

The Official Journal of the Canadian Council of Cardiovascular Nurses
La revue officielle du Conseil canadien des infirmières et infirmiers en soins cardiovasculaires

Canadian Journal of Cardiovascular Nursing

Revue canadienne de soins infirmiers cardiovasculaires

VOLUME 23, ISSUE 4 • FALL 2013
ISSN: 0843-6096

Publication Mail Agreement #40051182

Canadian
Council of
Cardiovascular
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Canadian Journal of Cardiovascular Nursing

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Publishing

The *Canadian Journal of Cardiovascular Nursing* is published four times per year by the Canadian Council of Cardiovascular Nurses (CCCN).

This is a refereed journal concerned with health care issues related to cardiovascular health and illness. All manuscripts are reviewed by the editorial board and selected reviewers. Opinions expressed in published articles reflect those of the author(s) and do not necessarily reflect those of the Board of Directors of CCCN or the publisher. The information contained in this journal is believed to be accurate, but is not warranted to be so. The CCCN does not endorse any person or products advertised in this journal. Produced by Pappin Communications, Pembroke, Ontario.

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ISSN: 0843-6096

Canadian Publications Sales
Agreement No. 40051182

Printed by Image Digital Printing Ltd. dba
The IDP Group, Renfrew, Ontario

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Would you like to achieve the designation of being certified as a cardiovascular nurse in Canada? Are you up for the challenge of testing your knowledge relating to cardiovascular nursing?

If so, you may want to join more than 900 cardiovascular nurses across Canada who have already received the CCN(C) designation since the exam's inception in 2001. The exam was developed following the development and adoption of the Cardiovascular Nursing Standards by the Canadian Council of Cardiovascular Nurses.

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- You will be staying current through preparation for the exam and through continuous learning for certification renewal.

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For more information on the certification process, please visit the CNA website: <http://www.nurseone.ca/Default.aspx?portlet=StaticHtmlViewerPortlet&plang=1&ptdi=153>

For a copy of the certification brochure visit: http://www.nurseone.ca/docs/NurseOne/Certification/Certification_brochure_2014_e.pdf

Important dates to remember

For **2014** candidates taking the **Initial Certification Exam**

- Applications are accepted by CNA between **September 3 and November 6, 2013**. This is the final deadline to register for the 2013 exams.
- Exams take place on Saturday, **April 5, 2014**.

For **2014** candidates renewing their certification

- Certification renewal is for candidates whose certification term ends in **2014**.
- Renewal applications are accepted by CNA between **September 3 and December 2, 2013**.
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APPLY ONLINE! getcertified.cna-aiic.ca

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Aimeriez-vous obtenir la désignation autorisée d'infirmière certifiée en soins infirmiers cardiovasculaires au Canada? Aimeriez-vous mettre au défi vos connaissances en soins cardiovasculaires?

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Pour plus d'information sur le processus de certification, visitez le site internet de l'AIIC : <http://www.nurseone.ca/Default.aspx?portlet=StaticHtmlViewerPortlet&plang=11&ptdi=153>

Pour obtenir une copie de la brochure sur la certification, visitez le : http://www.nurseone.ca/docs/NurseOne/Certification/Certification_brochure_2014_f.pdf

Dates limites importantes

Application pour une certification initiale : **6 novembre 2013**

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Date d'examen : **5 avril, 2014**

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CLINICAL COLUMN

Test Your Knowledge of Heart Failure!

Gillian Yates, MN, NP, CCN(C), and Debbie Oldford, RN, MN, CCN(C)

Heart failure presents an increasing clinical burden to both patients and health care professionals, along with a decreased quality of life for patients and families. Overall the Canadian prevalence of heart failure is 1%. Heart failure has a poor prognosis with an average one-year mortality of 33% and a high hospital readmission rate of 23.6% in one year. Fifty per cent of Canadian heart failure patients are treated by their family physicians (Canadian Heart Failure Network, n.d.). Challenges with management strategies are often related to lack of knowledge of current clinical practice guidelines, shortened length of stay and complexity of the disease. As cardiovascular nurses,

we have a huge role to play in educating patients in risk factor management, heart failure management and prevention.

The questions posed here will test and enhance your knowledge and understanding of heart failure management strategies. At the end of the test, participants will be able to: 1) recognize decompensated heart failure and investigations required, 2) identify non-pharmacological strategies, and 3) become familiar with treatment options including drug therapy and medical interventions.

(Editor's Note: References are included at the end for ease of reading.)

QUESTIONS

Risk Factors

1. Name at least four causes of dilated cardiomyopathy.
2. What prophylactic intervention should health care professionals offer to patients with heart failure to avoid infections?
3. List five lifestyle factors that require modification in patients with heart failure.
4. Women with obstructive sleep apnea are often thin, elderly and present with unexplained pulmonary hypertension and tricuspid regurgitation. Is this statement True or False?
5. What over-the-counter medication should be avoided in patients with heart failure?
 - a) Naprosyn
 - b) Ibuprofen
 - c) Pseudoephedrine
 - d) All of the above

Signs and Symptoms

1. What New York Heart Association (NYHA) Functional Class (FC) consists of heart failure symptoms with less than normal activity?
 - a) FC I
 - b) FC II
 - c) FC III
 - d) FC IV
2. What clinical feature is NOT a sign of right sided heart failure?
 - a) hypotension
 - b) clear lung fields
 - c) abdominal bloating
 - d) low JVP
3. Name five laboratory tests that should be performed in patients presenting with new onset heart failure symptoms?
4. Ejection Fraction (EF) can be obtained from various cardiac tests including cardiac catheterization, nuclear stress

test, wall motion study (WMS), transthoracic echocardiogram, pharmacological echocardiogram and cardiac MRI. Which two tests give the most reliable measurement of the left ventricular (LV) ejection fraction?

- a) WMS and MRI
 - b) Cardiac catheterization and echocardiogram
 - c) Nuclear stress test and pharmacological echocardiogram
5. Common presentations of heart failure are: dyspnea, orthopnea, PND, fatigue, weakness, exercise intolerance, dependent edema, cough, weight gain, abdominal distension, nocturia and cool extremities. Name three less-common presentations of heart failure.

Systolic Versus Diastolic Heart Failure

1. Characteristics of heart failure with preserved systolic function (diastolic heart failure) are:
 - a) reduced contractility
 - b) reduced filling time or limited filling
 - c) loss of myocardium
 - d) impaired relaxation
 - e) b and d
2. Diastolic heart failure is especially common in patients of which descent:
 - a) Chinese
 - b) Black
 - c) Aboriginal
 - d) All of the above
3. Name two classes of drugs that all patients with heart failure and LVEF of less than 40% should be prescribed:
4. What combination therapy should be considered in a black patient with systolic heart failure in addition to standard therapy (beta blocker and ace inhibitor)?

5. What percentage of patients with heart failure has a preserved systolic function?
- 10 to 20%
 - 40 to 50%
 - 60 to 70%

Drugs

1. In a patient with severe symptomatic heart failure on high dose Lasix, which medication is the best add-on therapy for improved diuresis?

- Ethacrynic acid
- Spironolactone
- Metolazone
- Bumetanide

2. What drug will not be started initially in a patient with acute heart failure?

- Spironolactone
- Lasix
- Ramipril
- Carvedilol

3. Routine statin therapy should be considered for patients with heart failure, in the absence of ischemic disease or high-risk vascular events. Is this statement True or False?

4. The 2011 Canadian Cardiovascular Society Heart Failure Management Guidelines Update recommends what drug not only for patients with NYHA FC III and FC IV heart failure, but also for patients with mild heart failure at FC II?

- Digoxin
- Eplerenone
- Hydralazine
- Imdur

5. Kayexelate has how many mg of sodium per 30 grams?

- 1,500 mg
- 500 mg
- 750 mg
- 200 mg

Non-Pharmacological Treatment

1. Ideally, at what stage of the continuum of heart failure should end of life be discussed?

- early in the diagnosis
- end stage disease
- decompensated heart failure presentation
- after the second admission within one year

2. What is the treatment for a patient four months post myocardial infarction, with an EF 28% on maximum medical therapy and asymptomatic ventricular tachycardia?

3. What non-pharmacological agent is recommended for patients with heart failure?

- co-enzyme Q10
- vitamin E
- omega 3 fatty acids
- chelation therapy

4. What food contains the highest milligrams of sodium per serving?

- A&W hot dog
- regular-sized bowl of chili from Tim Horton's
- KFC chicken breast breaded
- Subway six-inch sweet onion teriyaki

5. Cardiac resynchronization therapy should be considered for patients with symptomatic heart failure NYHA II or III, QRS duration greater than 130 mms and which of the following?

- normal sinus rhythm
- EF less than 35%
- left bundle branch block
- all of the above

ANSWERS

Risk Factors

1. Genetic, viral, alcohol, chemotherapy, thyroid disease, pregnancy, untreated sleep apnea, hemochromatosis, drugs, atrial fib/flutter (tachycardia induced)

2. Influenza and pneumococcal vaccinations

The CCS guidelines recommend that all heart failure patients receive the influenza vaccine annually and the pneumococcal vaccine if not received in the last six years. Research shows that this will reduce the risk of respiratory infections that may seriously aggravate heart failure.

3. Smoking: smoking cessation among smokers with heart failure is as effective or more effective at reducing mortality as treatment with beta blockers or ACE inhibitors.

Alcohol: alcoholic cardiomyopathy requires total abstinence. Otherwise it is recommended to limit alcohol intake to less than two standard drinks a day for men and one standard drink a day for women.

Sodium intake/fluid restriction: the recommended sodium intake is less than 2 grams a day. Patients with more advanced heart failure and fluid retention should restrict their salt intake to a further 1.5 gram a day. Daily fluid intake should be between 1.5 to 2 L a day.

Aerobic exercise: three to five times a week for 30 to 45 minutes.

Obesity: all patients should maintain a healthy weight (BMI 20 to 27).

