BURNOUT AND EMPOWERMENT AMONG HEMODIALYSIS NURSES IN QUEBEC

by

Christina Doré

Master of Science in Nursing, Université de Montréal, 2006

Bachelor of Science of Nursing, Université de Montréal, 1994

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Supervisors: Mary McKenna, PhD, School of Graduate Studies
Linda Duffett-Leger, Ph D, School of Nursing, University of Calgary

Examining Board: Jonathan Salsberg, PhD, Graduate Entry Medical School, University of Limerick, member
Lilly Both, PhD, Faculty of Psychology
Ann Rhéaume-Brüning, PhD, School of science Nursing, University of Moncton

External Examiner: Carol Anne Wong, PhD, Arthur Labatt Family School of Nursing, Western University

This dissertation is accepted by the
Dean of Graduate Studies

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ABSTRACT

While healthcare is struggling to respond to patients' care needs as well as budgetary realities, patient care is increasingly more burdensome and demanding for nurses, resulting in increased burnout. Burnout has negative consequences for affected nurses and can jeopardize quality of care and patient safety. The empowerment of nurses is closely related to workplace wellness, since it is viewed as a positive strategy to support nursing practice and well-being at work. Research indicates that professional websites are promising vehicles to address nurse empowerment, with the recommendation that they be engaged in the design process.

To date, there is no information to assess the severity of burnout or the empowerment status of hemodialysis nurses in Quebec. A quantitative online survey of 308 nurses assessed this situation and found that 38% reported high levels of emotional exhaustion, 69% reported moderate levels of structural mpowerment and 64% moderate levels of psychological empowerment. Structural and psychological empowerment were significantly related to burnout. Subsequently, a participatory action research approach that included a series of three focus group sessions with a total of seven participants and consultations with an Advisory Team generated recommendations on the types of information and elements to include in a website that addresses burnout and promotes empowerment. The results indicated that a future website should include: professional information and updates, continuing education, information on healthy lifestyle habits and networking. Overall, this research has important implications for nurses and nursing practice and research. We found high levels of burnout among hemodialysis nurses in

Quebec, similar to other North American results; and that hemodialysis nurses support the development of a website to address their professional and personal needs.

DEDICATION

To my mother who always encouraged me to believe in my potential and have my voice heard in order to help others.

Souhaitant que le fruit de nos efforts fournis jours et nuits, nous menera vers un bonheur fleuri…

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LIST OF ACRONYMS

ACITN	Association Canadienne des Infirmières et Infirmiers et des Technologues de Néphrologie/Canadian Association of Nephrology Nurses and Technologists
ANQ	Association des Néphrologues du Québec/Nephrologists Association in Quebec
APA	American Psychological Association
CAN	Canadian Nurses Association
CBT	Cognitive-behavioral Technique
DMS-5	Diagnostic and Statistical Manual of Mental Disorders -5th edition
FCR	Fondation Canadienne du rein/Kidney Foundation of Canada
HD	Hemodialysis
ICIS	Institut Canadien d'Information sur la Santé/Canadian Institute for Health Information
ICT	Information and Communication Technology
INESS	Institut Nationale d'Excellence en Santé et en Services Sociaux/National Institute of Excellence in Health and Social Services
PAR	Participatory action research
RN	Nurse
REINQ	Regroupement visant l'excellence de la pratique infirmière en néphrologie au Québec
OIIQ	Ordre des Infirmières et Infirmiers du Québec/Order of Nurses in Quebec
MSSS	Ministère de la Santé et des Services Sociaux/Ministry of Health and Social Services
WHO	World Health Organization

*Some acronyms have been translated freely in English for the purpose of the reader

INTRODUCTORY CHAPTER

Introduction

The aim of this research was first to assess the burnout and empowerment of hemodialysis (HD) nurses (RN) working in Quebec based on a provincial survey and second, to use a participatory action research (PAR) approach to generate community-based recommendations for the development of a future professional website to promote empowerment and enhance well-being at work thereby reducing risk of burnout. This manuscript-based dissertation by articles includes an introductory chapter, three journal articles and concluding chapter (UNB, 2009). The main reasons for choosing this approach were to maximize the outreach capacity to RNs and key decision-makers and to promote the sharing of results to increase awareness about this important issue. The introductory chapter presents the background, purpose and objectives, study significance, a theoretical overview and the conceptual framework for this study, a literature review, an overview of the study design, the dissertation format and a summary.

Background

Renal function is essential to the functioning of the body and usually undergoes a slow and silent deterioration with age. It becomes chronic and irreversible in the advanced stages, and is qualified as terminal when renal function is 15% or less which necessitates dialysis or kidney transplant (FCR, 2013). In 2012, 41,252 Canadians were living with end-stage chronic renal failure, of whom 45% were receiving HD treatment in a hospital or centre and 42% were living with a functioning kidney transplant. HD is

the recommended initial treatment modality for 79% of end-stage renal disease patients (ICIS, 2014). In Quebec, 8,153 people suffered from chronic renal disease in 2010, of which 48% were on long-term HD treatment with an annual increase of 3% of new cases (INESSS, 2012). HD RNs provide care to patients with end-stage renal disease who require renal replacement to keep them alive or until they receive a kidney transplant (FCR, 2013). HD involves extracting excess water and waste from the patient's blood with a dialysis machine (FCR, 2013), and requires three treatments per week for a period of three to five hours per session along with many therapeutic lifestyle changes (multiple medications, and strict dietary and fluid restrictions) (Desseix, Merville, & Couzi, 2010; FCR, 2013). These changes are difficult for the patients, and non-compliance is common (Bland, Cottrell, & Guyler, 2008; Curtin, Svarstad, & Keller, 1999). HD is also associated with many complications and a wide range of detrimental effects on HD patients' lives (i.e. physical, psychological, familial and social impacts) (OIIQ-ANQ, 2003).

HD is a sub-specialty of Nephrology that is not taught in nursing education programs, therefore, most RNs in HD obtain their specialization in the workplace. An orientation period of six-to-eight weeks is necessary for the RNs to integrate specific concepts of pathophysiology and care for HD patients as well as to become functional and safe in the technical aspects. The professional activities of HD RNs are broad, as they are engaged in health promotion, disease prevention, rehabilitation and the management of patients' acute and chronic care as well as end-of-life planning and care (ACITN, 2008). Subsequently, HD RNs need to maintain their knowledge and keep

their skills up-to-date in order to provide safe and effective care and to manage complex HD technology (OIIQ-ANQ, 2003).

HD is recognized as a highly technical, complex nursing specialty that includes aspects of critical care and chronic care because patients' health and needs occur on a continuum (ACITN, 2008; OIIQ-ANQ, 2003). Although HD RNs in the province of Quebec face similar challenges regarding their work environment as those in the rest of Canada, Quebec has a distinctive healthcare system with its own unique approach to care provision and services. The HD population is increasing year after year (MSSS, 2008) and is older in Quebec compared to the rest of Canada (RCITO, 2013). Over time, as the HD patients' health condition deteriorates, they become sicker and older, which results in increased needs and more complex care (OIIQ-ANQ, 2003). HD settings are frequently described as stressful and intense work environments with excessive work expectations contributing to burnout (Harwood, Ridley, Wilson, & Laschinger, 2010b; Karkar, Dammang, & Bouhaha, 2015) due to complex direct care (Karkar et al., 2015), the highly technical nature of HD (Karkar et al., 2015), the risk of exposure and contamination with blood (Chenoweth, 2013) and the risk of breakdown of the HD machine (Karkar et al., 2015).

As a result of experiencing intense stress at work and too many work demands over an extended period, burnout may develop (Maslach & Jackson, 1981, 1986). Burnout is widespread across the nursing profession (Duquette & Delmas, 2002). Indeed, 36% of Canadian RNs are affected by burnout (Aiken, Clarke, Sloane, Sochalski, & Silber, 2002). Until now, few studies have investigated burnout among HD RNs. It is known, however, that the burnout rate reaches as high as 41% in Canada

(Harwood, Ridley, Wilson, & Laschinger, 2010a; Ridley, Wilson, Harwood, & Laschinger, 2009). Furthermore, it has been demonstrated that empowerment would reduce job stress and burnout in some nursing specialties (Laschinger, Finegan, & Shamian, 2001a; Laschinger, Finegan, Shamian, & Wilk, 2001b). In addition, some authors recently highlighted that information communication and technology (ICT) may support the professional practice of RNs and address RNs' individual needs (Jackson, Fraser, & Ash, 2014). Their research suggests that a professional website may be an innovative way to empower HD RNs and reduce their risk of burnout. To date, most professional websites have been created for professionals instead of with these professionals, with the result that they are often difficult to navigate, irrelevant, and poorly utilized. The Canadian Nurses Association (CNA) suggests that direct consultation with RNs in the selection, design and implementation process can address this issue (CNA, 2006). One strategy to engage RNs is through a participatory action research (PAR) approach. PAR is the co-creation of knowledge by researchers working in equitable collaboration with those who are most affected by the issue being studied, or those who need to act on its results (Green, George, Daniel, Frankish, & Herbert, 1995). PAR uses a bottom-up perspective to address a problem by creating sustainable solutions that are connected with everyday organizational life and work. PAR uses a bottom-up perspective to address a problem by creating sustainable solutions that are connected with everyday organizational life and work. The PAR approach is used to engage the community, HD RNs from the same lived work experience, who are the intended users of a potential future professional website to collaboratively generate

recommendations for its development in order that the website will respond to their needs and preferences (Lewin, 1946).

Purpose and Objectives of this Research

The purpose of this study was to explore the HD RNs' burnout and empowerment to achieve the following objectives:

1. Assess the risk of burnout in Quebec RNs working in HD.
2. Evaluate the structural and psychological empowerment indicators of these HD RNs.
3. Explore association(s) between burnout and empowerment.
4. Generate community-based recommendations for the development of a professional website to increase empowerment and reduce risk of burnout.

This study was based on an interdisciplinary approach, which is usually sought when the problem under study is complex and would benefit from different disciplinary perspectives and the involvement of knowledge users in finding a solution (Repko, 2008; Repko, Szostak, & Buchberger, 2016). This study used theories, methods and tools from psychology (Maslach & Jackson, 1981, 1986; Spreitzer, 1995), sociology (Kanter, 1977, 1993) and nursing (Laschinger et al., 2001b) to examine burnout and empowerment of HD RNs because the burnout issue and empowerment process are complex. We involved knowledge users through a series of focus group discussions, and used focus group discussions to generate community-based recommendations for HD settings and the development of a future website.

Significance of Study

This research is important because currently there is no information on the severity of the burnout situation or the empowerment status of HD RNs in Quebec. Furthermore, there is a lack of knowledge about interventions to reduce burnout and especially for HD RNs who are considered at high risk. The subject is significant at both academic and clinical levels, since there are worrisome consequences for RNs, patients and organizations (Maslach, 2003). In addition, burnout is a major concern for healthcare organizations in Canada since the rate of absenteeism related to illness such as burnout has increased considerably over the years and represents huge costs to the healthcare system both in terms of RNs' productivity and the amount of money disbursed for sick leave, disability and replacement of the nursing workforce (Santé, Canada, 2007). This study reflects the perspective of health promotion and wellness at work for HD RNs and will allow a better understanding of the problem and sensitize RNs, decision-makers and managers to existing conditions and potential solutions. This study could influence nursing managers in HD to implement changes in work environments to enhance the empowerment of RNs and reduce work stress and burnout.

Theoretical Overview

This section presents the theories related to the key concepts of the study: burnout, burnout interventions, and empowerment.

Burnout and Burnout Intervention Theories

The term burnout was introduced in the 1970s by Herbert Freudenberger, a psychiatrist who worked in an alternative health clinic for drug addicts. He described

burnout as progressive fatigue accompanied by significant negative changes in mood, attitude and personality among his colleagues who were caregivers involved in a long-term intense therapeutic relationship (Freudenberger, 1974, 1987). In the early 1980s, Maslach, a social psychologist, and Jackson, a psychiatrist, conceptualized the burnout phenomenon as a three-dimensional syndrome consisting of emotional exhaustion, depersonalization and reduced personal accomplishment. They viewed burnout as a sequential process based on their clinical observations and empirical research among healthcare providers and service professions (Maslach & Jackson, 1981, 1986). Emotional exhaustion is the main dimension and first stage of the syndrome, characterized by persistent fatigue, low energy and debilitation, the collapse of emotional resources and demotivation. Maslach, Schaufeli, and Leiter (2001) view emotional exaustion as a response to chronic high demands and overload at work. Depersonalization is the second stage and emerges soon after, exhibited as detachment from others, loss of empathy or negative attitudes and feelings towards patients and work. Maslach et al. (2001) believe that depersonalization is a protective response to dealing with emotional stress at work; by creating a distance, the work becomes more manageable. The reduced perception of personal accomplishment (or professional self-efficacy) is the final stage and implies a negative self-evaluation of one's work such as the feeling of incompetency or uselessness and the inability to achieve concrete results at work. Maslach et al. (2001) assume that chronic overwhelming demands at work may contribute to exhaustion and depersonalization and in turn, may lead to the erosion of the employee's sense of effectiveness.

