and are generally regarded as safe during pregnancy.[20]

Pregnant women should avoid products containing bismuth subsalicylate since they contain a salicylate, which is associated with fetal toxicity, including intrauterine growth retardation, premature closure of the ductus arteriosus in utero and pulmonary hypertension.[21]

Ranitidine (available over the counter) is the histamine-H2 blocker most widely studied in pregnancy, including during the first trimester, and it is not a major teratogen.[17,21,22] Less data are available on the use of other anti-H2 drugs.[21,23] Ranitidine at usual recommended doses reduces heartburn symptoms and may reduce the need for antacids.[24,25] Women whose symptoms are not relieved by antacids should consult their physician before taking ranitidine or other OTC anti-H2 drugs. Prescription proton pump inhibitors (PPIs), in particular omeprazole, can also be used if antacids and anti-H2 drugs are not sufficient.[26]

Pain, headaches, backaches

Headaches can be caused by the increased nasal swelling and congestion (sinuses) related to pregnancy and can also be

TABLE 2 – Signs and symptoms that require a medical referral[9]

- Bleeding from vagina, including spotting
- Fluid leaking from the vagina at any time before labour begins
- Sudden swelling or puffiness of the face, hands, or feet (particularly if it worsens or changes)
- Dizziness, lightheadedness, fainting spells, or loss of consciousness
- Headaches that are severe and last for a prolonged period of time
- Visual disturbances such as blurring, spots, flashes, or double vision
- Abdominal pain
- Chest pain
- Pain or burning when passing urine
- Chills, fever, or a rash following a fever
- Nausea or vomiting that lasts throughout the day
- Absence or decrease of fetal movement after the 24th week of pregnancy
- Signs of preterm labour (e.g., uterine contractions, vaginal leaking)
- Exposure to infectious diseases, including rubella, measles, hepatitis B, and sexually transmitted diseases including HIV
- Jaundice or dark-coloured urine

TABLE 3 – Tips to avoid or relieve nausea and vomiting of pregnancy[5]

Modification of eating habits
- Try to eat a few crackers or a piece of bread before getting up in the morning.
- Eat appealing foods, in small quantities and frequently (every 2 to 3 hours).
- Eat lower-fat foods, such as poultry and fish, fruit, breads, cereals, rice, and potatoes and avoid fried foods.
- Avoid highly seasoned foods.
- To avoid hunger, do not skip meals.
- Drink fluids in small quantities and between meals to avoid fullness during meals.
- Have a snack before bedtime or during the night.

Other tips
- Get out of bed slowly—avoid sudden movements.
- Avoid strong smells and cooking odours.
- Brush teeth at other times of the day rather than immediately after meals.
- Stay well-rested and avoid fatigue.
- Avoid cigarette smoke.

induced by fatigue and stress.[5] Non-pharmacological methods to alleviate pain include relaxation, rest, eating regularly, and applying alternating hot and cold packs for sinus and tension headaches. Applying ice to the back of the neck can also help. Headaches associated with a fever, visual disturbances, or edema of the head and/or face should be referred to a physician.[5]

Backaches usually result from the pressure and weight of the enlarging uterus, the relaxation of ligaments (hormone-mediated), poor posture and/or excess weight.[5] Women should be advised to keep their weight gain within the recommended range and avoid shoes with poor support. Lifting and carrying objects correctly can be preventative and lessen symptoms. Pelvic tilt and dromedary droop exercises (bump or arch the back up like a cat while on hands and knees) are usually helpful. Massages also bring relief and relaxation.[5]

Acetaminophen is generally regarded as safe and is considered the pain reliever of choice during pregnancy.[21,27] Nonsteroidal anti-inflammatory drugs (NSAIDs), including ibuprofen and naproxen, have not been associated with congenital anomalies to date; occasional doses are generally regarded as safe during pregnancy before the third trimester.[21,27] After this period, NSAIDs, including ibuprofen and acetylsalicylic acid (ASA) at analgesic doses, can cause oligohydramnios (decreased amniotic fluid) and pulmonary hypertension in the fetus, as well as other adverse effects.[27]

If pain persists after two or three days of adequate doses of acetaminophen or NSAIDs, women should be advised to consult their physician.