4. True

This is where men and women are different. In contrast, in men with heart failure, clues to the presence of obstructive sleep apnea are obesity and drug resistant hypertension but not necessarily for women.

5. d) All of the above

Use of nonsteroidal anti-inflammatories (aside from low dose ASA) is associated with more than a 10 fold increase in heart failure. The kidney is exquisitely dependent upon vasodilating prostaglandins to maintain renal perfusion and salt and water balance. NSAIDS decrease prostaglandins synthesis and this may precipitate fluid retention in patients with heart failure.

Pseudoephedrine (also known as Ma Hung) is a vasoconstrictor, working mainly on blood vessels located in the nasal passages. However, side effects include hypertension, tachycardia and palpitations, which can be dangerous in patients with heart failure.

Signs and Symptoms

1. c) FC III

The NYHA description of FC includes:

FC I – no symptoms

FC II – symptoms with ordinary activities

FC III – symptoms with less than ordinary activities

FC IV – symptoms would include dyspnea, fatigue, weakness, orthopnea or PND

2. d) Low JVP

The JVP is closely related to the right side of the heart and is elevated with increased right heart failure. The lungs can be clear in right heart failure as the fluid backs up from the right side of the heart to the venous system, not the left side, which is more closely related to the lung pressures.

3. TSH, BNP, ferritin, CBC, electrolytes, creatinine, liver enzymes, HIV

It is important to rule out causes of heart failure such as: thyroid disease, hemochromatosis, anemia, electrolyte imbalances, kidney failure, liver disease and HIV. BNP helps to confirm the diagnosis of heart failure, and can help measure progress or prognosis.

4. a) WMS and MRI

WMS has a high accuracy and reproducibility. However, the patient must be in sinus rhythm.

Cardiac MRI is the most reliable, but is not easily available.

5. Cognitive impairment, delirium, nausea, abdominal discomfort, oliguria, anorexia, and cyanosis. These are more difficult clues that lead to a diagnosis of heart failure.

Systolic Versus Diastolic Heart Failure

1. e) b and d. Reduced filling time and impaired relaxation. Diastolic dysfunction is a result of impaired relaxation, which can be caused by hypertension, LV hypertrophy and ischemia. Causes of limited filling time include constrictive pericarditis and mitral valve stenosis. Atrial fibrillation can lead to reduced filling time.

In contrast, examples of causes of systolic heart failure include myocardial infarction, valvular regurgitation, myocarditis and dilated cardiomyopathy.

2. d) All of the above

Hypertension is an important cause of heart failure in the Asian, African, African American population.

Heart failure with a normal LVEF is more common than systolic heart failure in Chinese patients and that may be related to an older age at presentation and the high prevalence of hypertension.

There is a reported higher frequency of disease among Aboriginal people and a greater burden of atherosclerosis compared with Canadians of European ancestry.

3. Beta blockers and ACE inhibitors

The CCS Heart Failure Guidelines recommend that all patients with heart failure and an LVEF of less than 40% should be treated with an ace inhibitor in combination with a beta blocker unless a specific contraindication exists.

4. Combination of a nitrate and hydralazine

In the African American Heart Failure Trial (Taylor et al., 2004), patients with systolic heart failure showed that adding a fixed-dose combination of isosorbide dinitrate plus hydralazine to standard medical therapy reduced mortality, as well as first hospitalization for heart failure and improved quality heart failure. This combination may be considered for other heart failure patients unable to tolerate other recommended standard therapy.

5. b) 40 to 50%

Heart failure with preserved systolic function is more prevalent in the elderly, women and in patients with a history of hypertension or less often than ischemic heart disease.

Drugs

1. c) Metolazone

Loop diuretics include furosemide (lasix), bumetanide (burinex), and ethacrynic acid (edecrin).

Thiazide diuretics include hydrochlorothiazide, indapamide and metolazone (zaroxolyn).

Potassium Sparing diuretics are amiloride, spironolactone and eplerenone.

Metolazone is the most potent diuretic and works well with Lasix (taken 30 to 60 min before lasix dose).

Aim for the lowest dose of diuretic compatible with stable signs and symptoms. Metolazone requires more frequent measurements of creatinine and electrolytes.

2. d) Carvedilol

Starting beta blockers can exacerbate acute heart failure symptoms. They should be started once the patients' condition is stable and fluid status is more euvolemic. In acute decompensated heart failure, the immediate goal is to establish adequate perfusion and oxygen delivery to end organs. Immediate treatments usually involve some combination of vasodilators such as nitroglycerin, diuretics, such as furosemide and possibly non-invasive positive pressure ventilation.

3. False

Current data are insufficient to provide strong recommendations regarding statin therapy in non-ischemic heart failure. So the decision to treat should be on the basis of the existing prevention guidelines.

4. b) Eplerenone

The EMPHASIS –HF Trial (Zannad et al., 2011) showed that eplerenone added to recommended therapy for systolic heart failure in patients with mild symptoms was associated with a reduction in the rate of death from a cardiovascular cause or hospitalization for heart failure. Prior to this study spironolactone was used in FCII and FC IV only.

5. a) 1,500 mg

Kayexelate has high sodium content (1,500 mg per 30 gram) versus resonium calcium, which has less than 30 mg of sodium (less than 1 mg/gram). Therefore, resonium calcium is an alternative treatment for high potassium when patients are on a sodium restriction diet (this is the total Na for the day). Resonium calcium is covered in some provinces (Manitoba and Ontario). In some provinces a special request letter has to be written for coverage.

Non-Pharmacological Treatment

1. a) Early in the diagnosis

Patients with heart failure should be approached early in the heart failure disease process regarding their prognosis, advanced medical directives and wishes for resuscitative care. The decision should be reviewed regularly and specifically after any change in the patient's condition.

2. Automatic Implantable Cardiac Defibrillator (AICD)

Patients with EF less than 30% are at a greater risk of sudden cardiac death. Once medical therapy has been maximized (this can take three to six months), and if the EF has not increased to over 30%, an AICD would be considered as life-saving therapy in the event of a significant ventricular arrhythmia.

3. d) Omega 3 fatty acids

Coenzyme Q10, vitamins and herbal supplements are not recommended as heart failure therapy. Low-dose Omega 3 polyunsaturated fatty acid therapy (1 gram day) may be considered, as it has shown reduction in morbidity and mortality in patients with mild to moderate heart failure. Patients taking warfarin

and omega 3 should closely monitor their INR. Taking greater than 3 gram a day of omega 3 may cause excessive bleeding.

4. b) regular-sized bowl of chili from Tim Horton's has 1,690 mg of sodium, which is 31% of the recommended daily intake. A&W hot dog has 740 mg of sodium.

One KFC chicken breast with skin and breading has 1,080 mg of sodium.

A six-inch subway teriyaki has 900 mg of sodium.

Remember: 1 teaspoon of salt = 2,300 mg of sodium

The average person requires 500 mg a day of sodium, yet most consume 5 to 6 grams a day. The optimal sodium intake for heart failure patients is 2 grams or less a day.

5. d) All of the above

Patients have intra and interventricular conduction delays that are associated with cardiac mechanical dyssynchrony. CRT uses bi-ventricular pacing to attempt to synchronize the activation of the septum and LLV free wall, and to improve the overall LV function. ♥

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Racism and Cardiovascular Disease: Implications for Nursing

Jennifer Jackson, RN, BScN, Elizabeth McGibbon, RN, PhD, and Ingrid Waldron, PhD

Abstract

The social determinants of health (SDH) are recognized as a prominent influence on health outcomes across the lifespan. Racism is identified as a key SDH. In this article, the authors describe the concept of racism as an SDH, its impact in discriminatory actions and inactions, and the implications for cardiovascular nurses. Although research in Canada on the links among racism, stress, and cardiovascular disease is limited, there is growing

evidence about the stress of racism and its long-term impact on cardiovascular health. The authors discuss how cardiovascular nursing could be enhanced through an understanding of racism-related stress, and race-based differences in cardiovascular care. The authors conclude with strategies for action to address this nursing concern.

Key words: racism, cardiovascular disease, stress, nursing

Jackson, J., McGibbon, E., & Waldron, I. (2013). Racism and Cardiovascular Disease: Implications for Nursing. *Canadian Journal of Cardiovascular Nursing*, 23(4), 12–18.

Across the multidisciplinary health care arena, there is discussion of risk factors for compromised health, such as premature death and increased susceptibility for disease (D'Agostino, Pencina, Massaro, & Coady, 2013). These risk factors include the social determinants of health (SDH), which are factors in the social, political, and economic environment that exert a potentially modifiable impact on health (Canadian Nurses Association [CNA], 2008). An emphasis on the SDH has drawn attention to the health risks associated with gender, age, race, and other factors (World Health Organization, 2008). Racism has been shown to have a serious impact on health in Canada (Waldron, 2010a). Race, in particular, is consistently associated with increased rates of cardiovascular disease (Thomas, 2008). The experience of racism has been shown to be profoundly stressful (Bryant-Davis & Ocampo, 2005), and the impact of racism-related stress means that minority groups are predisposed to health disparities (Williams, 1997). Nurses are in a key position to recognize the role of racism in cardiovascular disease and to advocate for change. In this article, the authors define the SDH and discuss how race, or more accurately racism, is an SDH. The links are made between racism and cardiovascular disease, and the authors conclude with action strategies to address this health concern. There is limited literature about how cardiovascular nursing may be enhanced with an in-depth understanding of racism. The authors provide a preliminary discussion to raise awareness and further explore this health concern.