Theorists maintain that burnout is caused by individual and organizational factors (Bakker & Costa, 2014). Maslach et al. (2001) state that employees do not just respond to their work environment, they bring their own unique characteristics to the situation. The sociodemographic variables age, gender, ethnicity, education, marital and family status are identified as the main determinants of burnout related to the individual (Maslach, 2003; Maslach & Leiter, 1997). Work experience (Vargas, Cañadas, Aguayo, Fernández & de la Fuente, 2014) and education/continuing education (Crotty, 1987; Maslach et al., 2001) are specific determinants for RNs. Leiter and Maslach (1999) proposed a model of the development of burnout based on theories about job stress and the notion of imbalances leading to burnout. They list six organizational risk factors that could cause an imbalance or mismatch between the individual and the job (person-job fit): workload, control, reward, community, fairness, and values. Workload refers to work-related demands and the amount of time and resources an employee has to respond to them. Control pertains to professional autonomy and is the extent to which an employee is able to make important decisions about work. Rewards involve the financial and social recognition related to employee work contributions. Community relates to the quality of working relationships within the organization involving colleagues, managers and subordinates. Fairness refers to the extent to which decision-making processes are transparent and respectful. Value congruence represents the match between the organization's priorities and the values of the employee. The greater the mismatch between the person and the job, the greater the possibility of burnout. On the other hand, the greater the match, the greater possibility of engagement, the opposite of burnout. Research to date indicates the need to examine the factors contributing to the burnout of

RNs for each nursing specialty (Canadas-De la Fuente et al., 2015). Identifying risk factors related to nursing burnout in HD is important to obtain a clear understanding of the situation and to tailor burnout interventions that address specific needs.

Burnout interventions are characterized as approaches or strategies for action to prevent the occurrence of burnout or treat the symptoms of burnout (Leiter & Maslach, 2000; Maslach et al., 2001). Current interventions to address burnout are mostly directed toward the individual (e.g., relaxation techniques, meditation, massage, music therapy, cognitive behavioral training) to improve their ability to cope with stress and well-being while some interventions are directed toward organizations (e.g., modification of workplace, social support, and education) to create a change in the work system (Leiter & Maslach, 2000; Maslach et al., 2001).

Empowerment Theories

Two theoretical approaches are used to explain workplace empowerment: a structural perspective and a psychological perspective (Laschinger et al., 2001b; Spreitzer, 1995). Kanter (1977, 1993) introduced the perspective of structural empowerment with her theory of Structural Power in Organizations and claims that employees' behaviors, attitudes and work are determined in response to organizational structures and situations, and are not due to their individual characteristics. Therefore, it is not the individual who must change but organizations, which need to provide empowerment structures. Kanter views empowerment as the ability to mobilize information, resources, support and the opportunity to learn and grow in order to get things done in the workplace. Kanter insists that formal and informal power within the workplace facilitate access to structures that empower employees. Kanter proposes that

managers create conditions to optimize work effectiveness by providing access to the information, support, and resources essential to perform work as well as ongoing opportunities for professional development. Kanter asserts that high formal power is when jobs are designed in such a way that allows high flexibility and creativity in how work is performed and high visibility within the organization, whereas high informal power is when strong relationships are encouraged among peers and superiors and other coworkers. Working conditions are improved by the presence of these empowering structures, leading employees to be more successful and effective in accomplishing organizational goals, and more satisfied and engaged with their work, resulting in a reduced risk of burnout. Alternatively, employees who lack access to empowerment structures may experience a sense of inefficacy in performing work and are predisposed to feeling dissatisfied and disengaged and are more susceptible to burnout.

Conger and Kanungo (1988) introduced the perspective of psychological empowerment because they believed that the perspective of structural empowerment was incomplete since the managers do not have complete influence on employees' performance. They view empowerment as a process of enhancement of self-efficacy feelings through optimizing organizational conditions. Thomas and Velthouse (1990) expanded the perspective of psychological empowerment and view empowerment as an internal state that increases employees' motivation to perform work tasks. Individuals evaluate tasks and perform them according to their personal satisfaction and not because they are forced to or anticipate a reward. Four cognitions were identified: meaning, competence, choice and impact. The cognitions are the result of the employee task assessment associated with intrinsic task motivation. Subsequently, Spreitzer (1995)

with her theory of Psychological Empowerment in the Workplace, attributed an active orientation to the four cognitions of psychological empowerment: meaning, competence, self-determination and impact. Spreitzer states that they involve the employees' values about work tasks or goals or purpose appraised according to their own ideals or standards, the capacity to do the work well, a sense of choice about how to perform work and a sense that the work accomplished or their organizational contribution make a difference. The cognitions focus on an individual's capacities to shape his/her work role resulting in beliefs, attitudes and concrete behaviors. Consequently, empowered employees are more productive, satisfied with their work, less affected by job stress (Spreitzer, 1997) and less prone to burnout (Laschinger, 2008). Spreitzer (2008) argues that both structural empowerment and psychological empowerment should be analyzed to obtain a global perspective of empowerment.

Conceptual Framework

Laschinger and colleagues (2001b) actualized Kanter's theory of structural empowerment and integrated Spreitzer's theory of psychological empowerment, serves as a guiding framework to examine burnout and the global empowerment of RNs and support the development of empowering strategies aimed at their well-being and health while ensuring their efficiency in care. Kanter (1977, 1993) and Laschinger et al. (2001b) contend that a structurally empowered workplace results from access to six organizational structures: opportunity, information, resources, support, formal power and informal power. 1. Opportunity refers to access to education and professional advancement, including participation in committees to improve processes. 2. Information refers to access to critical knowledge pertaining to the organization;

including values, goals, policies and processes that are required for employees to make decisions and take actions to contribute to the mission of the organization. 3. Resources refers to access to material and time necessary to perform work. 4. Support refers to access to guidance and feedback from peers and managers. 5. Formal power refers to access to a job that offers flexibility, visibility and creativity. 6. Informal power refers to collaborative relationships and networking with peers and managers. When these dimensions are accessible within the workplace, they allow the emergence of the four psychological empowerment dimensions: meaning, competence, self-determination and impact (Laschinger et al., 2001b; Laschinger, Finegan, Shamian, & Wilk, 2003).
1. Meaning refers to the value given to the job according to one's beliefs, values, behaviors and work expectations. 2. Competence refers to the belief in one's personal ability to perform work activities. 3. Self-determination refers to a sense of choice (autonomy) in the performance of work. 4. Impact refers to the belief that one's own actions influence strategies and outcomes of work (Spreitzer, 1995). Once these dimensions are acquired, RNs' attitudes, behaviors and work are positively influenced, resulting in greater control over situations, work productivity, trust and engagement toward the organization and job satisfaction, consequently enhancing their well-being and reducing work-related stress, risk of burnout, and producing better outcomes for patients (Laschinger et al., 2001a,b; Laschinger et al, 2003). In our study, this framework was used first to examine empowerment and burnout of HD RNs working in Quebec and second to generate community-based recommendations from the HD RNs for the development of a future professional website to promote their empowerment and well-being and reduce their risk of burnout.

Literature Review

The literature review is organized into four sections: burnout among HD RNs, burnout interventions to be used with RNs, workplace empowerment and nursing burnout, and information and communication technology (ICT) interventions.

Burnout Among Hemodialysis Nurses

Burnout is recognized as an occupational hazard resulting from a prolonged exposure to occupational stress that can have detrimental effects on the health and well-being of professionals (Spence Laschinger & Fida, 2014; Maslach, 2003), as well as on their job satisfaction (Rosales, Labrague, & Rosales, 2013). RNs are more vulnerable to burnout than some other healthcare professionals because of the implicit relationship between work stress and burnout (Raftopoulos, Charalambous, & Talias, 2012). A study compared burnout between HD RNs and nephrologists and found that 30% of these RNs had high levels emotional exhaustion compared to 18% for the physicians (Klersy et al., 2007). Despite extensive research on nursing burnout in general, there is less evidence in HD. An international review reported moderate levels of burnout in half of the studies conducted among RNs working in HD. Some significant cross-nation differences in the Maslach Burnout Inventory (MBI) scores were found and the variability may be due to differences in roles, professional activities and the degree of autonomy of RNs and interdisciplinary collaboration (Bohmert, Kuhnert, & Nienhaus, 2011). North American studies revealed severe levels of burnout in 30-41% of HD RNs (Flynn, Thomas-Hawkins, & Clarke, 2009; Harwood et al., 2010a; O'Brien, 2011; Ridley, Wilson, Harwood, & Laschinger, 2009). On March 31st, 2016, there were 1375 nephrology RNs in Quebec (OIIQ stat, 2016) of whom, 60% worked in HD (CANNT, personal

communication, June 2016); that is about 825 HD RNs. RNs in Quebec represent 24% of the Canadian nursing workforce (CIHI, 2017). To date, there is scarce evidence about the worklife of HD RNs working in Quebec; however, a study highlighted that they are often overloaded with work, functioning at the limit of their capacity and often unable to fulfill tasks (Saint-Arnaud et al. 2003). RNs working in HD encounter in their professional practice several stressors, which are presented in six main categories: (a) patient-based (risk of contamination, death of patients; (b) work role (great responsibility, low professional status); (c) working conditions (nursing shortages, workload, nursing shift work pattern, lack of work experience, and limited equipment); (d) interprofessional collaboration (poor communication with colleagues and managers) (Bohmert et al. 2011; Hayes & Bonner, 2010); (e) patient abuse and violence against RNs related to renal disease (e.g., adjustment disorders and electrolyte disturbances) and frustration related to their care and the loss of control over their life; and (f) lack of access to continuing education opportunities and support (Hayes & Bonner, 2010).

Burnout Interventions to be Used with Nurses

The impact and cost of burnout on both the individual and organization have led to the development and implementation of various burnout interventions. While some interventions are aimed at treating burnout after its occurrence, others are more focused on how to prevent burnout (Maslach & Leiter, 2016). Maslach et al. (2001) explained that most burnout interventions are focused on individuals because of the known individual causality to burnout and the belief that it is easier and less expensive to change employees than organizations. Burnout interventions that are focused on the work environment and the person job-fit are also important; however, they are complex

to develop and implement and necessitate time, effort, resources and money. Of note, the majority of systematic literature reviews that focused on the effect of interventions to reduce occupational stress and burnout of health professionals (Ruotsalainen, Verbeek, Marine, & Serra, 2015; van Wyk & Pillay-Van Wyk, 2010) and RNs (Minura & Griffiths, 2003) reported the inability to identify the most effective approach due to insufficient evidence and low-quality studies (from a methodological and appraisal point of view) and erratic changes in burnout. One systematic review highlighted the need for more burnout studies and a better appraisal approach for assessing these interventions once implemented, suggesting the use of large sample and control groups (Ruotsalainen et al., 2015).

Limited evidence supports an individual approach in managing work-related stress and burnout (Mimura & Griffith, 2003; Ruotsalainen et al., 2015); however, a combined (individual and organizational) approach was recommended for RNs to ensure they cope with diverse and complex stressors in their practice (Mimura & Griffith, 2003). Furthermore, individual-directed interventions were found to be effective for less than six months and organization-directed interventions or combined (individual-organizational) approaches had longer lasting effects (over 12 months) (Awa, Plaumann, & Walter, 2010). A PAR approach may be an efficient approach to develop burnout strategies for HD RNs since it was previously used to develop and implement organizational strategies to reduce burnout of RNs working in general practice and was found to be effective ((Bourbonnais, Brisson, & Vezina, 2011; Bourbonnais et al., 2006a; Bourbonnais, Brisson, Vinet, Vezina, & Lower, 2006b).