In a small study (doses were not specified), NSAID use was associated with an increased risk of miscarriage when taken around conception.[28] Therefore, avoiding NSAIDs around the time of conception might be advisable for patients who are planning a pregnancy.

Constipation and hemorrhoids

Constipation is related to progesterone changes during pregnancy, which reduce gastrointestinal motility, resulting in increased absorption of water from the stool and hardening of the stools.[29] Decreased physical activity during pregnancy and compression of the intestine by the enlarging uterus also worsen constipation.[29]

Avoiding refined foods as well as increasing the intake of high-fibre foods (e.g., whole-grain breads or cereals, bran cereals, fresh or dried fruit, nuts and vegetables) can be recommended.[5] Appropriate fluid intake and regular exercise can also improve symptoms.[5,29]

Laxatives can be used if non-pharmacological methods are insufficient. Bulk-forming laxatives (e.g., psyllium, calcium polycarbophil or methylcellulose), at usual recommended doses, are generally regarded as safe during pregnancy. Sodium docusate and docusate calcium are emollient laxatives that are poorly absorbed and generally regarded as safe during pregnancy.[27,29] Recommended doses of lactulose, a hyperosmotic laxative, and stimulants such as sennosides, cascara sagrada, and bisacodyl can also be used when patients do not respond to initial treatment. Absorption of these laxatives is minimal and untoward pregnancy effects are unlikely.[27,29] Castor oil is contraindicated during pregnancy, as it can cause uterine contractions.[27, 29] Mineral oil should also be avoided, since it can reduce lipid-soluble vitamin absorption.[29]

The pressure of the uterus on the pelvic veins and the straining that accompanies untreated constipation can cause hemorrhoids.[29] To avoid and relieve hemorrhoids, patients should be counselled to prevent or treat constipation by following the above recommendations. Patients should avoid straining during bowel movements and use cold compresses to reduce hemorrhoid swelling, or warm sitz baths for comfort. Kegel exercises (pelvic floor exercises) may help to encourage venous return. Sleeping in the left-side lying position (not on the back) and avoidance of standing or sitting for prolonged periods also reduce pressure on the rectal veins. Use of topical medications or suppositories may be recommended. Hamamelis (also known as witch hazel) and glycerin compresses or zinc ointment (with or without pramoxine) are generally regarded as safe during pregnancy. If these measures are not useful or if rectal bleeding occurs, refer the patient to her physician.

Preparations containing shark liver oil should generally be avoided, since they contain vitamin A that can potentially be absorbed.[27,29] Topical hydrocortisone can be added to relieve itching or a rash; topical corticosteroids are deemed safe during pregnancy.[22,27]

Vaginal infections

Vaginal infections are common during pregnancy and women may seek advice on OTC antifungal treatments. Medical referral is important before recommending a treatment since some vaginal infections (e.g., bacterial vaginosis, Trichomonas) are associated with adverse pregnancy outcomes. In addition, first-line azole antifungal treatments for vaginal candidiasis (Candida albicans) should be given for six to seven days; the shorter-course nonprescription products are not recommended during pregnancy.[30-31]

The role of the pharmacy technician

The pharmacy team has an important role to play in patient education in order to ensure the proper treatment of common ailments during pregnancy. First, women have to understand the importance of treatment to prevent complications. The risks of not treating a condition also have to be discussed. Secondly, women must receive information on drug use during pregnancy to maximize adherence. If a woman understands that a drug can be taken safely during pregnancy, she might be more willing to take it appropriately. The

information should be complete and unbiased. Pharmacists can ensure proper follow-up and recommend prophylaxis if necessary. They can also provide prenatal counselling regarding lifestyle modifications (healthy diet, exercise, tobacco, alcohol, drugs) and appropriate medication use during pregnancy. A collaborative approach to treating pregnant women is recommended. Pharmacy technicians can assist pharmacists in all these actions. In addition to the provision of medications and supportive counselling, pharmacy technicians can assist in several specific ways:

- Take a complete drug history including prescribed, OTC, natural products and recreational drugs;
- Identify patients who are planning to become pregnant or are pregnant;
- Support prevention of congenital anomalies by offering information on the use of folic acid;
- Ensure that the pharmacy carries an assortment of prenatal vitamins containing the appropriate amounts of folic acid and other minerals and vitamins;
- Reinforce messages about the importance of adherence to prescribed therapy and lifestyle modifications, including smoking cessation;
- Monitor OTC sales and suggest that pregnant patients consult with the pharmacist for the most appropriate selection of nonprescription products;
- Encourage patients who have medical conditions to consult their doctor before becoming pregnant.