Racism: A Social Determinant of Health

The primary factors that shape the health of Canadians are not medical treatments or lifestyle choices but, rather, the living conditions individuals, families, and communities experience (Mikkonen & Raphael, 2010). These factors are known as the SDH: employment and working conditions, income and its equitable distribution, education and early childhood development, housing and food security, age, gender, and race (Mikkonen & Raphael, 2010). The SDH are also related to the extent to which citizens are “provided with the physical, social, and personal resources to identify and achieve personal aspirations, satisfy needs, and cope with the environment” (Raphael, 2012, p. 56). According to the World Health Organization (2008), the SDH are important markers of inequalities in health:

The poor health of the poor... is caused by the unequal distribution of power, income, goods, and services, globally and nationally, the consequent unfairness in the immediate, visible circumstances of peoples' lives—their access to health care, schools, and education, their conditions of work and leisure, their homes, communities, towns, or cities—and their chances of leading a flourishing life” (p. 1).

Racism is a powerful SDH because it shapes health and well-being, and chances for life opportunities across the lifespan (Galabuzi, 2006; Law, 2008) even in the absence of socioeconomic hardship (Etowa & McGibbon, 2012; Galabuzi, 2006). In order to understand racism, it is important to trace how racism stems from discrimination. Discrimination can be defined as action or inaction based in bias and

stereotyping (McGibbon & Etowa, 2009). When one looks at the role discrimination plays in the SDH, it is noteworthy that discrimination often produces the stressors that lead to health problems, and is a major barrier to access or utilization of health services. Discriminatory practices involve actions that have the effect of limiting individual or group rights to various opportunities and resources due to characteristics such as race, gender and culture. These opportunities and resources may include equitable access to jobs, housing, quality education, and health. The experience of discrimination is a key factor in producing health disparities and poor health outcomes for visible minorities in Canada (Waldron, 2010a; Waldron, 2010b).

There are many forms of discrimination, including those based on age, gender, and race (World Health Organization, 2008). When these discriminatory practices are supported by societal systems, such as the health and education systems, discrimination becomes embedded in these systems and is thus referred to as “systemic”. Therefore, racism is systemic discrimination based on race, where health and social systems support racist policy and practices (Etowa & McGibbon, 2012; Waldron, 2010a). Although one’s race may predetermine genetic differences in health outcomes, such as the incidence of sickle cell anemia in Black people, or the incidence of Tay Sachs disease in people of Jewish ancestry, racism, as defined above, has been shown to be a key SDH (Adelman, 2008). Racism shapes health and well-being, and impacts access to various social institutions, including health services.

The significance of race lies in the way that it is experienced on a subjective (personal) level by individuals and communities, and through its material consequences, such as differential treatment and discrimination. Racism refers to an organized system that leads to the subjugation of some groups relative to others (Williams & Williams-Morris, 2000). Such a system is based on the categorization and ranking of some populations as inferior to other groups. This process leads to negative attitudes and beliefs (prejudices) and different treatment, or lack of treatment (discrimination) (McGibbon, Etowa, & McPherson, 2008). Racism has also been shown to have broad implications for the SDH, such as decreased educational and employment opportunities, which may limit access to adequate housing (Galabuzi, 2006).

Racism has a widespread impact on individuals, families and communities, creating barriers for accessing health care. Studies indicate that when seeking health care, the experience of racial discrimination can range from 50% (Thomas, 2008) to 68% (Peters, 2006). Several Canadian researchers documented that race, along with ethnicity, gender, education level, immigrant status and income level all act as barriers to accessing and using health services (Etowa & McGibbon, 2012; Waldron, 2010a; Whitley, Kirmayer, & Groleau, 2006). Woodger and Cowan (2010)

shadowed 30 Black patients, as they navigated the health care system, and found that 20 of 30 reported that they did not receive any follow-up or referral appointments for community services after discharge. The authors concluded that 28 of 30 patients received inadequate communication from the health care team, resulting in inappropriate care and compromised patient outcomes. Female immigrants in Canada identified language and lack of culturally relevant programs as barriers to accessing health care (Stewart et al., 2006). As one participant stated, “Frankly, people who don’t speak English are treated the same way as if they were unconscious” (Stewart et al., 2006, p. 334). In turn, this systemic discrimination creates barriers to accessing health care.

Individuals who experience racism are also at risk for receiving lower level care than those who do not. For example, cardiologists were found to be unaware of the discrepancies in treatment and diagnostic testing, such as cardiac catheterization, offered to patients in racial minorities (Redburg, 2005). Redburg (2005) found that race-related discrepancies could be attributed not only to risk factors facing minority groups, but also to physician bias in prescribing and recommending treatment. LaVeist et al. (2003) found that Black patients with cardiovascular disease in the United States were less likely to obtain specialty cardiac care, such as cardiac catheterization, even after controlling for socioeconomic status and insurance coverage. In patients undergoing coronary artery bypass surgery, being African American or Asian/Pacific Islander is significantly associated with being treated by surgeons of poorer quality (Rothenberg, Pearson, Zwanziger, & Mukamel, 2004). Quality was measured by risk-adjusted mortality rates, and the authors controlled for socioeconomic status and pre-existing comorbidities (Rothenberg et al., 2004). Black men with cardiovascular disease are also more likely to die from the illness than White men, after controlling for age and income (Thomas, Eberly, Smith, Neaton, & Stalmer, 2005).

Although it is tempting to view race as an independent variable in the above cited studies, the nature of racism means that all of the SDH are interdependent and intersect in creating the social, political and economic processes that impact health. For example, articulating how race and gender intersect is useful for understanding how the cumulative effect of systemic racism in their lives puts African Nova Scotian women at an increased risk for various chronic diseases, including high stress, hypertension, and stroke (Thomas Bernard, 2003). One of the main implications is that cardiovascular disease can result because inequities in the SDH often happen together, with racism being a key antecedent factor. As a result, patients experiencing racism who require cardiac care are more likely to receive lower quality care than their peers, and to experience increased morbidity and mortality.

Racism, Stress, and Cardiovascular Disease: How are they Related?

Canadian researchers have recently begun to examine the links among racism, physiological and psychological stress, and the pathophysiology of adrenal fatigue. There is limited Canadian evidence related to the impact of racism on cardiovascular health. Harrell (2000) used the term “micro-stressors” to describe the experiences of African Americans who must deal with everyday injustices due to race and other forms of discrimination. Similarly, Essed (1991) uses the term “everyday racism” to characterize the connection between racism that occurs at the macro level within societal institutions and structures, and micro level forms of racism that occur in everyday interactions between individuals. Everyday forms of racism are traumatic (Carter, Forsyth, Mazzula, & Williams, 2005), and include “cognitive/affective assaults on one’s ethnic self-identification” (Bryant-Davis & Ocampo, 2005, p. 480). Examples include racially motivated verbal attacks, physical attacks, and threats to livelihood; being denied promotions, home mortgages or business loans; being watched by security guards; and being stopped in traffic. It is important to appreciate examples of these everyday forms of racism because they are so pernicious in their impact on mental and physical health and well-being.

Bolton and Wilson (2005) argue that the stress associated with racism may result in significant cardiovascular disease. Although risk factors for cardiovascular disease are similar for both White and visible minority populations, there are differences in age of onset, prevalence, and rates of morbidity and mortality (Bolton & Wilson, 2005). For instance, Black women develop hypertension at a younger age than their White counterparts (Bolton & Wilson, 2005). In other words, although other life stressors may impact health, a growing number of scholars have pinpointed racism as a stress that is crucial to examine in terms of cardiovascular health (Brondolo, Love, Pencille, Schoenthaler, & Ogedegbe, 2011; LaVeist et al., 2003; Redburg, 2005). For example, although Black people experience a wide variety of stresses, the particular stress of racism has also been found to significantly increase the overall stress burden on their bodies (Wyatt et al., 2003). Racism results in the activation of the stress response, or fight-or-flight mechanism (Thomas, 2008). Discriminatory treatment is the actual stressor, and the person’s appraisal of the experience as racist produces stress (Peters, 2006). The stress of racism is different than other stressors because it is pervasive within society and is experienced on an *ongoing basis* (Beagan & Etowa, 2009; Peters, 2006).

Racism has a profound impact on the body’s stress managing systems—the sympathetic adrenal medulla (SAM) and the hypothalamus-pituitary-adrenal cortex (HYPAC) (McGibbon, 2012). Normally, the SAM-HYPAC system

regulates our bodies through short-term stressful times and helps us maintain overall wellness. The problem arises when long-term, chronic racism-related stresses, such as those described above, eventually overtax the SAM-HYPAC system (McGibbon & Etowa, 2009).

This response, triggered by chronic racism-related stress, causes a release of catecholamines, such as epinephrine, which has particular relevance in the development of cardiovascular disease. Due to the presence of epinephrine, both blood pressure and heart rate are significantly elevated (Swann, 2011). Racism has thus been shown to influence the prevalence of hypertension through stress exposure and reactivity, and by fostering conditions that undermine health-promoting behaviours (Brondolo et al., 2011). The prolonged elevation of blood pressure subsequently causes myocardial strain and left ventricular hypertrophy in an attempt to compensate for the increased vascular resistance produced by hypertension. This process of sustained sympathetic activation can eventually produce heart failure (Bolton & Wilson, 2005).

Other organ systems also react, with the kidneys responding to systemic hypertension by continuing the fight-or-flight mechanism through the activation of the renin-angiotensin system (Swann, 2011). This process increases vascular resistance, thus compounding the problem. The sympathetic nervous system does not immediately deactivate after a stressor, which prolongs the effects of the event beyond the initial insult (Swann, 2011). When one experiences racism on an everyday basis, the stress response becomes overwhelmed and the body’s adrenal system is unable to maintain physiological balance. This chronic activation compounds the cumulative impact of stress (Swann, 2011). Significant consequences can include hypertension, heart failure, myocardial infarction, and stroke (Bolton & Wilson, 2005; Swann, 2011). Black clients may also respond differently to medications that manage cardiovascular disease, influencing outcomes of treatment (Bolton & Wilson, 2005).