Workplace Empowerment and Nursing Burnout

There is empirical evidence supporting the use of workplace empowerment in nursing to address burnout. Laschinger and colleagues (2001b) tested their model derived from Kanter's structural empowerment theory (1977, 1993) and from Spreitzer's psychological empowerment theory (1995), and the results strongly suggested that RNs who have access to opportunity, information, resources, support, formal power and informal power in their workplaces are more likely to be satisfied and engaged at work and are less likely to experience work stress and burnout. Studies have linked higher levels of perceptions of workplace empowerment to decreased risk of burnout (Hatcher & Laschinger, 1996; Laschinger et al., 2003). Research recognized a significant and positive relationship between structural empowerment and psychological empowerment that leads over time to greater work satisfaction and engagement and reduced risk of burnout (Greco, Laschinger, & Wong, 2006; Laschinger et al., 2003; Wagner et al., 2010). Studies revealed the positive effect of empowering workplaces on RNs' person-job fit, which lead to higher engagement and reduced burnout (Laschinger & Finegan, 2005; Greco, Laschinger, & Wong, 2006). Research has also examined workplace empowerment from the perspective of Spreitzer (1995) and confirmed the protective role of psychological empowerment against burnout (Boudrias, Morin & Brodeur, 2012; Hochwalder, 2007). A study by Hochwalder (2007) demonstrated that psychological empowerment has significant effects on RNs' burnout: (1) a main negative effect on the three dimensions of burnout (reducing their risk); (2) a mediating effect between the work environment and the three dimensions of burnout (i.e., workplaces that promote RNs' autonomy and provide them with social support increase their feeling of

empowerment which lead to lower burnout); and (3) a weak moderating effect on the association between work environment and burnout (RNs that are empowered are less prone to emotional exhaustion when faced with high demands at work). While evidence is very limited in HD, studies have found that empowerment structures within HD settings reduced HD RNs' work-related stress (Hayes, Douglas, & Bonner, 2014) and risk of burnout (Harwood, Ridley, Wilson, & Laschinger, 2010b; Hayes et al., 2014; O'Brien, 2011). A promising avenue for staff empowerment is the use of technology-based tools (Ajami & Arab-Chadegani, 2014).

Information and Communication Technology Interventions

The Public Health Agency of Canada (2014) reported there is an increase in the development of ICT (web-based) interventions focused on health promotion and treatment of disease because of ease of access to information adapted to patients' needs and access to various tools. There is growing interest regarding the role and impact of ICT in the worklife of RNs (While & Dewsbury, 2011). Some contend that ICT web-based interventions may positively influence the health of RNs and support their professional practice (Jackson et al., 2014). For example, professional websites can offer numerous benefits for users by creating a community of practice network, and facilitate access to clinical guidelines, continuing education and professional advancement (Bernhardt, Chaney, Chaney, & Hall, 2013; Ventola, 2014) in order to achieve high quality nursing care (Rouleau et al., 2017). Furthermore, professional websites can diffuse health information, health promotion and wellness information, and can promote social support and networking among peers (Lefebvre & Bornkessel, 2013). Social support is considered a common strategy in nursing to cope with job stress and reduce

risk of burnout among RNs working in general practice, critical care areas, and long-term care and may be provided through various means (Bourbonnais, Comeau, & Vezina, 1999; Li, Ruan, & Yuan, 2015; Woodhead, Northrop, & Edelstein, 2016).

Online resources are seen as an encouraging avenue for RNs to maintain and expand their knowledge and competencies to face the challenges of their practice (Sweeney, Saarmann, Flagg, & Seidman, 2008). RNs have positives perceptions about using ICT as a modality for professional development (Karaman, 2011; Sweeney et al., 2008). In addition, the Ordre des infirmières et infirmiers du Québec (OIIQ) recognizes that the use of a professional website may offer a contemporary and practical option to fulfill the continuing education prerequisite for professional registration requirements adopted in 2012 and highlight that professional associations are key partners in providing quality training that respond to the needs of RNs (OIIQ, 2011). The main reasons for using the ICT modality to support the professional development of RNs are that the access to resources is flexible (RNs' working hours are variable and they could benefit from having access to resources everywhere and 24 hours a day) (Karaman, 2011; Sweeney et al., 2008), affordable (no additional expenses such as transportation; parking and child care) (Karaman, 2011) and effective (receiving evidence-based information to provide the best care to patients, (Cassano, 2014; Karaman, 2011; Sweeney et al., 2008), especially for RNs working in specialized areas such as HD. The literature on web-based interventions in nursing, while limited, demonstrates the benefits of developing and using them, provides useful guidance when planning to develop a website for RNs and identifies different types of information and resources that may be integrated for professional development, continuing education and

individual needs of RNs (Du et al., 2013; Im & Chang, 2013). In addition, it highlights that there are few ICTs addressing RNs themselves and they are designed for RNs and not with RNs. Some of these studies have reported significant dropouts (reasons unknown but they maybe due to discomfort with the use of technology or to the website not responding to specific needs of users) (Im & Chang, 2013). The CNA emphasizes that RNs should play an active role in the selection, design, implementation and evaluation of websites to ensure they meet their objectives and needs and that they are user-friendly to encourage their usage (CNA, 2006).

Overview of the Study Design

In this study, we used a transformative sequential mixed methods methodology, use of which is expanding through the social, behavioural and health sciences (Creswell, 2014) including nursing (Loiselle, Polit, & Beck, 2007). Researchers using this method collect and analyze the data, integrate the findings and draw conclusions using both quantitative and qualitative approaches or methods (simultaneously or sequentially) in a single study allowing researchers to achieve several objectives and strengthen results (Creswell, 2014). Mixed methods researchers strive to select the most effective strategies to obtain a holistic understanding of a situation/problem and an interdisciplinary team approach with group discussions may be necessary to address complex research problems (Creswell, 2014; Ivankova, 2015). Mixed methods using a PAR approach may provide a more comprehensive understanding of the problem and determine sustainable solutions (Creswell, 2012; Ivankova, 2015; Mills, 2011). Using a PAR approach is particularly advantageous when researchers are planning to address a complex socioprofessional problem such as burnout (Ivankova, 2015). The PAR has

previously shown to be effective in reducing burnout among RNs working in acute care settings (Bourbonnais et al., 2006a,b, 2011). The PAR is gaining popularity in nursing because it enables to narrow the gap between theory and practice, which is particularly relevant for a practice discipline such as nursing to develop knowledge that can improve clinical settings for both patients and RNs (Breda, 2014; Glasson, Chang & Bidewell, 2008). With PAR, the research-to-practice gap is reduced by having researchers collaborate with RNs who share their expertise (Rolfe, 1996) to find realistic and applicable solutions to solve a problem or concern (Green et al., 1995). The driving principle of PAR is to create an environment for learning that combines theory and practice with reflection on practice and action (Reason and Bradbury, 2008). PAR is closely related to nursing because it includes a process of assessment, planning, implementing and evaluating, and may involve replanning (Nolan & Hazelton, 1996).

This research was conducted in two consecutive phases; phase 1 observational (quantitative) and phase 2 descriptive (qualitative). The quantitative approach is derived from the positivist paradigm where researchers believe in an objective and orderly reality that exists to explain any research phenomenon (and relationships with determinants and other concepts). The qualitative approach is based on the constructivist paradigm where the qualitative researchers conceive that reality is socially constructed in a specific context by the multiple interpretations of reality made by the people who are experiencing the phenomenon (Loiselle et al., 2007). The rationale for using a mixed methodological approach is that it offers a reflexive perspective and enriches the evidence produced by not limiting the reality to a single paradigm, creates more in-depth and validated data and generates new insights (Polit & Beck, 2008).

Format of Dissertation

This dissertation has been constructed using a manuscript-based format, including an introductory chapter, three publishable manuscripts that correspond to the sequences of this mixed-method research, and a concluding chapter. The cohesiveness of this manuscript-based dissertation is ensured because this research was one large project and each manuscript addresses one aspect of the overall research. The first article sets the broad context of this research and consists of a critical examination of the literature on the main research themes. The second article corresponds to phase 1 of this study, a cross-sectional survey of HD RNs in Quebec that seeks to respond to the first three research objectives. It investigates the prevalence of burnout and the characteristics of empowerment among HD RNs working in Quebec and examines the relationships between empowerment and burnout among these RNs.The third article corresponds with phase 2 of this study, which uses a PAR approach with focus group interviews that address the fourth research objective. The interviews explore the HD RNs' perspective on the types of information and elements that could be included in a future professional website to enhance empowerment, and well-being, and reduce the risk of burnout within HD community. The concluding chapter provides a summary of the overall research and discussion, the diffusion plan of research results, the implications and recommendations for RNs, for the practice and research and the conclusion.

In addition, the appendices include: the approval letter from the University of New Brunswick Research Ethics board to conduct the study (Appendix- A); the acceptance email from the Ordre des infirmières et infirmers du Québec (OIIQ) to

provide a contact list of nephrology RNs (Appendix-B); the permission to use scales (Appendix-C presents communication emails giving permission to use the study instruments in French); communication emails (participants and hemodialysis managers) (Appendix-D presents the communication emails inviting the HD RNs to participate in the survey and Appendix-E presents the emails sent to HD managers providing information about the study and asking them to promote the survey); recruitment posters (Appendix-F presents the recruitment posters inviting HD RNs to participate to the survey); the information and consent form for phase 1 of study (Appendix-G presents the consent form phase 1 in English and Appendix-L presents the French version); the 4- part online survey (Appendix-H presents the sociodemographic/occupational questionnaire; Appendix-I presents the Maslach Burnout Inventory tool; Appendix-J presents the Conditions for Work Effectiveness Questionnaire-II; Appendix-K presents the Psychological Empowerment Scale); the information and consent form for phase 2 of study (Appendix-M presents the invitation letter and consent form phase 2 in English and Appendix-N presents the French version); the focus groups guide and questions (Appendix-O presents the focus groups guide and questions for the first round in English and Appendix-P presents the French version); additional results obtained in phase 1 and phase 2 of study and complementary information not reported in articles (Appendix-S presents additional results obtained phase 1 and phase 2 and complementary information); the report submitted to the Regroupement visant l'Excellence de la pratique Infirmière en Néphrologie au Québec (REINQ)(Appendix-Q presents the report submitted to the REINQ in English and Appendix-P presents the French version); a summary and analysis of the PI's self-reflective journal, and the audit

trail (Appendix-T presents a summary of the PI self-reflective journal and audit trail) for this study; the PI's Curriculum vitae.

As the first author of these manuscripts and PI of this study, I played the key role in the development of the manuscripts at all stages, from conception to final approval. The Journal of the Canadian Association of Nephrology Nurses and Technologists (CANNT) was selected for the three publications because it is a renowned peer-reviewed journal among Canadian RNs and nursing managers working in nephrology, which has the effect of maximizing its outreach capacity. Each article is introduced below.

Manuscript 1 – Background: Overview of Literature and Foundations for this Research

Doré, C., Duffett-Leger, L., McKenna, M., & Breau, M., (2017). *Perspectives on Burnout and Empowerment Among Hemodialysis Nurses and the Current Burnout Interventions Trends: A Literature Review*. *Canadian Association of Nephrology Nurses and Technologists, 27* (4),16-31.

The first article is a literature review on burnout and empowerment and burnout interventions. The purpose of the article was to examine and discuss the current knowledge on burnout among HD RNs, empowerment of RNs with a focus on HD RNs, and burnout interventions for healthcare professionals and more specifically for RNs. The documentary search was performed by the PI supported by a university librarian. The search period covered 2000 to 2015 with periodical search updates. All French and English publications were considered if focused on three themes: burnout, burnout interventions and empowerment and selected according to inclusion criteria: for

burnout, studies conducted with HD RNs that addressed burnout risk factors/determinants; for burnout interventions, studies conducted with RNs or other healthcare professionals and burnout interventions; and for empowerment, studies conducted with HD RNs and RNs in general practice settings. I first searched the following electronic databases EBSCO, PsycINFO, OVID MEDLINE, Cochrane Library, PubMed, Web of Science, EMBASE. Then, the references of the selected articles were retrieved and consulted. Finally, the grey literature was consulted (i.e., government and professional websites).