Conclusion

The pharmacy team is very accessible and in a good position to counsel women on preconception and prenatal care. Pregnant women and women planning to be pregnant should be counselled about healthy eating habits and the risks of smoking, alcohol, and drug use. Healthy nutrition is essential to achieve optimal fetal growth and maintain maternal health. According to current knowledge, women of childbearing age and pregnant women should pay special attention to the adequate intake of the essential nutrients iron, folic acid, and calcium. Nausea and vomiting, heartburn, headaches, back pain, constipation, hemorrhoids, and vaginal infections are common conditions that affect pregnant women. Non-pharmacological advice can help relieve symptoms; however, in many circumstances medications may be necessary. Several medications are generally regarded as safe during pregnancy and the pharmacy technician can assist the pharmacist to ensure drug adherence through proper counselling and information.

Table 1 and references are available at www.CanadianHealthcareNetwork.ca, CE section, Quick search CCCEP # 1065-2011-265-I-T

QUESTIONS

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

1. Which statement is inaccurate?

a) It is recommended that women who become pregnant abstain from alcohol since the exact amount associated with adverse pregnancy outcomes are unknown.
b) Women planning to become pregnant should be encouraged to adapt healthy eating habits and should be informed about the benefits of adding a supplement of vitamin A to their daily intake.
c) Tobacco smoking is associated with several negative pregnancy outcomes and if appropriate, smoking cessation aids should be recommended to pregnant women.
d) Folic acid supplementation is recommended to all pregnant women in order to prevent congenital malformations.

2. What is the recommended daily dietary allowance of folic acid during pregnancy?

a) 0.4 mg
b) 0.6 mg
c) 1 mg
d) 5mg

Questions 3 and 4 refer to this case: Marissa is 25 weeks pregnant and she wants to have some advice to relieve her heartburn. She has no allergies and her pregnancy is going well. She smokes five cigarettes per day and takes prenatal vitamins daily.

3. What non-pharmacological advice would be appropriate to relieve her symptoms?

a) Eat small meals
b) Avoid eating before going to bed
c) Avoid spicy foods
d) Stop smoking
e) All of the above

4. Which medication is not appropriate for the treatment of her acid reflux symptoms?

a) Calcium carbonate tablets
b) Magnesium and aluminum hydroxide liquid
c) Bismuth subsalicylate liquid
d) Alginic acid and aluminum hydroxide liquid

5. Which of following symptoms does not require a prompt medical referral?

a) Spotting from the vagina
b) Abdominal or chest pain
c) Nausea before meals relieved by dimenhydrinate
d) Dark-colored urine
e) Headache not relieved by acetaminophen

Questions 6, 7 and 8 refer to the following case: A 32-year-old patient comes to your pharmacy to get some advice on what to do to relieve her nausea. She is seven weeks pregnant and has been nauseated for two weeks. She does not vomit but is bothered by the constant nausea. She will see her physician in one week.

6. What non-pharmacological advice can be given to her?

a) Eat foods that are bland and tasteless.
b) Skip meals to avoid fullness.
c) Brush your teeth after each meal.
d) Try to eat a piece of bread before getting up in the morning.

7. What pharmacological intervention would be best for the pharmacist to recommend to this woman at this point?

a) Doxylamine 10 mg + pyridoxine 10 mg 2 tablets daily
b) Ginger 500 mg po bid
c) Dimenhydrinate 25 mg - 50 mg po q6h PRN
d) Metoclopramide 10 mg po q6h PRN

The same patient returns to your pharmacy three weeks later after taking doxylamine 10 mg/vitamin B6 (pyridoxine) 10 mg tablets for two weeks (1 tablet morning and afternoon and 2 tablets at bedtime). She would like to renew her antiemetic prescription and talks to the pharmacy technician. She felt fine for the first two weeks but has started vomiting every day, feels dizzy when standing up and is constantly thirsty. You take her blood pressure and it is 90/50 mmHg.