The eventual result of chronic SNS activation is adrenal fatigue (McGibbon & Etowa, 2009). Chronic adrenal fatigue can cause depression, obesity, hypertension, diabetes, cancer, ulcers, chronic stomach problems, allergies and eczema, autoimmune diseases, headaches, kidney and liver disease, and overall reduced immunity (Varcariolis & Halter, 2010). Over time, the hippocampus of the brain can become damaged and prevent the regulation of the stress response. When combined with racism at point of care, there are serious health consequences. People experiencing racism appear to be more likely to develop cardiovascular disease due to the physiological impact of racism, because no significant genetic variants are linked to African Americans and cardiovascular disease (Peters, 2006). There is also insufficient evidence to support coping mechanisms as an effective stress-management intervention for

visible minority populations (Brondolo, ver Halen, Pencille, Beatty, & Contrada, 2009). Additionally, the use of coping mechanisms, as a health intervention, places the onus on the victims of racism, and does not address the elimination of racism in society (Brondolo et al., 2009).

Given these factors, nurses are in a key position to enact change in the Canadian health care system. There is also an ethical obligation for nurses to work both individually and collectively toward the elimination of social inequalities (CNA, 2008). Nurses can act as patient advocates, and be a voice for addressing the SDH and racism for individual patients, as well as acting collectively for systemic changes (Bu & Jezewski, 2006). Nurses have an opportunity to be patient advocates due to their educational background, professional philosophy and unique position within the health care system (Bu & Jezewski, 2006). Knowing the impact of racism on Canadians, nurses can take action to address racism within healthcare (See Table 1).

Strategies for Action

Self-Reflexive Practice

Self-reflexive practice has been consistently described as a strategy to address racism in clinical practice (Gustafson, 2007). However, there is limited literature about how these strategies may relate to cardiovascular nursing in particular. This discussion is meant to introduce these ideas in an effort to initiate further exploration of how nurses may address racism. Ultimately, the aim is to reduce the high incidence of cardiovascular disease in individuals and communities who are subjected to racism.

According to several authors, self-reflexive practice is a key approach to addressing discrimination in clinical practice (Gustafson, 2007; Hooks, 2003; Johnston et al., 2009; Scammell & Olumide, 2011). Self-reflexive practice involves health professionals examining the ways that their own social and cultural backgrounds, experiences, beliefs and attitudes affect practice (Johnston et al., 2009). An integral aspect of being self-reflexive is acknowledging how our own *social location* (e.g., race, culture, gender, social class, socioeconomic status, disability and other social identities) influences our beliefs, attitudes and the therapeutic relationship. Social locations are very important because they determine the extent to which certain social groups will have access to valuable resources and opportunities (Johnston et al., 2009). Health professionals who examine their social location and, in particular, their privileged status with respect to race are (a) less likely to succumb to racial stereotypes, (b) more likely to attribute the challenges and barriers experienced by visible minority communities to external forces (e.g., disadvantage and racism) than to personal deficiencies, and (c) more likely to gain culturally specific knowledge from their clients (Hays, Dean, & Chang, 2007).

Self-reflexive practice is not so much an activity to be engaged in at any particular time; rather, it is an overall way

or strategy of approaching one's nursing practice. Self-reflexive practice encourages mindfulness about one's own race, social class and gender and how these social locations continue to impact or impede our capacity for safe, compassionate care. In the policy arena, self-reflexive practice also facilitates the recognition that, in Canada, many mainstream government health initiatives are structured on Eurocentric norms and values, despite the fact that the programs are offered to diverse populations (Stewart et al., 2006; Tomlinson, 2011).

Reflexive practice is a foundation of providing equitable health care (Yee & Shahsiah, 2006). It is important to ask questions such as: "How may racism affect my attitudes, opinions and nursing practice?" (Beagan & Etowa,

Table 1: Strategies for Action: Some Important Questions for Cardiovascular Nurses

Self-reflexive Practice

- How do racism and the SDH impact the cardiovascular health of my clients?
- Do I know how to integrate racism and the SDH in my assessments, interventions and discharge planning?
- How may racism influence my attitudes, opinions and nursing practice?
- How do my own social location and the social locations of my clients and colleagues shape client-staff interactions?
- Does my unit provide specific support for self-reflexive practice?

Transformative Education

- What specific opportunities (in my workplace or in my education) do I have to reflect critically on my own experiences, practices, assumptions, beliefs, feelings, and mental perspectives?
- What is my understanding of cultural safety and its potential for enhancing safe, competent, compassionate care?
- In my institution and community, what courses and in-services are available on cultural safety?
- Does my educational or health care institution consistently incorporate social justice principles and the SDH in nursing curricula? Continuing clinical education?

Leadership and Policy-Making

- How could I work collectively with my nursing colleagues to advocate for development of anti-racist policies in my institution?
- Does my union, college or association, or educational institution have specific policies to ensure representation and promotion of a diverse nursing workforce?
- Does my institution's commitment to change also extend to websites and other virtual media, which are influential in promoting, or minimizing, racism?
- How can cardiovascular nurses become leaders in promoting anti-racist nursing practice?

Nursing Research

- Has the researcher considered the role of the SDH, including racism?
- What impact does this research have on visible minority peoples/groups?

2009). These reflections encourage us to look beyond typical health care labels such as ‘non-compliant’, and to genuinely appreciate a client’s circumstances. It may also be necessary to specifically raise the issue of racism with colleagues in order to understand how it may be affecting a client (Beagan & Etowa, 2009). Nurses are advocates for clients. Advocacy is a process or strategy of actions aimed to preserve, represent or safeguard the rights and best interests of a client (Bu & Jezewski, 2006). Nurses can recognize the impact of racism in health care, advocate for individual clients, and also for change within the health care system (Bu & Jezewski, 2006).

Transformative Education

Transformative education includes being able to understand the societal context of learning, such as the socio-political underpinnings of educational content and the potential for positive social change (Dei, 2002). Transformative education also integrates learning by reflecting critically on one’s own experiences, practices, assumptions, beliefs, feelings, and mental perspectives in order to construct new or revised interpretations (Hooks, 2003). Undergraduate, graduate, and continuing nursing education could be strengthened with inclusion of a broader understanding of embedded assumptions about racism and the SDH. For example, Woodger and Cowan (2010) established self-learning groups, comprising health care professionals from a variety of disciplines. The groups, whose members represented a variety of racial backgrounds, worked together to reflect on their own practice, and implement changes throughout the organization. The result was a bottom-up transformation of hospital policy and care delivery. Change in health care practice could be greatly supported with provision of transformative education about racism and anti-racist practices. McGibbon and Etowa (2009) also advocate for nursing education based in a critical social science approach that openly addresses how inequities in the SDH can intersect and overlap to deepen disadvantage.

Education about cultural safety is an essential aspect of transforming nursing practice. Cultural safety can be defined as the self-determination of the client, and reflects the empowerment and upholding of the cultural identity and well-being of an individual (Nursing Council of New Zealand, 2011). However, cultural safety extends far beyond acknowledging factors such as ethnicity and religious affiliation (Drevdahl, Canales, & Dorcy, 2008). For example, cultural safety challenges the standard of transcultural nursing through its insistence that Aboriginal patients have the power to define quality of care according to their ethnic, cultural and individual norms (Brascoupe & Waters, 2009). Knowledge about cultural safety is a central aspect of transformative education for nurses. It directs us to acknowledge “that we are all bearers of culture; exposing the social,

political, and historical contexts of health care; enabling practitioners to consider difficult concepts such as racism, discrimination, and prejudice; and challenge unequal power relations” (Aboriginal Nurses Association of Canada, 2009, p. 2). When nurses have increased knowledge about all of these aspects of cultural safety, they are more likely to have increased capacity to provide equitable care to patients (Browne & Varcoe, 2006).

Leadership and Policy Making

Nurses can critically consider workplace policies and analyze organizational approaches to racial diversity. Health care settings, regardless of location or client population, can develop policies to foster inclusiveness and equity. This commitment to change can also extend to websites and other virtual media, which are influential in promoting, or minimizing racism (Law, 2008). An example is the establishment of an Aboriginal Health Worker role on an inpatient cardiac unit, which led to improved health outcomes and staff insight into the challenges facing Aboriginal peoples (Taylor et al., 2009).

Policy change and targeted funding can address systemic racism and racism at point-of-care, including ensuring minority access to health care services. In order for health policy to be effective, it must be anti-racist, rather than merely multicultural. Anti-racist health policy deals with issues of racism by moving beyond the multiculturalism concern for cultural diversity, sensitivity and tolerance to policy actions that interrogate and seek to reduce negative health outcomes that result from racial inequities within social, economic, political and health institutions (Waldron, 2010a; Waldron, 2002). Anti-racist practice may be defined as practice that is concerned with revealing how bias, inequities, exclusion, discrimination, hatred, and violence are carried out and supported through policies and practices within systems such as health care (McGibbon & Etowa, 2009; Waldron, 2010a; Waldron, 2002). Anti-racist action specifically addresses racism in society through targeted policy, rather than simply presenting a dilute ‘diversity’ message (Law, 2008). It entails identifying environmental factors that contribute to racism and implementing a program to address these factors to create a new environment, rather than reflexively punishing racist acts (Law, 2008).

Understanding how social determinants impact health requires an appreciation for how individuals are impacted by everyday challenges within the family, community, employment, schools, health care and other contexts. Consequently, health policies that validate practical therapeutic approaches, such as talk therapy and peer support, may be better able to understand people and their health concerns *within the context* of their everyday lived realities.

Health policies must also validate the multiple ways in which visible minorities understand illness and health and

seek help for health problems, many of which may be at odds with Euro-Western medical approaches (Waldron, 2010a; Waldron 2010b; Waldron, 2002).