Burnout is a complex and serious problem within the nursing community with considerable impacts on the health of the individual, patients and organizations. Research over the last 35 years has focused more on understanding the determinants and consequences of burnout and less on the development of interventions to effectively reduce burnout. Mounting evidence suggests that empowerment may be a useful strategy to enhance the well-being and reduce the burnout of RNs in certain specialties; however, very limited evidence is specific to HD RNs. The authors provide recommendations to address the burnout of HD RNs and a rational for the research project.

This manuscript was submitted to the Journal of the Canadian Association of Nephrology Nurses and Technologists in March 2017 and is currently published. As the first author of this article, I conducted the literature review, and the results were discussed with my Ph.D. thesis co-supervisors (Linda Duffett-Leger and Mary McKenna) and co-author (Myriam Breau). I drafted the article and revisions were made

in collaboration with the co-authors. All authors agreed with the final version that was submitted for peer-review.

Manuscript 2 – Method and Findings: Online Survey

Doré, C., Duffett-Leger, L., McKenna, M., Breau, M., & Dorais, M. (2018). *Burnout and Empowerment in Hemodialysis Nurses Working in Quebec: A provincial survey*. CANNT journal.

The second article presents the results of phase 1 of this study, concerning the investigation of burnout and empowerment of HD RNs working in Quebec. In addition, it highlights results on Internet use by HD RNs since a professional website may be a potential strategy to strengthen empowerment and address the burnout of RNs. The purpose of phase 1 was to use a descriptive correlational design using a self-reported cross-sectional anonymous online survey. This survey measures the prevalence of burnout and the structural and psychological empowerment characteristics, and examines potential association(s) between burnout and structural empowerment and psychological empowerment among an HD RN population from Quebec. This design enabled the PI to reach a large sample of the HD RNs population easily and economically. As noted in the literature review, few studies have documented the burnout levels and empowerment status of HD RNs and there is no information on the situation of HD RNs working in Quebec. It was therefore important to fill this gap and gauge their levels of burnout and empowerment. Since information and communication technologies (ICTs) such as websites have been recently highlighted as a promising strategy to address practice and health needs of RNs, it was pertinent to explore the HD RNs' Internet use behaviors.

This article provides a background context of the study (situates the burnout problem in the HD nursing community and what is known about their empowerment status) and presents the purpose, methods and results. In addition, we discuss the implications and recommendations for RNs, nursing practice and research.

This manuscript was submitted to the Journal of the Canadian Association of Nephrology Nurses and Technologists in July 2017 and is currently published. As the first author of this article, I was responsible for the study conceptualization and survey design and conducted data collection. I performed the data analysis in collaboration with the statistician (Marc Dorais) and, the survey results were presented and discussed with my Ph.D. thesis co-supervisors (Linda Duffett-Leger and Mary McKenna), the Advisory Team members and a co-author who specializes in empowerment (Myriam Breau). I drafted the article and revisions were made in collaboration with the co-authors). All authors agreed with the final version that was submitted for peer-review.

Manuscript 3 – Method and Findings: Focus Group Interviews

Doré, C., Duffett-Leger, L., McKenna, Salsberg, J. & M., Breau, (Pre-print). *Participatory Action Research to Empower Hemodialysis Nurses and Reduce Risk of Burnout.* CANNT journal.

The third article presents the main findings of focus group interviews that occurred in phase 2 of this study, and describes focus group activities and involvement of an Advisory Team within a PAR approach process that resulted in recommendations from HD RNs that were submitted to the REINQ for the development of a future professional website for their community as well as suggestions for relevant workplace changes. The purpose of phase 2 was to adopt a PAR approach using focus groups to

explore HD RNs' perspectives on the types of information and elements to be included in the development of a future website to enhance empowerment and well-being of HD RNs working in Quebec and reduce their risk of burnout. The conceptual framework of Laschinger et al. (2001b) conceptual framework was used to guide the process. Literature has demonstrated that burnout is an important health problem in the nursing community, therefore needs to be addressed (Maslach, 2003). Empowerment is now known to be a helpful strategy for lowering its risk in certain nursing specialties (Laschinger et al., 2003a). A professional website may be an innovative way to successfully achieve empowerment and sustain burnout reduction. As discovered in phase 1 of this study, HD RNs working in Quebec are experiencing considerable risk of burnout and reported moderate levels of SE and PE (negatively associated with emotional exhaustion and depersonalization and positively associated with personal accomplishment). They also reported using websites to obtain health information and were interested in using a website to address their professional needs. The next steps were to further examine if HD RNs are in favor of using a professional website designed for their nursing community and to explore the specific types of information and elements that HD RNs recommend for inclusion in such a website.

This article presents the background context, purpose, methods, and results. In addition, we discuss the applicability of a PAR approach, the experience of PAR from the perspective of the researcher as a facilitator as well as the participants, and implications and recommendations for RNs, the practice and research.

This article was submitted to the Journal of the Canadian Association of Nephrology Nurses and Technologists in July 2017 and is currently undergoing the

peer-review process. As the first author of this article, I was responsible for the study conceptualization and design, conducted the focus groups, collected and analyzed the data, acted as the liaison with the Advisory Team, and wrote the final report (discussed in the article) submitted to the REINQ for the development of a future website for HD RNs. I presented and discussed the results of the data analysis with my Ph.D. co-supervisors (Linda Duffett-Leger and Mary McKenna), the Advisory Team members and co-authors who specialize in empowerment (Jonathan Salsberg and Myriam Breau) and the PAR approach (Jonathan Salsberg). I drafted the article and revisions were made in collaboration with the co- authors. All authors agreed with the final version that was submitted for peer-review.

Summary

Burnout is an important health and wellness problem among RNs that can lead to severe consequences. Research over the past three decades has contributed to a better understanding of burnout determinants and consequences and is now moving towards the development of interventions for burnout reduction. Burnout is a complex phenomenon combining individual and organizational determinants. A combined approach of individual and organizational change seems to be more promising for sustainable effect. The organizational stressors need to be clearly defined and addressed and this may be best achieved with the participation of employees to demystify the problem and find solutions.

For highly specialized RNs such as HD RNs, burnout is emerging as a major problem especially in North America. Furthermore, it is spreading due to an increased clientele with growing complex care needs resulting in RNs working under intense and

demanding conditions. Research suggests that empowering HD RNs in their work environments may reduce their risk of burnout and that there is a critical need to find innovative means to address it, such as a professional website. Yet, no data are currently available on the burnout and empowerment of HD RNs in Quebec. The literature review emphasized the need to assess the burnout and empowerment of HD RNs working in Quebec and gather their input on the types of information and elements required for a professional website targeting their specific needs. Using a PAR approach to develop recommendations for the creation of a future professional website will help ensure that it meets the needs of its users and its use is sustained over time.

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MANUSCRIPT 1

Perspectives on Burnout and Empowerment Among Hemodialysis Nurses and the Current Burnout Intervention Trends: A Literature Review

First Author
Christina Doré, RN, MScN, PhD (candidate)
Research Assistant, Faculty of Nursing, University of New Brunswick.

Second Author
Linda Duffett-Leger, RN, PhD
Assistant Professor, Health Technology and Informatics,
Faculty of Nursing, University of Calgary

Third Author
Mary McKenna, PhD
Professor and Assistant Dean, School of Graduate Studies, University of New Brunswick.

Fourth Author
Myriam Breau, RN, MScN, PhD (student)
Professor, Faculty of Nursing, University of Moncton.

**Corresponding Author*
Christina Doré, Department of Interdisciplinary Studies, Faculty of School of Graduate Studies, University of New Brunswick,
PO Box 4400, Fredericton
3 Bailey Drive, NB, Canada E3B 5A3
Email: Christina.dore@unb.ca

Abstract

Burnout is emerging among North American hemodialysis (HD) nurses (RNs), and can have detrimental effects on the RNs' health and well-being, and jeopardize the quality of care and patient safety. It is, therefore, essential to better understand and address this issue. Empowerment is at present recognized in some nursing specialties as a useful strategy for reducing the risk of burnout. This review includes 35 relevant articles and is meant to provide an understanding of HD RNs' burnout, their perceptions of empowerment, and the interventions that are effective in reducing the occurrence of burnout. Internationally, a majority of HD RNs manifested a moderate risk of burnout, whereas 33%-41% of North American HD RNs reported a higher burnout risk (Flynn, Thomas-Hawkins, & Clarke, 2009; Harwood, Ridley, Wilson, & Laschinger, 2010a; O'Brien, 2011). Findings revealed that burnout reduction strategies combining individual and organizational approaches had potentially longer lasting positive effects (Awa, Plaumann, & Walter, 2010). Promoting empowerment strategies for HD RNs appears promising in addressing the challenges RNs encounter in their practice and reducing burnout.

Keywords: burnout, burnout interventions, empowerment, nurses, hemodialysis

List of Acronyms

ANQ: Association des néphrologues du Québec; CBT: Cognitive-behavioural techniques; CWEQ-II: Conditions for Work Effectiveness; depersonalization: Depersonalization; emotional exhaustion: Emotional exhaustion; HD: Hemodialysis; ICT: Information and communication technology; ICU: Intensive care unit; LPNs: Licensed practical nurses; MBI: Maslach Burnout Inventory; OIIQ: Ordre des infirmières et infirmiers du Québec; PA: Personal accomplishment; PAR: Participatory action research; PE: Psychological empowerment; PES: Psychological Empowerment Scale; SE: Structural empowerment; RN: Nurse

Introduction

Hemodialysis (HD) is considered a complex and technology-dependent nursing specialty combining aspects of critical and chronic care for patients who require long-term renal replacement therapy (ACITN, 2008; OIIQ-ANQ, 2003). HD units are well-known for their heavy workload and high dependency care (Thomas-Hawkins, Flynn, & Clarke, 2008). Registered nurses (RNs) caring for HD patients are exposed to high levels of stress daily (Dermody & Bennett, 2008). Literature has shown that RNs practising in specialized contexts such as HD are faced with many challenges to maintain high quality of care and ensure patient safety (Poghosyan, Clarke, Finlayson, & Aiken, 2010; Wilkins & Shields, 2008). Demanding workplaces can cause burnout among RNs. As such, burnout is widespread in the nursing profession (McHugh, Kutney-Lee, Cimiotti, Sloane, & Aiken, 2011).

Burnout is a psychological syndrome that results from the accumulation of intense job stress caused by a heavy workload and too many work demands (Maslach, 2003). Although 36% of Canadian RNs suffer from burnout (Aiken, Clarke, Sloane, Sochalski, & Silber, 2002), the phenomenon reaches up to 41% among HD RNs, and is related to the constant influx of new HD patients and the increasingly complex nature of HD care (Harwood, Ridley, Wilson, & Laschinger, 2010b). Burnout can have enormous negative impact at the personal, social, and organizational levels (Maslach, 2003). Currently, there is limited evidence about nursing burnout in HD. Consequently, it is crucial to better understand the problem and identify effective interventions to address the issue. Furthermore, evidence suggests that promoting workplace empowerment may lower the risk of burnout among RNs (Laschinger, Finegan, & Shamian, 2001;

Laschinger, Finegan, Shamian & Wilk, 2001). This literature review aims to: (a) Examine what is currently known about burnout among HD RNs, burnout interventions and empowerment of RNs; (b) identify any gaps in the literature; and (c) recommend future studies to address nursing burnout in HD clinical settings.

Background

Burnout

Maslach and Jackson (1986) defined burnout as a three-dimensional syndrome consisting of emotional exhaustion (EE), depersonalization (DP) and reduced personal accomplishment (PA). Emotional exhaustion is the main dimension of the syndrome and is characterized by extreme fatigue, the collapse of emotional resources and demotivation. Depersonalization (DP) is defined as detachment from others, loss of empathy, or negative attitudes and feelings towards patients or work. Reduced personal accomplishment (PA) implies a negative self-evaluation of one's work (feeling incompetent or useless) or the inability to achieve concrete results at work. This conceptualization of burnout has led to the development of the Maslach Burnout Inventory (MBI), a self-administered questionnaire to measure the occurrence of burnout. A high mean score on emotional exhaustion (EE) and depersonalization (DP), and low mean score on personal accomplishment (PA) are suggestive of high risk of burnout. The MBI can be used to assess burnout of RNs (Poghosyan, Aiken, & Sloane, 2009). According to Canada's General Social Survey conducted in 2010, 40% of burnout cases are related to individual factors and 60% to organizational (workplace) factors (as cited in Optima Santé, 2013). The main individual factors contributing to

burnout among RNs are socio-demographic variables such as age, gender, ethnicity, education, marital, and family status (Maslach, 2003), work experience (Vargas, Cañadas, Aguayo, Fernández, & de la Fuente, 2014), and education/ continuing education (Maslach, Schaufeli, & Leiter, 2001; Crotty, 1987). Key organizational factors contributing to burnout are work overload, lack of control, reward (recognition and opportunities), fairness, and community, as well as conflicts of values (Leiter & Maslach, 1999). Since each nursing specialty varies greatly according to patient acuity, expertise, and workload, a majority of studies reported inconsistent results for the factors leading to nursing burnout suggesting that each specialty should be examined separately (Cañadas-De la Fuente et al., 2015).