8. What should the pharmacy technician do?

a) Renew and fill the prescription.
b) Inform the pharmacist of this situation, renew and fill her prescription.
c) Sell her some ginger supplements to optimize her antiemetic treatment.
d) Ask the woman to sit down in the waiting room to see the pharmacist and inform the pharmacist of the urgency of the situation.
e) Recommend to the patient to take dimenhydrinate 50 mg po qid PRN with doxylamine 10 mg/vitamin B6 10 mg tablets.

QUESTIONS (Continued)

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

9. A patient who is 30 weeks pregnant has a mild headache without any other symptoms and asks you if there is a drug that she can take to stop this headache. Her blood pressure is normal and she has no other symptoms. What would be the best choice for her?
a) ibuprofen 400 mg po qid PRN
b) acetaminophen 650 mg po q4h PRN
c) acetylsalicylic acid 325- 650 mg po q4h PRN
d) ibuprofen 200 mg po q6h PRN

Questions 10 and 11 refer to this case:
A pregnant patient of 28 weeks has been suffering from constipation for three weeks. She drinks plenty of fluids and eats fibre-rich foods but remains constipated. She wants your advice on laxatives and treatment for her hemorrhoids.

10. Which of the following laxatives is not recommended to treat constipation during pregnancy?
a) sennosides b) docusate sodium
c) psyllium d) mineral oil

11. To treat her hemorrhoids, the pharmacist should advise her to use:
a) Shark liver oil containing ointment
b) Pramoxine and zinc sulfate ointment
c) Tea tree oil
d) Hydrocortisone cream 0.5%

12. Bridget, 34 years old, is 23 weeks pregnant with her second child. Her first child was born prematurely at 32 weeks and is now a healthy two-year-old. She thinks she has a vaginal yeast infection. Which of the following statements is correct?
a) Pregnant women rarely suffer from vaginal yeast infections.
b) Symptoms of vaginal yeast infections are different during pregnancy.
c) Other vaginal infections can be mistaken for a vaginal yeast infection, so she should be referred to her physician.
d) The recommended treatment duration of a vaginal infection during pregnancy is usually shorter to minimize exposing the baby to antifungal drugs.

13. Caroline, 33 years old, is planning a pregnancy and consults you to get an appropriate vitamin supplement. She already takes the appropriate folic acid dose to prevent congenital anomalies. However, while talking to her, she tells you that she does not take any milk products or any calcium supplement. What amount of elemental calcium would she require to consume during pregnancy?
a) At least 500 mg daily
b) At least 1000 mg daily.
c) At least 1500 mg daily
d) She does not require a calcium supplement until the second half of her pregnancy

14. How can a pharmacy technician contribute to care for women planning a pregnancy?
a) Take a complete drug history including prescribed, OTC and natural products
b) Identify patients who are planning to become pregnant or are pregnant
c) Ensure that the pharmacy carries an assortment of prenatal vitamins containing the appropriate amounts of folic acid and other minerals and vitamins
d) Monitor OTC sales and suggest that women consult with the pharmacist for the most appropriate selection of nonprescription products
e) All the above

15. A woman with hypertension is planning to become pregnant. A pharmacy technician can assist the pharmacist to ensure she takes appropriate actions to achieve a successful pregnancy. Which of the following is not appropriate?
a) Encourage the woman to consult her doctor before becoming pregnant
b) Reinforce messages about the importance of stopping medications before becoming pregnant
c) Inform her of the availability of folic acid-containing vitamins to take before becoming pregnant
d) Encourage a healthy lifestyle including smoking cessation if appropriate
e) All of the above

TECH talk CE

Presented by pharmacy practice

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Treatment of Common Ailments During Pregnancy

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First Name _____ Last Name _____

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Email _____ Year Graduated _____

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

❑ 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 the treatment of common ailments during pregnancy ? ❑ 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 Karen Welds at (416) 764-3926 or karen.welds@rci.rogers.com.

TABLE 1 - Recommended daily dietary allowances during pregnancy[6]

Vitamin/ mineral	Recommended daily dietary allowance
Calcium	1000-1300 mg*
Folic acid	0.6 mg
Iron	27 mg (elemental)
Vitamin D	600 IU

* 1300 mg is recommended for women under the age of 18

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