Woodger and Cowan (2010) advocate a bottom-up approach to policy change and evaluation, with a focus on comprehensive administrative support for changing health care provider practice. A key aspect of change is supporting leadership from nurses who are visible minorities, and exploring their role and experiences within the health care setting. The voices of nurses from visible minorities are an important factor in advocating for organizational change. Recruitment and retention of visible minority nurses is also a key imperative for enhancing the scope of nursing practice in all areas of nursing, including cardiovascular nursing (Beagan & Etowa, 2009). Therefore, the issue of *representation* remains an important and all-too-often ignored issue in leadership and policy-making in nursing and in health care, in general. Given the increasing diversity of Canadian society, ensuring that diverse knowledge, beliefs, values, and perspectives of visible minority nurses and clients are represented within nursing education and practice, policy, leadership and research (discussed later) is the first and most crucial step in fostering diversity, inclusion, equity and justice within health care settings.

Nursing Research

Cardiovascular nursing care could be strengthened with funding for research studies with Canadian populations experiencing racism in their everyday lives and within the health care system. For example, nursing practice could be enhanced with the results of Canadian mixed methods studies about the incidence of cardiovascular disease and the patient care experiences of visible minority Canadians. Priority nursing research areas include barriers in access to cardiovascular care, differences in cardiovascular treatment according to race and other SDH, strategies for implementation of cultural safety protocols in nursing care, the development and implementation of culturally appropriate resources, and investigation into the professional experiences of minority nurses. In their discussion of research,

Ostlin, Sen and George (2004) emphasize the need for change in content (racism acknowledged as a contributing variable) and process (research in areas beyond those that generate revenue). It is also important to lobby for change to ensure that minority peoples are represented on research councils that review research proposals and allocate funds (Ostlin et al., 2004). Sample groups in studies about diabetes, heart disease, obesity, and access to services should contain participants from a variety of racial backgrounds, in reflection of Canada as a diverse society. Finally, the credibility and efficacy of cardiovascular research outcomes would be enhanced through identification of the impact of the research process and outcomes on visible minority groups.

Conclusion

Racism has a significant impact on the health outcomes of Canadians and there are no simple answers regarding how the practice of cardiovascular nursing can be enhanced with knowledge about racism. Nurses can play a key role in advocating for individuals, families and communities, and taking collective action for creating change in the Canadian health care system. Through self-reflexive practice, transformative education, research, and changes to clinical practice, nurses can work toward the goal of equitable access to the care and equitable health outcomes for patients. ♥

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Liens entre la perception de la maladie cardiovasculaire et la participation aux programmes de réadaptation cardiaque : une étude exploratoire

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Résumé

Introduction : Bien que les programmes de réadaptation cardiaque (PRC) entraînent des changements bénéfiques pour les participants ayant vécu un accident cardiaque, on remarque que de 21 % à 41 % seulement de ces patients y participent.

Objectif : La présente étude vise à identifier les facteurs de risque modifiables et non modifiables de maladie cardiovasculaire (MCV) et les perceptions de la maladie qui influent sur la participation des patients atteints de MCV aux PRC.

Méthode : Trente personnes atteintes d'une MCV ont participé à cette étude quantitative exploratoire.

Résultats : Les résultats donnent à penser que le niveau de scolarité ainsi que les élévations du taux de cholestérol HDL (lipoprotéine à haute densité) et du niveau d'anxiété prédisent la participation aux PRC. Cependant, la perception de la maladie n'était pas associée à la participation aux PRC.

Discussion. Les retombées de ces résultats sont examinées.

Mots clés : adhésion au traitement, maladies cardiovasculaires, réadaptation cardiaque, perception

Pakzad, S., Charette, Y., & Bourque, P. (2013). Liens entre la perception de la maladie cardiovasculaire et la participation aux programmes de réadaptation cardiaque : une étude exploratoire. *Canadian Journal of Cardiovascular Nursing*, 23(4), 19–25.

Links Between Perceptions of Cardiovascular Disease and Participation in Cardiac Rehabilitation Programs: An Exploratory Study

Abstract

Background: Cardiac rehabilitation programs (CRP) entail beneficial changes for the majority of participants with heart problems. However, only 21% to 41% of those patients participate in such programs.

Goal: The goal of this study was to identify modifiable and non-modifiable cardiovascular risk factors, as well as perceptions of illness that affect the participation of patients with cardiovascular problems in CRPs.

Method: Thirty individuals with a cardiovascular disease participated in this exploratory, quantitative study.

Results: The results suggest that the level of education as well as increases in the level of HDL cholesterol (high-density lipoprotein) and of anxiety predict the participation in CRPs. However, the perception of illness was not associated with participation in CRPs.

Discussion: The implications of these results are discussed.

Key words: perception, cardiovascular diseases, cardiac rehabilitation, patient compliance

De nombreux effets positifs sont liés aux programmes de réadaptation cardiaque (PRC). Entre autres, les PRC permettent une amélioration de l'état physique et mental des personnes atteintes d'une maladie cardiovasculaire (MCV) et, donc, une reprise rapide de leur rôle dans la vie de tous les jours (Beswick et al., 2005; Dunlay et al., 2009; Russell & Bray, 2009). Toutefois, bien que les avantages des PRC soient bien documentés, il semble que peu de patients y adhèrent : selon les résultats de diverses études, de 21 % à

41 % seulement des personnes atteintes d'une MCV participeraient à des PRC (Jackson, Leclerc, Erskine, & Linden, 2005; Sharp & Freeman, 2009; Yohannes, Yalfani, Doherty, & Bundy, 2007). La présente étude vise donc à examiner les facteurs de risque modifiables et non modifiables de MCV ainsi que la perception de la maladie qui influent sur la participation aux PRC chez les personnes atteintes d'une MCV.

Plusieurs études soulèvent que certains facteurs de risque non modifiables de MCV sont liés à la non-participation aux PRC (Cooper, Jackson, Weinman, & Horn, 2002; Daly et al., 2002; Jackson et al., 2005). Parmi les facteurs de risque non modifiables, les personnes qui participent aux PRC seraient plus jeunes (Dunlay et al., 2009; Schulz & McBurney, 2000), davantage scolarisés (Daly et al., 2002; Dunlay et al., 2009; Jackson et al., 2005) et auraient un revenu plus élevé (Grace et al., 2002; Harlan, Sandler, Lee, Lam, & Mark, 1995) que les non-participants. De plus, même si le taux de mortalité dans la première année suivant un accident cardiovasculaire serait deux fois plus élevé pour les femmes que pour les hommes (Hamilton & Seidman, 1993), en comparaison à ces derniers, les femmes s'inscriraient moins aux PRC (Jackson et al., 2005) et elles auraient une moins bonne adhésion à ces programmes lorsqu'elles s'y inscrivent (Yohannes et al., 2007).

Les études démontrent aussi une relation négative entre certains facteurs de risque modifiables de MCV et la participation aux PRC. Par exemple, le taux de participation des personnes obèses atteintes d'une MCV serait plus faible que celui des personnes non obèses (Farley, Wade, & Birchmore, 2003). En outre, plus une personne présente des facteurs de risque physiques modifiables de MCV, tels que l'hypertension artérielle, un faible taux de cholestérol HDL, un taux élevé de cholestérol LDL, la dyslipidémie et/ou un indice de masse corporelle élevé, et moins elle est physiquement active dans sa vie de tous les jours et moins elle est portée à participer à un PRC (Daly et al., 2002; Dorn, Naughton, Imamura, & Trevisan, 2000; Sarrafzadegan et al., 2007).

Les variables psychosociales qui peuvent influencer sur la participation aux PRC, notamment le niveau d'anxiété d'une personne et sa perception de sa maladie cardiovasculaire, ont également fait l'objet d'études. À cet égard, les résultats de quelques études indiquent que plus le niveau d'anxiété d'une personne atteinte d'une MCV est élevé et plus celle-ci est portée à participer à un PRC (Cooper et al., 2002; Grace et al., 2002; Whitmarsh, Koutanji, & Sidell, 2003). Cependant, Yohannes et al. (2007) et Conn, Taylor, & Casey (1992) observent des résultats contraires. En ce qui concerne les perceptions des personnes par rapport à leur maladie, selon Hagger & Orbell (2003), plus une personne perçoit sa maladie comme étant symptomatique, chronique ou ayant de sérieuses conséquences et plus grande est sa détresse et plus elle est portée à tenter d'ignorer sa maladie. À l'inverse, plus une personne perçoit avoir un contrôle sur l'évolution de sa maladie et meilleur serait son bien-être et plus elle serait portée à prendre en charge sa maladie (Hagger & Orbell, 2003). Quelques chercheurs ont aussi observé que les personnes percevant que leur MCV est contrôlable, traitable ou attribuable à leur style de vie sont plus aptes à participer à un PRC que celles ayant des perceptions opposées (Cooper, Lloyd, Weinman, &

Jackson, 1999; Petrie, Weinman, Sharpe, & Buckley, 1996; Whitmarsh et al., 2003; Yohannes et al., 2007). De plus, selon Petrie et al. (1996), les patients qui perçoivent que leur MCV est peu grave et d'une durée brève sont davantage enclins à participer aux PRC. Toutefois, contrairement à Hagger & Orbell (2003) et à Petrie et al. (1996), selon les résultats de l'étude de Whitmarsh et al. (2003), les participants des PRC perçoivent davantage de symptômes, de conséquences et de détresse liés à leur maladie que les non-participants. De même, Yohannes et al. (2007) et Cooper et al. (1999, 2002) notent que les non-participants ont tendance à minimiser la sévérité de leur maladie ou à moins bien comprendre celle-ci, en comparaison aux participants. De plus, tel que l'ont constaté French, Cooper & Weinman (2006) dans leur recension des écrits à ce sujet, les participants des PRC semblent avoir une meilleure compréhension de leur MVC que les non-participants et percevoir davantage de symptômes et de conséquences graves en lien avec leur maladie, et ce, avant même de participer à un programme. Dans bon nombre de ces études, la représentation de la maladie est évaluée à l'aide du *Illness Perception Questionnaire* (IPQ) (Weinman, Petrie, Moss-Morris, & Horne, 1996), lequel relève du modèle d'autorégulation de la maladie de Leventhal et collègues (p. ex., Leventhal, Diefenbach, & Leventhal, 1992; Leventhal, Leventhal, & Cameron, 2001; Leventhal, Nerenz, & Steele, 1984). Selon ceux-ci, certaines caractéristiques sont liées au style de résolution des problèmes des gens, qui tendent ainsi à guider leurs comportements en lien avec leur maladie.