When looking at the HD RNs' situation, it should be noted that since the first long-term HD treatment in 1960 (Blagg, 1999), the provision of services has kept evolving due to advances in knowledge, pharmacology, and technology. There has been a steady increase in patient acuity requiring more complex care (OIIQ-ANQ, 2003). HD RNs provide care to patients undergoing HD treatment three times a week. As such, they are responsible for the ongoing assessment, health promotion, disease prevention, rehabilitation, and management of the patients' acute, chronic, and end-of-life planning and care (ACITN, 2008). The therapeutic nurse-patient relationship is unique in HD, and can be intense and challenging (Bennett, 2011) because of the progression of the disease, repeated setbacks with HD patients' health, frequent near-death situations (Ashker, Penprase, & Salman, 2012) and ethical issues (e.g., non-compliance, discontinuation of HD) (Ashker et al., 2012; Rabetoy & Bair, 2007). Heavy workload and intense stress over an extended period may lead to burnout among RNs, causing

serious repercussions on their health and well-being (Maslach, 2003) and potentially affecting the quality of patient care and safety (Poghosyan et al., 2010; Wilkins & Shields, 2008).

Burnout Interventions

Burnout interventions are approaches or strategies taken to prevent or treat burnout. To date, most interventions have been directed toward the individual (e.g., relaxation techniques, meditation, massage, music therapy, and cognitive behavioural training) to help RNs better cope with stress and promote personal well-being, whereas fewer interventions have been directed toward the organization (e.g., modification of workplace, social support, education) to improve the work environment (Leiter & Maslach, 2000; Maslach et al., 2001). Research has not focused on the development of interventions to prevent or treat burnout among RNs; rather, most research has focused on enhancing awareness about the complexities of burnout and its consequences on individuals and organizations (Saint-Arnaud, Gignac, Gourdeau, Pelletier, & Vézina, 2010).

Empowerment

Empowerment is the process of enabling or authorizing an individual to think, behave, take action and control of the work environment and decision-making in autonomous ways (Wallerstein, 1992). Two perspectives pertaining to organizational empowerment are discussed in the literature. The first perspective, structural empowerment (SE), focuses on changes in the work environment (work conditions, practices, policies, and processes) that promote the delegation of managerial power to

RNs, thereby increasing RNs' control over their practice. The second perspective, psychological empowerment (PE), refers to the individual's characteristics of empowerment producing a cognitive state of feeling empowered (Seibert, Silver, & Randolph, 2004). Promoting structural empowerment (SE) requires that the various tools to empower RNs are accessible in their workplace. Kanter (1977, 1993), and Laschinger, Finegan, Shamian, and Wilk (2001) refer to these tools as structures. There are six organizational structures: (a) information (values, goals, and policies pertaining to the organization); (b) opportunity (to learn and grow); (c) support (guidance and feedback from peers and managers); (d) resources (e.g., time and material to perform work); (e) formal power (i.e., a job that offers flexibility, visibility, and creativity); and (f) informal power (i.e., relationships and networks with peers and managers). Psychological empowerment (PE) consists of four motivational cognitions or perceptions of employees that are shaped by their work environment, thus reflecting on their work role, and include: (a) meaning (value given to the job according to one's beliefs, values, and behaviours, and work expectations); (b) competence (belief in personal ability to perform work activities); (c) self-determination (sense of choice in the performance of work); and (d) impact (belief that one's own actions influence strategies and outcomes of work) (Spreitzer, 1995). Despite these conceptual differences, structural empowerment (SE) and psychological empowerment (PE) are complementary, and should be analyzed together to obtain a global perspective of empowerment (Spreitzer, 2008). Laschinger, Finegan, Shamian, and Wilk (2001) actualized Kanter's theory of structural empowerment (SE) and integrated Spreitzer's theory of psychological empowerment (PE), developing a framework that provides a

global perspective of RNs' empowerment and facilitates the creation of interventions to promote empowerment that will enhance RNs' well-being and health, and reduce burnout. Organizations that provide the six empowerment structures in the workplace allow the development of the four dimensions of psychological empowerment (PE) within individuals. Once the individuals acquire the psychological empowerment (PE) dimensions, their attitudes, behaviours, and work are positively influenced, resulting in a greater control over situations, work productivity, trust and engagement toward the organization, job satisfaction, and reduced risk of burnout (Laschinger, Finegan, Shamian, & Wilk, 2001, 2003). Laschinger, Finegan, Shamian, and Wilk (2001) developed the Conditions for Work Effectiveness questionnaire (CWEQ-II) to assess structural empowerment (SE); this global score represents the perception of RNs about the presence of empowering structures within the workplace. Spreitzer (1995) developed the Psychological Empowerment Scale (PES) questionnaire to assess psychological empowerment (PE); this global score represents the perception of RNs on being empowered at work. The structural empowerment (SE) and psychological empowerment (PE) global scores vary from low, moderate to high levels. Thus, promoting empowerment strategies in HD may successfully reduce nursing burnout because it can positively support the HD RNs in their clinical practice settings.

Literature Search Strategy

Various search strategies were used to identify relevant literature on burnout, burnout interventions, and empowerment for HD RNs and other healthcare professionals. The authors first searched the following electronic databases (EBSCO, PsycINFO, OVID MEDLINE, Cochrane Library, PubMed, Web of Science, EMBASE).

The references of the selected articles were then retrieved and consulted. Finally, the grey literature was consulted (i.e., government and professional websites). The search period covered 2000 to 2015 with periodical search updates. The inclusion criteria for the search are outlined in Table 1, and the descriptor terms used for the search are presented in Table 2.

Literature Search Results

The initial search produced 1460 articles that were potentially of interest. This number was decreased to 55 after reading the titles and abstracts, and was further reduced to 29 after removing duplicates and reading the articles. An additional six articles were obtained from the original articles' references. In total, 35 articles met the inclusion criteria, and are presented according to the main topic: burnout, burnout interventions and empowerment. Studies have shown that the professional context of RNs varies between countries in terms of job roles, professional activities and education (Bohmert, Kuhnert, & Nienhaus, 2011).

Characteristics of Selected Studies on Burnout Among HD RNs

Our review of the literature demonstrates that burnout among HD RNs is not well understood. A total of 11 papers were retained, including nine studies and two systematic reviews (Table 3). Eight studies examined the prevalence and determinants of burnout in HD RNs, of which seven explored the impact of burnout on RNs and organization-related outcomes. The two systematic reviews and one study explored the sources of stress among RNs working in HD. Study population samples varied between 10 to 682, and were composed mainly of HD RNs with some RNs working in other

fields, nephrologists, other professionals, as well as clinical and non-clinical staff from North America (Canada and U.S.), the United Kingdom, Australia, Greece, Italy, Turkey and Japan. The Maslach Burnout Inventory (MBI) was the favoured tool to assess RNs' burnout in HD. However, not all researchers used the three-dimensional approach (emotional exhaustion, depersonalization, and personal accomplishment) to assess burnout among RNs. Therefore, the authors compared the results of the studies on the basis of emotional exhaustion (EE). The results are presented on the basis of burnout levels, burnout determinants and contributing sources of stress, and the impact of nursing burnout in HD.

Burnout Levels of RNs Working in HD

In general, studies showed that HD RNs experienced varying levels of burnout. Studies reported low (Arikan, Koksal, & Gokce, 2007; Kapucu, Akkus, Akdemir, & Karacan, 2009; Klersy et al., 2007), moderate (Kavurmaci, Cantekin, & Tan, 2014; Ross, Jones, Callaghan, Eales, & Ashman, 2009) or high (Flynn, Thomas-Hawkins, & Clarke, 2009; Harwood, Ridley, Wilson, & Laschinger, 2010a; Hayes, Douglas, & Bonner, 2015; O'Brien, 2011) levels of emotional exhaustion (EE). Of note, one of the studies that found low levels of burnout among HD RNs used a small sample, which may have led to sample bias distorting the results (Arikan et al., 2007). In contrast, Australian researchers demonstrated that 53% of HD RNs had high levels of emotional exhaustion (EE) (Hayes et al., 2015), whereas three studies conducted in North America showed severe levels of emotional exhaustion (EE) among 30-41% of HD RNs (Flynn & al., 2009; Harwood et al., 2010a; O'Brien, 2011).

Determinants of Nursing Burnout in HD and Contributing Sources of Stress

Various studies attempted to clarify how socio-demographic variables such as age, number of children, education, and work experience influenced burnout among HD RNs, with contradictory findings (Bohmert et al., 2011). One study reported that the prevalence of burnout was higher among older RNs with more seniority in HD (Ross et al., 2009), whereas other studies found higher rates of burnout among younger HD RNs (less than 30 years old) with less seniority (Arikan et al., 2007; Hayes et al., 2015). Thus, it is not clear how age and seniority may have contributed to burnout among HD RNs. It should be noted that education was also identified as a contributing factor: Kapucu et al. (2009) revealed that less educated RNs (i.e., high school-prepared) were less prone to burnout, whereas Harwood et al. (2010b) found that HD RNs with a university degree experienced greater burnout. Flynn et al. (2009) identified the main organizational burnout determinants in HD as excessive workload, unsupportive work environment, and impaired care process (due to lack of time).

Two literature reviews have helped to demystify the specific sources of stress related to burnout among HD RNs. The main categories are: (a) patient-based; b) work role; (c) working conditions; (d) interprofessional collaboration (Bohmert et al., 2011; Hayes & Bonner, 2010); (e) patient abuse and violence against RNs (Hayes & Bonner, 2010); and (f) lack of access to continuing education opportunities and support (Hayes & Bonner, 2010). One study recommended that nursing leaders should be aware of the stressors in HD and committed to improving workplaces because work-related stress affects patient care (Dermody & Bennett, 2008).

Impact of Nursing Burnout in HD

The literature suggests that burnout impacts the RNs' health and work life. One study highlighted that 30% of HD RNs were under constant strain affecting their daily activities (Ross et al., 2009). In a Canadian study of nephrology RNs, emotional exhaustion (EE) was found to be responsible for 28% of physical symptoms, whereas emotional exhaustion (EE) combined with depersonalization (DP) were responsible for 40% of psychological symptoms (Harwood et al., 2010a). Two North American studies acknowledged that RNs considered leaving their jobs due to work overload, emotional exhaustion (Flynn et al., 2009; Harwood et al., 2010a) and physical and psychological symptoms related to burnout (Harwood et al., 2010a). Two studies established an interrelationship between burnout and job dissatisfaction (Arikan et al., 2007; Ross et al., 2009), whereas one study reported that HD RNs who experienced severe burnout remained satisfied with their work (Hayes et al., 2015). Thus, the reviewed studies suggest that nursing burnout is becoming more prevalent in HD settings, largely attributable to their distinctive stressors.

Characteristics of Selected Studies on Burnout Interventions for RNs

Our review of the nursing literature found no intervention to reduce burnout among RNs working in HD or nephrology. We retained four systematic reviews that focused on the effect of interventions to reduce job stress and burnout of RNs (Mimura & Griffiths, 2003) and health professionals (Awa, Plaumann, & Walter, 2010; Ruotsalainen, Verbeek, Marine, & Serra, 2015; van Wyk & Pillay-van Wyk, 2010), as well as a meta-analysis (Halbesleben, 2006), and two studies (Bourbonnais, Brisson, Vinet, Vézina, Abdous, & Gaudet, 2006; Bourbonnais, Brisson, & Vézina, 2011; van

Straten, Cuijpers, & Smits, 2008) assessing the emerging approaches to prevent and reduce burnout (Table 4). The results are presented on the basis of individual-directed and organization-directed burnout interventions, and emerging approaches to burnout management.