Ainsi, chez les personnes atteintes d'une MCV, même si les facteurs psychosociaux semblent avoir une influence importante sur leur participation à un PRC, seuls quelques chercheurs se sont attardés à l'étude de cette hypothèse et les résultats observés ne sont pas clairs (French et al., 2006). Par ailleurs, dans la plupart des études, l'anxiété et les perceptions face à la maladie tendent à être explorées lorsque la personne atteinte d'une MCV est encore hospitalisée (Daly et al., 2002; French et al., 2006). À ce moment, l'état psychologique d'une personne risque toutefois de ne pas correspondre à celui observé hors de l'hôpital, lorsque vient le temps de commencer les séances de réadaptation cardiaque. La validité des résultats et les conclusions des chercheurs de ces études sont donc discutables.

La présente étude a pour objectif d'explorer, chez les personnes non hospitalisées et atteintes d'une MCV quelconque, l'influence de facteurs de risque non modifiables et modifiables de MCV sur leur adhésion à un PRC ainsi que l'influence de facteurs psychosociaux (plus précisément, l'anxiété et les perceptions concernant la maladie cardiovasculaire) sur celle-ci. Dans l'ensemble, ces informations pourraient permettre de mieux orienter l'élaboration de stratégies favorisant l'adhésion à un PRC et, par

conséquent, la réduction de la morbidité cardiovasculaire ainsi que l'amélioration de la qualité de vie chez les participants atteints d'une maladie cardiovasculaire.

Méthode

Population

Les participants de la présente étude sont des personnes qui sont atteintes d'une maladie cardiovasculaire (MCV) et qui se sont inscrites au programme de réadaptation cardiovasculaire (PRC) *Coeur en santé* après y avoir été référées par leur médecin de famille ou un autre spécialiste du domaine médical. Elles présentent par ailleurs divers types de MCV; elles n'ont pas toutes subi un accident cardiovasculaire et n'ont pas toutes été hospitalisées. Aucun critère d'exclusion ne fut considéré dans le cadre de la présente étude.

En tout, 42 personnes ont été invitées à participer à la présente étude. Trente participants (17 hommes et 13 femmes) ont accepté de répondre aux questionnaires. La moyenne d'âge de l'échantillon est de 66 ans (É.-T. = 10,14).

Méthodes de collecte des données

Les mesures comprennent à la fois des mesures générales démographiques ainsi que des mesures physiques, physiologiques et psychosociales.

Participation au PRC

La participation au PRC est mesurée selon le nombre de séances de réadaptation cardiaque (et de maintien, pour ceux qui se sont inscrits au programme de maintien par la suite) complétées par les participants à la fin de l'étude, depuis leur inscription au programme.

Facteurs de risque non modifiables et modifiables

Les facteurs de risque de maladie cardiovasculaire non modifiables, c'est-à-dire l'âge, le sexe, le niveau de scolarité et le revenu mensuel, ont été explorés à l'aide d'un questionnaire général. En ce qui concerne les facteurs de risque modifiables, l'indice de masse corporelle et les tensions artérielles systolique et diastolique ont été mesurés par le personnel médical du PRC *Cœur en santé*. Avec l'accord des participants, ces données ainsi que celles relatives aux taux de cholestérol LDL, de cholestérol HDL et de triglycérides ont été obtenues de leur fiche médicale par l'entremise de la coordinatrice du PRC.

Variables psychosociales

Anxiété. Le niveau d'anxiété des participants a été exploré à l'aide de la sous-échelle de trait d'anxiété (*State-Trait Anxiety Inventory*), mesurant la tendance anxieuse, chronique, non situationnelle des gens (Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983). Chacun des vingt énoncés composant cette sous-échelle sont cotés à l'aide d'échelles de type Likert en quatre points. Un score global est ensuite calculé et peut varier de 20 à 80. Les scores sont

interprétés selon un continuum de gravité : plus le score est élevé et plus le sujet tend à être une personne anxieuse. En règle générale, les scores d'environ 40 et plus indiquent la présence d'un trouble anxieux (Spielberger et al., 1983). Les propriétés psychométriques de cet outil et de sa version française (l'Inventaire d'anxiété situationnelle et de trait d'anxiété, Gauthier & Bouchard, 1993) sont jugées adéquates (Gauthier & Bouchard, 1993; Spielberger et al., 1983).

Perceptions des participants face à leur maladie. Les perceptions qu'ont les participants de leur maladie ont été explorées à l'aide du *Revised Illness Perception Questionnaire* (IPQ-R) de Moss-Morris et al. (2002). Le questionnaire IPQ-R est un instrument d'autoévaluation validé tant en milieu clinique qu'en recherche et est fondé sur le modèle d'autorégulation de la maladie de Leventhal (Leventhal et al., 1992; Leventhal et al., 2001; Leventhal et al., 1984). Moss-Morris et al. (2002) rapportent des validités discriminantes et convergentes satisfaisantes ainsi qu'une bonne fidélité interne pour l'outil, les coefficients alpha de Cronbach variant entre 0,79 et 0,89 pour chacune des sous-échelles. En général, les dimensions mesurées à l'aide des sous-échelles de l'IPQ-R présentent aussi une bonne stabilité dans le temps, du moins à court terme (Moss-Morris et al., 2002). Les propriétés psychométriques de la version française de l'IPQ-R seraient également adéquates (Anbar, Dardennes, & Kaye, 2005).

Le questionnaire IPQ-R comporte 70 énoncés regroupés en neuf sous-échelles : *l'identité* (14 énoncés), *la durée - aiguë/chronique* (six énoncés), *les conséquences* (six énoncés), *le contrôle personnel* (six énoncés), *le contrôle du traitement* (cinq énoncés), *la compréhension de la maladie* (cinq énoncés), *l'évolution dans le temps* (quatre énoncés), *la représentation émotionnelle* (six énoncés) et *les causes* (18 énoncés). Le niveau d'accord avec chacun des énoncés est établi à l'aide d'une échelle de type Likert en cinq points, où 1 correspond à *pas du tout d'accord*, et 5, à *tout à fait d'accord*. Sauf pour la sous-échelle des *causes*, la somme des scores est ensuite calculée pour chacune des sous-échelles.

Plus précisément, la sous-échelle de *l'identité* explore le nombre de symptômes que le patient identifie comme faisant partie de sa condition. La sous-échelle de la *durée-aiguë/chronique* examine la chronicité (brève à prolongée) de la maladie, telle que prédite par le participant. La sous-échelle des *conséquences* relève la perception qu'a le participant de la gravité de sa maladie et de son impact à long terme sur sa vie de tous les jours. Les sous-échelles du *contrôle personnel* et du *contrôle du traitement* permettent de déterminer comment le participant perçoit son propre rôle dans l'évolution de sa maladie et son pronostic, respectivement. La sous-échelle de la *compréhension* sert à examiner la compréhension qu'a le participant de sa maladie ou, en d'autres mots, le sens qu'il lui attribue. La sous-échelle de la *représentation émotionnelle*, quant à elle, explore la

détresse que ressent l'individu en lien avec sa maladie cardiovasculaire. La sous-échelle de l'évolution dans le temps aide à déterminer comment la maladie du participant (ou ses facteurs associés) fluctue dans le temps, selon lui. Enfin, la sous-échelle des causes est une sous-échelle distincte des autres, de type qualitative, servant à identifier les causes de la maladie telles que perçues par le participant. Un score global ne pouvant pas être calculé pour cette dimension, ses éléments n'ont pas été présentés.

Procédure

Suite à l'approbation des comités d'éthique de l'Université de Moncton et du réseau de santé Vitalité, la participation à cette étude a été sollicitée auprès des nouveaux participants du PRC *Cœur en santé*, et ce, à leur première séance au programme. Le PRC *Cœur en santé*, offert au Centre d'éducation physique et des sports (CEPS) de l'Université de Moncton et géré par le réseau de santé Vitalité du Nouveau-Brunswick, est d'une durée de 24 séances (à savoir deux séances par semaine pendant 12 semaines). Ces séances comprennent le soutien, l'enseignement et l'exercice physique. Une fois le PRC terminé, les participants sont encouragés à se joindre au programme de maintien qui consiste à poursuivre un programme individualisé d'exercice physique.

Les questionnaires, prenant environ 25 minutes à remplir, ont été présentés aux intéressés après qu'ils eurent signé un formulaire de consentement. Ces questionnaires étaient disponibles en français ou en anglais selon la préférence du participant, et ils pouvaient être remplis soit sur place, soit à domicile et remis à la séance suivante. À la fin de l'étude, nous avons obtenu auprès de la coordinatrice du PRC le nombre de séances complétées par chaque participant.

Résultats

Le tableau 1 présente le nombre moyen de séances complétées au PRC en fonction des facteurs de risque non modifiables (sociodémographiques) et modifiables de maladie cardiovasculaire (MCV) des participants.

Des analyses de variance univariées (ANOVA) ont été effectuées sur le nombre moyen de séances complétées au PRC à la fin de l'étude (variable dépendante) en fonction des facteurs de risque de MCV modifiables et non modifiables (variables indépendantes), recueillies au début de l'étude. Pour les fins des analyses de variance, les données continues (c.-à-d. l'âge, les tensions artérielles systolique et diastolique, les taux de cholestérol LDL et HDL, le taux de triglycérides ainsi que l'indice de masse corporelle) ont été transformées en données catégorielles, tel que présenté au tableau 1. Selon le résultats des analyses, le nombre de séances complétées ne varie pas significativement en fonction de l'âge ($F[2, 27] = 1,04; p = 0,37$), du sexe ($F[1, 28] = 1,11; p = 0,30$), du revenu mensuel

Tableau 1: Nombre moyen de séances complétées au PRC en fonction des facteurs de risque de MCV

Variable	n	Nombre de séances	
		M	ÉT
Facteurs de risque non modifiables			
Âge			
< 60 ans	10	21,30	10,29
61 à 70 ans	11	19,81	14,06
> 70 ans	9	27,22	10,64
Sexe			
Homme	17	20,53	11,61
Femme	13	25,15	12,30
Scolarité			
Secondaire	12	21,17	10,40
Collégial	6	35,17	13,44
Universitaire	12	17,58	8,33
Revenu mensuel			
< 2 000 \$	8	19,50	12,32
2 001 \$ à 3 500 \$	12	23,58	12,75
> 3 501 \$	10	23,70	11,45
Facteurs modifiables			
Obésité (Indice de masse corporelle)			
Poids santé (18,5–24,9)	8	20,75	16,01
Excès de poids (25,0–29,9)	18	24,33	10,68
Risques de maladies ($\geq 30,0$)	4	18,00	8,76
Tension artérielle systolique			
Normale (< 130)	21	24,62	11,47
Normale élevée (130–139)	6	19,67	13,37
Élevée (≥ 140)	3	13,67	10,69
Cholestérol LDL			
Idéal (< 2,6)	26	23,15	12,50
Près de l'idéal (2,6–3,3)	3	19,67	8,08
Limite à élevé ($\geq 3,4$)	1	15,00	-
Cholestérol HDL			
Idéal (> 1,5)	4	34,75	20,02
Près de l'idéal (1,3–1,5)	3	29,33	5,51
Faible (< 1,3)	23	19,52	9,35
Triglycérides			
Bon (< 1,7)	20	23,85	12,75
Limite (1,7–2,2)	6	16,50	11,33
Élevé ($\geq 2,3$)	4	25,00	6,32

($F[2, 27] = 0,34; p = 0,72$), du taux de triglycérides ($F[2,27] = 0,97; p = 39$), de la tension artérielle systolique ($F[2,27] = 1,35; p = 0,28$) et de l'indice de masse corporelle ($F[2,27] = 0,57; p = 0,58$). Tous les participants de l'étude auraient une tension artérielle diastolique normale (< 85), selon les données recueillies.

Les résultats des analyses de variance indiquent toutefois que le nombre moyen de séances complétées au PRC varie en fonction de la scolarité des participants de l'étude ($F[2,27] = 6,02; p < 0,01$). Plus précisément, les analyses post-hoc (Scheffé) effectuées révèlent que les participants ayant poursuivi des études de niveau collégial ont complété un nombre significativement plus élevé de séances au PRC que ceux ayant fait des études universitaires ($p < 0,01$) et que ceux n'ayant pas fait d'études postsecondaires ($p < 0,05$).

Pour ce qui est du lien entre le nombre moyen de séances complétées au PRC et les taux de cholestérol LDL ($M = 1,95; \acute{E}.T. = 0,69$) et HDL ($M = 1,11; \acute{E}.T. = 0,27$), celui-ci fut examiné à l'aide d'analyses corrélationnelles bivariées de Pearson, plutôt qu'à l'aide d'analyses de variance, en raison de la faible distribution de données entre les niveaux de la variable. Les analyses ne révèlent aucun lien entre le nombre de séances complétées et le taux de cholestérol LDL ($r = -0,005; p = 0,978$). Toutefois, plus le taux de cholestérol HDL est élevé et plus les participants ont complété des séances au PRC ($r = 0,50; p < 0,01$).

Des corrélations de Pearson entre les variables psychosociales (c'est-à-dire la mesure de trait d'anxiété et les scores obtenus aux sous-échelles de l'IPQ-R) et le nombre moyen de séances complétées au PRC ont également été effectuées. Les résultats indiquent que, parmi les variables psychosociales, seule la mesure de trait d'anxiété est en forte corrélation avec le nombre moyen de séances

complétées au PRC ($r = 0.50, p < 0,01$). Plus précisément, il est ici observé que plus le participant se dit être une personne anxieuse et plus il complète de séances au PRC. Un examen des données révèle toutefois un niveau d'anxiété non clinique chez les participants (bien que des traits anxieux non cliniques semblent néanmoins être présents). Le tableau 2 présente les résultats de l'analyse des facteurs psychosociaux des participants.

Une analyse de régression multiple standard a été effectuée pour repérer les variables prédisant la participation au PRC. Les postulats de base nécessaires pour effectuer une régression multiple ont été vérifiés et respectés. En raison du faible nombre de participants à l'étude et du grand nombre de variables, les analyses de régression ont été davantage concentrées sur les variables les plus fortement liées au nombre moyen de séances complétées au PRC. Le tableau 3 présente donc les résultats de la régression multiple effectuée, avec la participation au PRC comme variable dépendante et avec la mesure d'anxiété, certaines variables psychosociales mesurées à l'aide de l'IPQ-R (sous-échelles de contrôle du traitement, de contrôle personnel, d'identité, de conséquences et de chronologie aiguë/chronique) et le facteur de risque modifiable ayant trait au taux de cholestérol HDL, comme variables indépendantes continues.

Tel que le révèle le tableau 3, le niveau de trait d'anxiété et le taux de cholestérol HDL prédisent ensemble 41 % de la variance liée au nombre de séances complétées au PRC *Cœur en santé* [$F(1,28) = 9,36, CME = 90,31, p < 0,01$]. Le R^2 rajusté de 37 % prend cependant en considération l'échantillon ($n = 30$) et le nombre de variables indépendantes de cette étude. Ainsi, le taux de cholestérol HDL et le niveau d'anxiété expliquent 21,8 % et 21,6 % de la variance unique liée au nombre de séances complétées, respectivement. Plus précisément, selon l'équation de régression multiple, il est possible d'inférer que, pour chaque augmentation d'une unité de cholestérol HDL,

Tableau 2: Scores moyens des participants pour chaque facteur psychosocial de l'étude (n = 30)

Variable	M	ÉT
Anxiété	28,63	5,42
IPQ-R		
Identité	3,80	3,02
Durée – aiguë/chronique	20,67	5,54
Conséquences	18,97	5,16
Contrôle personnel	23,93	3,88
Contrôle du traitement	20,17	3,20
Compréhension	19,47	4,78
Représentation émotionnelle	14,50	4,23
Évolution dans le temps	9,13	3,01

Tableau 3: Analyse de régression multiple prédisant la participation des sujets aux PCR

Variable	Coefficient de régression (B)	t	b	F
Cholestérol-HDL *	18,53	2,74	0,41	9,15
Mesure d'anxiété *	0,91	2,73	0,41	9,36
Identité	0,45	0,54	0,11	
Conséquences	-0,37	-0,73	-0,16	
Chronologie	0,23	0,61	0,11	
Contrôle/traitement	-0,31	-0,36	-0,08	
Contrôle/personnel	0,18	0,81	0,06	
* $p < 0,01$				

le nombre de séances complétées au PRC augmente de 18,53, alors que pour chaque augmentation d'une unité de la mesure d'anxiété, le nombre de séances complétées au PRC augmente de 0,91. Les autres variables entrées dans la régression multiple ne prédisent pas significativement le nombre de séances complétées au PRC.

Discussion

En ce qui concerne les facteurs de risque non modifiables de maladie cardiovasculaire (MCV), les résultats de la présente étude indiquent que les participants du programme de réadaptation cardiovasculaire (PRC) *Cœur en santé* ayant fait des études de niveau collégial complètent davantage de séances que ceux ayant fréquenté l'université ou n'ayant fait que des études de niveau secondaire. Sarrafzadegan et al. (2007) notent une tendance identique à celle observée dans la présente étude pour ce qui est du lien entre le niveau de scolarité et le nombre de séances complétées au PRC.

En ce qui a trait aux facteurs de risque modifiables de MCV, aucun lien ne fut observé entre le nombre de séances complétées au PRC et la plupart des facteurs de risque de MCV modifiables (indice de masse corporelle, tensions artérielles systolique et diastolique et taux de triglycérides et de cholestérol LDL) et non modifiables (âge, sexe et revenu mensuel). Cependant, les résultats de l'étude démontrent que le taux de cholestérol HDL d'une personne atteinte d'une MCV prédit le nombre de séances complétées au PRC. Dorn et al. (2000) observent eux aussi que le taux de cholestérol HDL corrèle positivement avec le nombre de séances complétées au PRC. De plus, selon Daly et al. (2002), les participants ayant un style de vie relativement actif à l'extérieur des séances de PRC sont davantage portés à adhérer au PRC. Cette tendance va de soi avec un taux de cholestérol HDL plus élevé chez ceux qui adhèrent au PRC. Dans le même ordre d'idées, Sarrafzadegan et al. (2007) observent que les participants les plus à risque de complications en lien avec leur MCV sont ceux qui sont les moins adhérents au PRC.

La présente étude a également examiné le lien entre des facteurs psychosociaux et la participation au PRC, en particulier le nombre de séances complétées par les participants. Les résultats indiquent que le niveau d'anxiété des personnes atteintes d'une MCV prédit le niveau d'adhésion au PRC *Cœur en santé*. Plus précisément, plus les participants rapportaient un niveau d'anxiété élevé à leur première séance du PRC et plus ils complétaient de séances. Il est à noter que la mesure d'anxiété employée dans l'étude concerne l'anxiété de trait, laquelle serait plus stable que la mesure de l'état d'anxiété (Spielberger et al., 1983). Ce résultat appuie ceux observés par plusieurs chercheurs, qui observent eux aussi un lien entre le niveau d'anxiété et l'adhésion aux PRC (p. ex. Cooper et al., 2002; Grace et al., 2002; Whitmarsh et al., 2003).