Individual- and Organization-Directed Burnout Interventions

Some of the earlier studies targeted individual-directed interventions to manage burnout. These demonstrated limited benefits; therefore, organizational and combined approaches were integrated. One systematic review focused on evaluating interventions to address RNs' job stress (Mimura & Griffiths, 2003). The results are presented in descending order according to effectiveness: cognitive behavioural techniques (CBT) (effective but evidence was weak); exercise, music, relaxation training (potentially effective); social support education (questioned but potentially effective); and environmental change (possibly effective). Even though the results favour individual-directed interventions, the authors suggest using a combined approach (individual and organizational interventions) to respond to the many complex stressors experienced by RNs.

Three systematic reviews (Awa et al., 2010; Ruotsaleinen et al., 2015; van Wyk & Pillay-Van Wyk, 2010) analyzed the effect of interventions to reduce job stress and prevent burnout of healthcare professionals, and each concluded that interventions aimed at reducing burnout are beneficial. Interventions directed toward the individual can be beneficial (Ruotsalainen et al., 2015). However, organization-directed interventions or combined approaches have a greater potential for long-term reduction of burnout (Awa et al., 2010). Thus, it is imperative that organizations plan and

implement preventive burnout interventions (Awa et al., 2010) that address specific stressors (Ruotsalainen et al., 2015). A refresher session may help sustain the positive effects of stress management interventions (Awa et al., 2010; van Wyk & Pillay-Van Wyk, 2010).

Emerging Approaches for Managing Burnout

In terms of new directions, evidence suggests that web-based cognitive behavioural technique (CBT) interventions may be used to change behaviours such as coping with stress and burnout. Techniques vary from self-help material, psycho-education and treatment (exercises), relaxation techniques and social skills training (Cuijpers, van Straten, & Andersson, 2008). One randomized control trial study of a web-based cognitive behavioural technique (CBT) self-help intervention to address burnout showed promising results; however, long-term effects were not assessed (van Straten et al., 2008). In addition, online social support network (e.g., blog, chat room, and bulletin board) may be advantageous to address job stress and wellness issues (Dietrich, 2000). One longitudinal study conducted with Quebec RNs found that social support reduced psychological distress and burnout (Bourbonnais, Comeau, & Vézina, 1999). A meta-analysis by Halbesleben (2006) confirmed the relationship between social support and burnout. Furthermore, social support appears to be more effective when provided by colleagues and managers who understand work situations and are able to adapt social support (emotional, instrumental, and informational) to adequately meet specific needs of employees (Halbesleben, 2006). Moreover, organizational interventions developed collaboratively by employees and employers using a participatory action research (PAR) approach have shown favourable outcomes in

preventing and reducing burnout (Higginbottom & Liamputtong, 2015). In a study to reduce burnout among Quebec RNs using a participatory action research (PAR) approach, results showed long-term efficacy of the intervention up to three years post intervention (Bourbonnais, Brisson, & Vézina, 2011). Empowerment has become an important strategy to reduce burnout and enhance well-being of RNs (Laschinger, Finegan, Shamian, & Wilk, 2001, 2003). Since burnout is a psychological response of an individual to excessive and persistent job demands in combination with low control in the workplace, empowerment strategies offer promise by fostering the RNs' sense of power and control over their practice. Although limited, research suggests that a combined approach using empowering strategies may be effective in combatting burnout among HD RNs.

Characteristics of Selected Studies on Empowerment and Burnout of RNs

Our review of the literature identified few studies that focused on the empowerment and burnout of HD RNs, therefore, we expanded the search to include RNs in general practice settings. Twelve studies and two systematic reviews were retained (Table 5). Nine studies examined empowerment among the general nursing community and its relationship to burnout, and three studies specifically targeted HD RNs. The two systematic reviews established the relevance of empowerment in the workplace of RNs for both RNs and healthcare organizations. Canadian researcher, Dr. Laschinger, was well-known for her contributions to empowerment research in nursing. Seven studies and one review published by Laschinger and collaborators are contained in this review. Study population samples varied between 20 to 838, and included HD RNs, but mainly RNs working in other fields, RN leaders, licensed practical nurses

(LPNs), other professionals, and clinical and non-clinical staff from North America (Canada and U.S.), Australia, Sweden, Turkey, and China. The majority of studies assessed the RNs' structural empowerment (SE) with the Conditions for Work Effectiveness (CWEQ-II) questionnaire (Laschinger, Finegan, Shamian, & Wilk, 2001) and the psychological empowerment (PE) with the Psychological Empowerment Scale (PES) (Spreitzer, 1995). The results are presented on the basis of empowerment in the general nursing community, and empowerment specific to HD RNs and RNs' perceptions on workplace empowerment.

RNs in General and Empowerment

Laschinger's early research demonstrated that Kanter's theory on empowerment in organizations was key to enhancing the RNs' practice and well-being in their work environments (Hatcher & Laschinger, 1996; Laschinger, 1996). Laschinger, Finegan, Shamian, and Wilk (2001) adapted Kanter's theory to explain empowerment in nursing, establishing that structural empowerment (SE) leads to the development of psychological empowerment (PE) resulting in positive outcomes for RNs such as job satisfaction and engagement, as well as the reduction of burnout. Researchers later confirmed the culminating long-term benefits of empowerment on RNs (Laschinger et al., 2003). Laschinger and Finegan (2005) found that structural empowerment (SE) influences burnout through its effect on the RN person-fit (compatibility between RN's expectations and organization's conditions). Greco, Laschinger and Wong (2006) revealed that managerial strategies to implement structural empowerment (SE) in the workplace increased RNs' person-job fit and engagement in their work, therefore reducing their risk of burnout. A systematic review confirmed the link between

structural empowerment (SE) and psychological empowerment (PE), and highlighted the positive outcomes of empowerment on RNs including: increased organizational engagement and satisfaction, increased innovation and reduced burnout, increased sense of respect for both nursing managers and RNs, reduced effort-reward imbalance for RNs, and improved patient care outcomes (Wagner et al, 2010). Researchers who focused solely on psychological empowerment (PE) revealed that RNs who had high perceptions of PE when facing excessive demands at work tended to experience less burnout (Boudrias, Morin, & Brodeur, 2012; Hochwalder, 2007).

Empowerment Specific to HD RNs

Only three studies examined empowerment and burnout of HD RNs, and reported on the benefits of providing empowerment structures in the workplace for RNs to reduce burnout (Harwood et al., 2010b; Hayes, Douglas, & Bonner, 2014; O'Brien, 2011) and improve work satisfaction (Hayes et al., 2014). A Canadian study suggested promoting empowerment strategies within the nephrology sector to respond to the burnout problem among RNs (Harwood et al., 2010b). An American researcher found that only structural empowerment (SE) was predictive of burnout (O'Brien, 2011). However, results may not be reflective of the HD community since the sample was recruited through a specialty association where the RNs are usually proactive in developing their practice and may already have a higher sense of empowerment.

RNs Perceptions on Structural and Psychological Empowerment in the Workplace

In terms of structural empowerment (SE), the selected studies indicated that, in general, RNs working in different nursing specialties have rated their workplaces to be

moderately empowering (Greco et al., 2006; Hatcher & Laschinger, 1996; Laschinger & Finegan, 2005; Wang, Kunaviktikul, & Wichaikhum, 2013), and similar findings were found among nephrology RNs (Harwood et al., 2010b) and in HD (O'Brien 2011). In only one study, RNs reported low levels of empowerment in their workplace (Çavus & Demir, 2010). With regard to psychological empowerment (PE), RNs, in general, felt highly empowered at work (Çavus & Demir, 2010) and moderately empowered in HD (O'Brien 2011). These findings suggest that managers in HD still have opportunities to intervene. Overall, the studies reviewed demonstrated that structural empowerment (SE) and psychological empowerment (PE) are essential to promote well-being and reduce risk of burnout among RNs, thus highlighting the need for more research in HD.

Discussion and Recommendations to Address Burnout in HD Clinical Settings

Based on the studies in this review, burnout among HD RNs appears to be on the rise, particularly in North America. The literature demonstrated that North American RNs experienced higher levels of burnout (Poghosyan, Aiken, & Sloane, 2009). Age and work experience were identified as the most significant socio-demographic determinants of burnout among HD RNs. However, the results were contradictory. Higher levels of burnout were found among younger HD RNs with less experience (Hayes et al., 2015) and older HD RNs with seniority (Ross et al., 2009). These results are consistent with other studies conducted with RNs in the general practice settings, which indicated that burnout was highly prevalent among novice RNs (Cho, Laschinger, & Wong, 2006) because their stress management strategies are not developed (Bilge, 2006), and older RNs who were unable to keep up with the fast pace of work imposed (Priest, 2006). Education was also found to be related to burnout among HD RNs. Less educated (i.e.,

high school-prepared) HD RNs were found to be less susceptible to burnout (Kapucu et al., 2009) compared to those who were more highly educated (i.e., university degree) (Harwood et al., 2010b). Existing literature suggests that less educated employees were less prone to burnout because they faced fewer work expectations and challenges. In contrast, highly educated employees experienced higher levels of burnout as they were often subjected to greater responsibilities and performance pressures (Maslach et al., 2001). It is important to note that continuing education is known to increase the RNs' sense of self-efficacy and enhance their practice (Crotty, 1987), which plays a central role in burnout. It is important that HD RNs update their skills and knowledge regularly to ensure efficient management of complex health problems, helping them to better educate and support patients and their families (ACITN, 2008; MSSS, 2008). Thus, managers and clinical educators must ensure suitable preceptorship and mentorship programs are available to HD RNs, and include staff in the development of institutional policies and procedures to support their practice.

The studies included in this review highlighted some specific sources of stress perceived by RNs working in HD that may contribute to burnout. Findings suggest that the HD sector should develop quality improvement committees focused on improving working conditions by providing a safe work culture, enhancing inter-professional collaboration, ensuring staff are well adapted in their work roles, and providing resources for continuing education. In addition, since social support provided by colleagues and managers was found to be effective, workplaces should consider forming informal discussion groups for HD staff to share experiences, feelings, opinions, and information.

Research is lacking at present in terms of burnout interventions for RNs in HD. When addressing burnout, a combined approach (individual- and organization-directed) seems to have the potential for longer-lasting positive effect (Awa et al, 2010), but needs to address specific organizational stressors (Ruotsalainen et al., 2015). This outcome may be best achieved with the participation of RNs to identify the problem and find solutions.

Burnout is said to be the result of chronic stress produced by a mismatch between individuals and their work. Empowerment is proposed as an encouraging strategy to address the burnout of RNs because it can target both the individuals and the organization. Research provided evidence supporting the relationships between structural empowerment (SE), psychological empowerment (PE), and burnout, as well as job satisfaction and engagement (Wagner & al., 2010) that are representative of psychological well-being at work and positive antipodes (opposite) to burnout (Maslach & Leiter, 1997; Trépanier, Fernet, Austin & Ménard, 2015; Wright & Cropanzano, 2000). Overall, the studies from our literature review illustrated the need for managers to assess and implement structural empowerment (SE) and psychological empowerment (PE) strategies in the HD workplace to increase health and wellness among RNs, thereby, enhancing quality of care and patient safety. Several authors criticized the bulk of studies that recognized the importance of empowerment, yet failed to provide practical advice or methods to enhance empowerment (Dooher & Byrt, 2005), validating Laschinger, Finegan, Shamian, and Wilk's (2001) framework as a helpful tool for developing concrete strategies to address the burnout issue among RNs.

Innovative Strategies

Mounting evidence suggests that information communication and technologies (ICT) may be beneficial in responding to patients' health and education needs. Emerging research has focused on the role and impact of ICT in the work life of RNs, suggesting that ICT has the potential to positively influence the health of RNs, support their professional practice, and reduce burnout. The authors believe that a web-based intervention for HD RNs may offer promise in reducing burnout by offering tools for empowerment. At the organizational level, it could support the RNs' professional practice (i.e., offering continuing education, professional guidelines) and, at the individual level, it could address their individual needs (i.e., providing social support, health promotion information, assessment tools, and exercises) (Jackson, Fraser, & Ash, 2014).

Research Limitations

It is apparent from this review that there is a limited number of studies on the subject of burnout and empowerment concerning HD RNs. Some studies had a small sample size, making it difficult to ensure accurate representation of the HD nursing population. Most studies used self-administered questionnaires with Likert scales, which may have led to social desirability bias (i.e., more positive, socially accepted response), acquiescence (i.e., automatically agree with all the questions) or extreme responding (i.e., automatically answer questions with the most extreme response available such as "strongly agree" or "strongly disagree") (Loiselle, Polit & Beck, 2007; Polit & Beck, 2006). For the burnout measurement, there is no consensus regarding the use of the Maslach Burnout Inventory (MBI) tool. Some researchers only assessed the emotional

exhaustion (EE) or two of the three burnout dimensions, complicating the comparison between studies. In addition, some studies were conducted in varying professional contexts, making it difficult to generalize results. All burnout and empowerment studies included in this review were quantitative with the exception of one study that used a mixed-method design. As a result, there is a lack of in-depth description of the HD RNs' burnout experiences and their empowerment perceptions. Currently, interventions aimed at reducing burnout among RNs and healthcare professionals lack rigor or fail to assess the long-term effects of the interventions.

Conclusion and Further Research

The present review of literature suggests that burnout continues to be a significant issue for RNs, and empowerment is found to be an important strategy to address RNs' burnout and promote their health and well-being in some nursing specialties. However, there is an obvious lack of knowledge with respect to burnout and empowerment among HD RNs. Thus, more research is needed with HD RNs working in countries with different healthcare systems and settings (university hospitals, affiliated hospitals, and satellite HD facilities) to better prevent the occurrence of burnout and promote the well-being of these RNs. Studies should include large samples, and the selection of participants should be done through a licensing organization, as opposed to specialty associations to reduce selection bias. Moreover, future studies should consider using standardized burnout measurement approaches to improve comprehension and generalization of results. Qualitative study designs should be considered to obtain a more in-depth understanding of the HD RNs' work life situation. Lately, some authors

have emphasized the link between burnout of HD RNs and the quality of care and patient safety, an issue that needs further examination.

Lastly, there is a need to address burnout of HD RNs. Systematic reviews focusing on the effect of burnout interventions targeting RNs and healthcare professionals reported the inability to identify the most effective approach due to insufficient evidence and low-quality studies. Nonetheless, a combined approach (individual-organizational) appears favourable for long-term positive effects on burnout. More studies with rigorous appraisal of interventions are needed (e.g., large sample size and control group). The use of information and communication technologies (ICT) should be considered and further explored, as a potential strategy to address burnout through strengthening empowerment.

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Authors' contributions

CD conducted the literature review. The results were presented and discussed with the Ph.D. thesis co-supervisors (LD-L, MM) and co-author (MB). CD drafted the article and revisions were made in collaboration with the co-authors (CD, LD-L, MB). All authors agreed with the final version that was sent for publication.

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Table 1: Documentary Search Strategies

Inclusion criteria (studies)
• Published in the last 15 years • Language: English or French **Burnout** • Dealing with burnout (risk factors or determinants) • Conducted with RNs working in HD **Burnout interventions** • Dealing with burnout interventions • Conducted with RNs or healthcare professionals **Empowerment** • Dealing with empowerment and burnout • Conducted with HD RNs or RNs in general practice settings

Table 2: Descriptor Terms Used for the Search

MeSH terms / CINHAL headings / keywords		
Burnout • Burnout/ burnout professional • Risk factors/prevalence • Determinants • Nurse/nurs* • Hemodialysis • Nephrology nursing • Nephrology	**Burnout interventions** • Burnout/ burnout professional • Stress occupational • Nurse/nurs* • Healthcare professionals • Intervention	**Empowerment** • Empowerment • Burnout/burn out professional • Stress occupational • Nurse/nurs*

Table 3: Summary of Studies on Burnout of Nurses in Hemodialysis

Author (s)	*Type of Study /goal (s)*	*Sample / Measurement Tool(s) Used for Burnout*	Authors Findings (Synopsis)
Arikan, Koksal, & Gokce. (2007) *Turkey*	Study: comparative cross-sectional design *Goal: Compare levels of work-related stress, burnout and job satisfaction of RNs working in HD, intensive care units (ICU) and nursing units*	31 HD RNs 100 ICU RNs 49 RNs working in units Tool: MBI	■HD RNs reported low EE and DP, high PA. ■Determinants of job stress, burnout and satisfaction: age, work experience, work mobility within the last five years, hours worked per week and pattern (number of night shifts), nurse-patient ratio. *Conclusion*: HD RNs had lower stress & burnout levels, higher job satisfaction and decreased intention to leave job.
Hayes, Douglas, & Bonner (2015) *Australia*	Study: descriptive, cross-sectional online survey design *Goal: Examine the relationships between work characteristics, job satisfaction, stress, burnout and the work environment of HD RNs.*	406 RNs; 11 LPNs (396 from Australia and 21 from New Zealand) Tool: MBI	■53-60% reported high levels EE and DP and 58% reported low levels of PA. ■Presence of significant correlations between EE and workload, lack of support, conflicts with physician (conflicts with RNs and values; moderate). ■Determinants: age and work experience in HD: Lower job satisfaction/high burnout with younger RNs (less than 30 years old) and those working in HD (three-five years). Higher job satisfaction/low burnout among experienced RNs (50 years and older) and those working in HD (16-20 years and more). RNs over 60 years old had the best scores. *Conclusion*: These HD nurses reported being satisfied with their work and workplace but had high levels of burnout.

Dermody & Bennett. (2008) *Australia*	Study: mixed method design focus group/questionnaire *Goal: Explore RNs stressors in both in-centre hospital HD and satellite HD unit (identify specific sources of stress in both areas and frequency of occurrence).*	11 HD RNs from hospital and one LPN 7 HD RNs from satellite unit Tool: Questionnaire developed based on focus group	■In-centre HD RNs identified 20 sources of stress (i.e., reported daily); workload, shift work pattern, insufficient staff, lack of time for patient education or maintain or update skills and knowledge, noncompliant patients. ■HD RNs from the satellite unit identified 10 sources of stress stress (i.e., reported daily); complexity of patients' problems and comorbidities, patients' behavior (e.g., aggressive or impatient), unrealistic patients expectations. ■Majority of these RNs were able to identify a resource person, able to discuss challenges and stressors with colleagues but had the tendency to bottle up issues. *Conclusion:* Managers/clinicians/educators need to understand HD stressors and improve workplace.
Kapucu, Akkus, Akdemir, & Karacan (2009) *Turkey*	Study: descriptive cross-sectional design *Goal: Explore exhaustion and burnout of HD RNs.*	32 HD RNs 59 high school RNs 4 RNs with a certificate Tool: MBI	■HD RNs reported low EE and DP, high PA. ■62% had high school degree, 34% diploma prepared; 54% had interprofessional issues with colleagues (communication problems); 48% found that providing care for HD patients was psychologically demanding. ■Demographic and work characteristics data (no statistical difference): age, education, marital status, seniority, years in HD unit, shift work pattern, dialysis training specialty and employment status. *Conclusion*: EE was higher among RNs who did not find themselves fit for the job and those who intended to leave the profession.

Kavurmaci, Cantekin, & Tan. (2014) *Turkey*	Study: descriptive cross-sectional design *Goal: Explore burnout of HD RNs.*	28 HD nurses (12 college prepared 11 university prepared 5 High school prepared RNs Tool: MBI	■HD RNs had moderate levels of EE and DP and a high level of PA. ■Determinants to burnout identified: gender, marital status, having children, education status, and type of institution. *Conclusion*: Organizations should plan strategies to reduce burnout occurrence.
Klersy & al. (2007) *Italy*	Study: observational multicentre cross-sectional design *Goal: Compare burnout of nephrology RNs and nephrologists and assess relationship with quality of life.*	260 HD RNs 10 Peritoneal dialysis RNs 61 nephrologists Tool: MBI	■Lower levels of burnout (compared to normative sample): low EE and DP, moderate PA. ■50% reported low EE and 50% moderate to high; 30% of RNs reported a high level of EE compared to 18% for nephrologists. ▪ No correlation between burnout and quality of life. *Conclusion*: HD RNs are more EE because of prolonged contact with patients therefore have a greater emotional charge than nephrologists (punctuated contact).
Ross, Jones, Callaghan, Eales, & Ashman. (2009) *UK*	Study: survey design *Goal: Investigate burnout, psychological distress and job satisfaction of HD employees.*	50 HD staff (29 RNs, 5 healthcare assistants, 7 non clinical professionals, 9 support/transport staff) Tool: MBI	■Staff reported moderate levels of EE, DP, PA and being satisfied with work. ■30% being under constant strain 20% limiting their daily activities. *Conclusion*: Older RNs and staff with seniority in HD were more prone to burnout, low PA, psychological distress, dissatisfaction.

Flynn, Thomas-Hawkins, & Clarke. (2009) *USA*	Study: cross-sectional, correlational design *Goal: Identify the determinants of burnout among RNs working in HD and explore their associations with the intention to leave the practice.*	422 HD RNs Tool: MBI only EE subscale	■31% had a high level of EE. ■Determinants to nursing burnout in HD: (a) excessive workload; (b) unsupportive work environment; (c) impaired care process (due to lack of time). ■ 23% of the RNs considered leaving their jobs in the next 12 months (i.e., for another sector of care or a position in another institution) due to overload of work. ■RNs experiencing burnout: three time more likely to leave their jobs *Conclusion:* This study demonstrates that work environment must be modified.
Harwood, Ridley, Wilson, & Laschinger. (2010a) *Canada*	Study: secondary analysis cross-sectional survey design Primary study (descriptive) Ridley, Wilson, Harwood & Laschinger (2009) *Goal: Examine the influence of burnout on mental and physical health, as well as job retention of nephrology RNs.*	121 nephrology RNs (72 college prepared 49 university prepared) 68% HD RNs Tool: MBI (shorter version 16 items)	■41% had high levels of EE and 33% had high levels of DP. ■40% of psychological symptoms are explained by burnout: EE has more influence than DP. ■28% of physical symptoms are explained by burnout: only EE has an influence. Intention to leave is linked with: DP, EE, physical and psychological symptoms. *Conclusion*: This study showed the importance to support HD RNs and to examine their work environment in order to keep them in the practice (highly specialized RNs).

Hayes & Bonner (2010) *Global perspective (*Australia/ Europe/ USA)	*Study: systematic review* (2000-2009) *Goal: Increase knowledge of the factors contributing to job stress, burnout and satisfaction of HD RNs.*	9 studies From databases: CINAHL, Medline, Pubmed Population samples varied: 10 - 682 Tools: 3 studies measured burnout and all used MBI	■ Five main categories of sources of stress contributing to burnout: (a) interpersonal relationships (physicians, colleagues): increased when RNs left out of decisional-making, decreased with support from peers but RNs bottle up work issues; (b) facet of care for HD patients: risk related to provision of care (exposure to blood contamination), patient health condition (deterioration, death), intensity of therapeutic relationship; (c) patient abuse and violence against RNs due to renal disease (adjustment disorders, electrolytes disturbance), the frustration related to the care and lost of control over life; (d) organizational factors: workload, high level of stress care with incapacity to replenish (missed meals-breaks); (e) lack of continuing education opportunities and support. *Conclusion:* Job stress/burnout is an important problem for HD RNs and organizations. Evidence of lack of knowledge and access to continuing education that needs to be addressed, find strategies/solutions to reduce job stress. Studies were conducted in workplace contexts that were very different therefore some studies may not be generalizable.

Bohmert, Kuhnert, & Nienhaus. (2011) *Global perspective (*Australia/ Canada/ Japan/ Europe/ USA)	*Study: systematic review* (1990-2010) *Goal: Have a comprehensive overview on stress and strain in HD employees.*	20 studies 19 primary studies 1 systematic review From databases; Pubmed, Medpilot, EMBASE, PsycINFO, PSYNDEX Population samples varied: 10 - 682 Tool: 8 studies measured burnout and all used MBI	■Majority of studies found moderate levels of EE, DP and variable levels of PA. ■Inconsistancy on the contribution of sociodemographic variables (age, number of children, education and work experience) to burnout. Age and work experience (seem to be more predictive). ■Four main categories of sources of stress were identifed: (a) patient-based (risk of contamination, patient behavior, death of patients); (b) work role (great responsibility, low professional status); (c) working conditions (nursing shortage, workload, nursing shift work pattern, lack of work experience, limited equipment); (d) interprofessional collaboration (poor communication with colleagues and managers). *Conclusion*: Caution with interpretation and generalization of results (studies conducted in countries where RNs status differ; education and work role). Empowerment may help nephrology RNs cope with work demands.