Toutefois, contrairement à ce qui était attendu, aucun lien ne fut observé entre le nombre de séances complétées au PRC et la perception de la maladie des participants, en lien avec les composantes de l'IPQ-R. Dans les quelques études antérieures effectuées dans le domaine, il est généralement observé que la perception des patients atteints d'une MCV, du moins leur perception de contrôle personnel face à leur maladie et son traitement, prédit l'adhésion au PRC (French et al., 2006).

Malgré les résultats de la présente étude, certaines limites doivent être prises en considération dans l'interprétation des données. Tout d'abord, la taille modeste de l'échantillon pourrait expliquer les différences constatées entre les résultats de la présente étude et ceux des recherches antérieures. Toutefois, pour des analyses approfondies, un échantillon plus important serait de mise. De plus, une autre limite notée porte sur le devis transversal de l'étude. En effet, bien que le devis transversal permette d'examiner les relations entre les variables, un devis longitudinal aurait permis d'établir la validité prédictive des liens observés. Il aurait donc été intéressant de reprendre les mesures à la fin du projet.

La présente étude se distingue de la plupart des autres études en ce sens que, dans la plupart de ces dernières, les données sont recueillies avant même que les participants ne commencent le PRC, soit pendant une hospitalisation à la suite d'un accident cardiovasculaire. Dans le cadre de cette étude, elles ont plutôt été recueillies auprès des participants à leur première séance du PRC. Le niveau d'anxiété des patients atteints d'une MCV et leurs perceptions face à leur maladie au moment d'une hospitalisation en lien avec leur maladie risquent de ne pas refléter ceux perçus et rapportés ultérieurement, au moment de commencer le PRC. Il serait d'ailleurs intéressant d'examiner ces facteurs psychosociaux en fonction du type de maladie cardiovasculaire et de la période de temps entre le diagnostic de la MCV et/ou l'hospitalisation. Ces renseignements n'étaient pas disponibles dans le cadre de ce projet.

De plus, dans la présente étude, les facteurs de risque modifiables et non modifiables de MCV ainsi que le niveau d'anxiété et les perceptions des participants face à leur MCV sont explorés en fonction du nombre de séances complétées au PRC, et non en fonction de leur participation ou non-participation au PRC, tel que c'est le cas dans la plupart des recherches publiées. À cet égard, il est possible que les variables prédisant la participation à un PRC ne soient pas les mêmes que celles prédisant le nombre de séances complétées par les participants s'étant présentés à au moins une séance du PRC. Il se peut également que la plus grande part de variance réside entre les participants et les non-participants des PRC, et non au sein même des participants des PRC. Cette hypothèse pourrait être intéressante à explorer dans des études futures.

Conclusion et répercussions

Les résultats de la présente étude indiquent que les sujets ayant les taux d'adhésion les plus élevés à des programmes de réadaptation cardiaques sont ceux qui sont les plus anxieux. Cela indique qu'une attention plus particulière devrait être accordée aux sujets plutôt déprimés, et ce, afin d'augmenter leur taux de participation à ces programmes. De ce fait, il serait pertinent que les infirmiers et infirmières soient informés de cette tendance et qu'ils encouragent les patients cardiaques déprimés à adhérer convenablement à ce type de programme. ♥

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The Cochrane Collaboration: 20 years of Improving Access to Evidence for Cardiovascular Nursing

Zachary Munn, PhD

Since 1993, the Cochrane Collaboration has been the global leader in producing systematic reviews regarding the effectiveness of interventions for health care. The systematic review process provides a rigorous method to search for, collate, appraise and synthesize all of the existing evidence on a certain health care topic, thereby providing nurses with a complete picture regarding the research base for certain interventions.

The past 20 years have seen significant changes in the way health professionals and nurses work. With the increasing proliferation of information technology (IT) and connectivity, there has been a shift in many health care systems towards utilization of IT resources during all steps in the patient's journey through illness and return to health. The ease of access to IT resources has also facilitated an increase in the uptake of evidence-based practice among nurses, and the past 20 years have seen an improved understanding from the nursing profession regarding the importance of research evidence. This, in turn, has led to an increase in the literature base for nursing and, in particular, an increase in the amount of high-quality, randomized controlled trials (RCTs) that have been performed. Although they are not the only cause behind the increase in the amount of RCTs conducted in nursing, the Cochrane Collaboration can be seen as one of the main drivers behind this increase in high-quality experimental research conducted by nurses for nursing practice.

With this increase, we are now seeing the production of Cochrane reviews (that mainly include only high-quality RCTs), which are of ever-increasing importance for nursing care. In recent years, the Cochrane Nursing Care Field

(CNCF) has been established with the mission of improving health outcomes through increasing the use of Cochrane systematic reviews by nurses, and by supporting the collaboration in their mission to provide an evidence base for nursing care. The CNCF has highlighted many Cochrane systematic reviews that are of direct relevance to nursing and cardiovascular nursing in particular. For example, a recent review conducted by Takeda et al. (2012) concluded that "there is now good evidence that case management-type interventions led by a heart failure specialist nurse reduces heart failure-related readmissions and, after 12 months follow-up, all cause readmissions and all cause mortality" (p. 18) for heart failure patients with a previous admission to hospital. Other groups are now conducting systematic reviews following methodology informed by the Cochrane Collaboration, including examples published in this journal (Budnick et al., 2009; Doyon & Parent, 2008; Zegrean, 2009).

Every nurse has a role to play in increasing the uptake of evidence-based practice in his/her setting. If you are interested in joining the CNCF, you can find out more at: <http://cnf.cochrane.org/>. There have been many changes in nursing over the last 20 years since the Cochrane Collaboration was formed; I encourage you to join the CNCF and take part in the continued evolution of evidence-based nursing over the next 20 years! ♥

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Follow the APA guidelines for grammar, punctuation, gender neutral language, references and citations. Two exceptions from APA are the spelling (should be current Canadian use where applicable), and the abstract should be a maximum of 150 words.

Tables, graphs, illustrations: Prepare in accordance with the APA Manual. Each table, figure or illustration should be submitted on a separate sheet and numbered as it appears in the article (e.g., Figure 1). Illustrations should be computer-generated or professionally drawn. Photographs should be in print form in the manuscript submission, and unmounted.

Reference List: CJCN uses a reference list (in contrast to a bibliography) and its purpose is described in the APA Manual.

Title page

An identifying title page should include the title and names, credentials and affiliations of all authors. The author with whom the editor will correspond should be indicated with telephone, fax and email numbers given.

Four to five keywords from the CINAHL Subject Heading list should appear on the title page.

Acknowledgements

Other contributing individuals and sources of research funding that resulted in this manuscript should appear in the acknowledgement section of the paper.

Review procedure

Manuscripts for original articles are reviewed anonymously by peers for content and clarity. If the peer reviewers recommend publishing with content revisions, the manuscript will be forwarded to the author with a deadline for the return of the revised paper by email.

Expected timeline from submission to response is eight weeks.

Copy editing

Accepted articles are subject to copy editing.

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Check the CJCN web page for a PowerPoint Presentation with further information for authors: www.cccn.ca/content.php?doc=21 ♥

Renseignements à l'intention des auteur(e)s

La *Revue canadienne de soins cardiovasculaires* (RCSC) paraît quatre fois par année et contient des articles tant en français qu'en anglais. La RCSC apprécie les articles originaux portant sur des résultats de travaux de recherche ou des questions reliées à la santé et à la maladie cardiovasculaires.

La Revue offre une tribune pour :

- la présentation de travaux de recherche,
- la revue de publications,
- la présentation d'études de cas,
- les analyses portant sur des enjeux cardiovasculaires.

En outre, nous accueillons avec plaisir les lettres à l'éditeur rédigées en réponse à nos articles ou à nos chroniques.

Soumission d'un manuscrit

Veillez acheminer le manuscrit par courriel à l'adresse suivante :

Paula Price

Conseil canadien des infirmières et infirmiers en soins cardiovasculaires

Courriel : david@cccn.ca

Le manuscrit devrait être accompagné des documents suivants :

- Une lettre d'introduction signée par l'auteur(e) principal(e) et déclarant que le manuscrit n'a jamais été publié et qu'il n'est présentement pas soumis à un examen par une autre revue.
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Format

Les manuscrits doivent être tapés à double interligne, dans une police couramment employée pour les lettres. Les marges latérales doivent être de 2,5 cm. La longueur maximale permise est de 20 pages, ce qui comprend les tableaux, les figures, les illustrations et les références. (Les graphiques équivalent à la moitié d'une page ou à une page complète, selon la taille prévue lors de la publication.)

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Le style doit être conforme aux lignes directrices du manuel de publication de l'APA en ce qui concerne la grammaire, la ponctuation, le langage impartial, les références et les citations. Il y a cependant deux exceptions à l'emploi des règles de l'APA : l'orthographe devrait être conforme à l'usage canadien courant, le cas échéant, et le résumé ne doit pas dépasser 150 mots.

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Liste des références : la RCSC utilise une liste de références (par opposition à une bibliographie); la raison en est précisée dans le manuel de publication de l'APA.

Page de titre

Veillez inclure une page de titre précisant le titre de l'article ainsi que les noms, les titres professionnels et les affiliations de chacun des auteur(e)s. Précisez à qui la correspondance doit être adressée, en prenant soin de donner le numéro de téléphone, le numéro de télécopieur et l'adresse électronique de cette personne.

Indiquez sur la page de titre quatre ou cinq mots clés tirés de la liste des sujets contenus dans la base de données CINAHL.

Remerciements

Les noms des autres personnes qui ont contribué à l'ouvrage et l'information sur l'aide financière obtenue pour conduire les travaux de recherche décrits dans le manuscrit doivent apparaître dans la section des remerciements.

Processus d'examen

Les manuscrits des articles originaux sont évalués de façon anonyme par des pairs qui jugent de leur mérite et de leur clarté. Si les pairs recommandent des révisions du contenu avant la publication, le manuscrit sera envoyé à l'auteur(e) en précisant une date limite pour retourner le manuscrit révisé par courriel.

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