DP: depersonalization; **EE:** emotional exhaustion; **HD:** hemodialysis; **LPN:** licensed practical nurse; **MBI:** Maslach Burnout Inventory subscales; **PA**: personal accomplishment; **RN:** registered nurse

Table 4: Summary of Studies on Burnout Interventions for Nurses

Author (s)	*Type of Study /goal (s)*	*Sample / Measurement Tool(s) Used for Burnout tool*	*Authors Findings (Synopsis)*
Ruotsalainen, Verbeek, Marine, & Serra. (2015) *in Healthcare*	*Study: systematic review* (up to 2013) *Goal: Evaluate the effectiveness of organization- and individual-directed interventions, compared to no intervention or alternative interventions to reduce stress at work or burnout of healthcare workers.*	58 studies randomised controlled trials Follow-up period: 1 month to 1 year From databases: Cochrane, Medline, EMBASE, PsycINFO, CINAHL, NIOSHTIC-2, Web of Science. Population: altogether 7188 Tool : MBI	■Individual-directed interventions: more effective than no intervention. ■Organization-directed interventions: not more effective than no intervention or alternative intervention. *Conclusion*: Organization-directed interventions should be better focus on specific stressors. Need for more studies and appraisal of interventions (larger sample size and control group to be considered). ■Quality of studies was weak.
van Wyk & Pillay-Van Wyk. (2010) *in Healthcare*	*Study: systematic review* (up to 2008) *Goal: Evaluate the effectiveness of preventive staff-support intervention to healthcare workers*.	10 studies randomized controlled trials From databases: Cochrane, Biblioweb, CINAHL, MEDLINE, EMBASE, PsycINFO, Ovid, Sociological Abstracts, CBA. Population altogether: 718 Tool: MBI	■Stress management training interventions: sustained benefits over a medium-term for stress (one study) and reduced burnout (one study). ■Organization-directed interventions increased only job satisfaction. *Conclusion*: Need for more studies; explore long-term effects of stress management training and organization-directed interventions and determine if refresher sessions sustain positive effect. ■Quality of studies was weak.

Awa, Plaumann, & Walter. (2010) *mostly in Healthcare*	*Study: systematic review* (1995 to 2007) *Goal: Evaluate the effectiveness of workplace intervention or elsewhere to prevent burnout.*	25 studies (17 studies individual-directed, 2 studies organization-directed, 6 studies combined) From databases; Medline, PsycINFO, PSYNDEX Population samples varied: 25-248 Tool: MBI	■Individual-directed interventions effective for six month or less. ■Organization-directed interventions or combined effective over 12 months. ■Refresher courses (e.g., stress management course) effective over two years but need to determine when appropriate. *Conclusion*: A combined approach is promising but need further investigation. Organizations should be sensitized to the benefits of interventions and implement. ■Quality of studies not evaluated.
Mimura & Griffiths (2003) *in Nursing*	*Study: systematic review* (1990 and up) *Goal: Evaluate the effectiveness of interventions to manage RNs' work stress.*	10 studies (7 randomised controlled trials, 3 prospective cohort studies) Follow-up period: 6 months to 1 year From databases : Cochrane, CINAHL, British Index Population samples varied: 31-161 Tool: MBI	■CBT (effective; weak evidence); exercise, music and relaxation training (potentially effective); social support education (questioned but potentially effective); environmental change (possibly effective). *Conclusion:* Individual support approach seems to be more favorable than an environmental management approach but impossible to recommend any particular approach (small number of studies and low quality evidence). A combined approach should be considered for RNs because of multidimensional nature of stress. ■Quality of studies weak.

Van Straten, Cuijpers, & Smits. (2008)	Study: *randomized control trial* *Goal: Examine whether a web- based CBT self-help intervention is effective in reducing burnout, depression and anxiety.*	213 participants intervention group (n=107) control group (n=106) Tool: MBI	■Intervention was web-based over the course of four weeks. For burnout, results were improved from pre to post intervention between intervention group and control group (not statistical significant) and participants in the intervention group were four times more likely to recover from their burnout than the participants in the control group. *Conclusion:* Results seem to be promising for the burnout management with online CBT (five weeks post intervention) but long-term effects are unknown (authors proposed longitudinal studies).
Halbesleben. (2006)	Study: Meta-analysis *Goal: Confirm that social support acts as a moderator on burnout.*	114 articles / eight reports From databases: *PsycInfo, Business Source Elite, JStor,* and *MEDLINE* *Population altogether: 40,316* Tool: MBI/Oldenburg Burnout Inventory	■Work-related support was more strongly related to EE than DP and PA and non-worker resources (spouse, family members, friends) was more strongly related to DP and PA. *Conclusion:* Work-related source of social support more predictive of reducing burnout when compared to non-worker resources because of its more direct relationship to work demands and that it may offer different types of support (emotional, instrumental and informational). This study confirms the importance of social support to reduce burnout.

Bourbonnais, Comeau, & Vezina. (1999) *Canada, Quebec*	Study: longitudinal study – 1 year Goal: *Evaluate the effect of social support on job strain, psychological distress and burnout of RNs.*	1741 RNs T1 (first measure) 1378 RNs T2 (second measure) Tool: MBI	■32% reported having psychological distress (lower among RNs with a bachelor's degree). ■High job demands and low decision latitude at work result in psychological distress and burnout. ■Social support had a direct effect on psychological distress and burnout but not on the job strain. *Conclusion:* This study provides information for supporting the RNs working in Quebec to reduce burnout.
Bourbonnais, Brisson, & Vézina. (2011) *Canada, Quebec*	Study: quasi-experiment pre/post measure (one year / 3 years) *Goal: Test the effect of an intervention using a participatory approach (organizational-directed) to reduce burnout and psychological distress targeting psychosocial of RNs clinician and mangers and LPNs.*	Experimental group (n=674) 505 RNs, 39 RNs Managers, 18 LPNs, 112 orderlies Control group (n=894) 665 RNs, 6 RNs Managers, 78 LPNs, 145 orderlies Tool: Copenhagen Burnout Inventory	■Intervention was to identify and address the organizational burnout determinants: 56 solutions were proposed that sought to develop teamwork, offer training, provide social support and improve communication and dissemination of information (similar to structural empowerment dimensions). ■Results one-year post intervention showed an improvement of burnout in the experimental group and a deterioration in the control group. ■Results three-year post intervention showed long-term effectiveness of the intervention. *Conclusion:* using PAR approach to address the burnout problem of RNs by developing empowerment strategies at work is effective for RNs .

CBT: cognitive-behavioural techniques; **DP:** depersonalization; **EE:** emotional exhaustion; **HD**: hemodialysis; **LPN**: licensed practical nurse; **MBI:** Maslach Burnout Inventory subscales; **PA**: personal accomplishment; **PAR**: participatory action research; **RN**: registered nurse

Table 5: Summary of Studies on Empowerment and Burnout of Nurses

Author (s)	*Type of Study /goal (s)*	*Sample / Measurement Tool(s) Used for Emppowerment and*	*Authors Findings (Synopsis)*
Laschinger. (1996) *Global perspective (Canada, USA)*	Study: systematic review (up to 1994) *Goal: Examine the empowerment in nursing populations from Kanter's conceptualizations.*	13 studies Population samples varied: 20 - 246 Tool: CWEQ	■Empowerment in the workplace significantly influences employees' behaviors. ■Organizations providing access to empowering structures would increase the RNs participation and satisfaction. *Conclusion:* SE is crucial to respond to current challenges of the healthcare and Kanter's theory in nursing is a good fit.
Hatcher & Laschinger. (1996) *Canada*	Study: descriptive, correlational design *Goal: Explore Kanter's position that access to SE (power and opportunity) relates to reduced burnout levels.*	87 RNs Tools : Burnout: MBI SE: CWEQ	■RNs reported moderate global SE, moderate EE, low DP, high PA (lower than previous studies). ■Presence of significant correlations between: empowerment and EE (negative), DP (negative) and PA (positive) and between a supportive environment and burnout (negative). *Conclusion:* A supportive workplace with access to SE is predictive of lower burnout in all three burnout dimensions.

Laschinger, Finegan, Shamian, & Wilk (2001) *Canada*	Study: predictive, non-experimental design *Goal: Test an expansion of Kanter's work empowerment theory (1977, 1993) including Spreitzer's psychological empowerment theory.*	404 RNs Tools: Job strain: Karasek SE: CWEQ-II PE: PES	■Results support that SE has an impact on job strain. ■Strong relationships between SE and PE, job strain (through PE), job satisfaction, and between PE and job strain (PE outcome of SE). *Conclusion:* Results provide support for the use of the expanded model of Kanter's theory to reduce job strain, improve job satisfaction & performance in healthcare settings.
Laschinger, Finegan, Shamian, & Wilk (2003) *Canada*	Study: longitudinal design *Goal: Test an expansion of Kanter's work empowerment theory (1977, 1993) including Spreitzer's psychological empowerment theory.*	192 RNs (match for the two time points) Tools: Burnout: MBI (only EE) SE: CWEQ-II PE: PES	■T1 (first measure): SE direct effect on PE and indirect effect on burnout (through PE). ■T2 (second measure): PE influences burnout (three years later). ■Access to empowerment structures in the workplace (information, support, resources and opportunities to learn and grow) increases feelings of psychological empowerment and will reduce burnout over time. *Conclusion:* Evidence: SE is an antecedent of PE and reduces burnout of RNs over time. Importance of considering SE and PE in the reduction of burnout.

Laschinger & Finegan. (2005) *Canada*	Study: descriptive correlational survey *Goal: Test relationships between SE and six domains of work life that promote staff engagement and well-being (RNs' physical and mental health).*	285 RNs Tools: Burnout: MBI AWS (Areas Worklife Scale) SE: CWEQ-II	■On average, RNs reported moderate burnout however 47% had high levels. Workplace was reported somewhat empowering. ■Significant relationships between: SE and domains of work life, domains of worklife and EE, EE and physical and mental symptoms (positive) and SE and engagement. *Conclusion:* SE has direct effects on domains of work life, influencing person-job fit (compatibility between RN's expectations and organization's conditions), and an indirect effect on engagement and burnout, influencing their mental and physical health.
Greco, Laschinger, & Wong. (2006) *Canada*	Study: cross-sectional survey design *Goal: Test a model examining relationship between RNs leaders empowerment behaviors, perception of staff empowerment, fit in work life areas, Work engagement/burnout using Kanter's theory.*	322 RNs Tools: Burnout: MBI AWS (Areas Worklife Scale) SE: CWEQ-II	■53% had high levels of burnout and global SE was rated moderate. ■RNs perceived their managers behaviors to be more less empowering (express confidence in employees, allowing autonomy but the participation in decision-making was lowest). ■Managers behaviors had indirect effect on EE through SE and overall six domains of work life. *Conclusion:* Managers who provide SE in the workplace would enhance RNs person-job fit, engagement and prevent burnout.

Wang, Kunaviktikul, & Wichaikhum. (2013) *China*	Study: correlational cross-sectional design *Goal: Describe the relationship between work empowerment and burnout of RNs.*	385 RNs Tool: Burnout: MBI SE: CWEQ-II	■Chinese RNs reported moderate global SE. ■Presence of significant correlations between: SE and EE (negative), SE and PA (positive). ■Acess to support more predictive. *Conclusion:* Evidence of relationship between access to SE and RNs burnout.
Hochwalder. (2007) *Sweden*	Study: correlational cross-sectional design *Goal: Examine the main effect of PE on burnout, PE as a mediator between work environment and burnout and PE as a moderator of the association between the work environment and burnout.*	838 RNs 518 licensed practical nurses (LPN) recruited in three hospitals and primary healthcare centers Tools: Burnout: MBI SE: Karasek and Theorell's Scale Similar to CWEQ-II (demand, control and social support) PE: PES	■PE has main negative effect on burnout & mediating effect between SE and three burnout dimensions and moderating effect (weak) on the association between SE and burnout. *Conclusion:* results support the protective role of PE against burnout which can be enhanced by improving aspects of workplaces (RNs' autonomy and social support).
Boudrias, Morin, & Brodeur (2012) *Canada, Quebec*	Study: A cross-sectional, correlational design *Goal: Investigate the protective role of PE against burnout among healthcare workers exposed to stressors in their workplace.* *Boudrias, Morin, & Brodeur (2012) (Quebec, Canada)*	401 health professionals 266 from long term care facility (beneficiary attendants, RNs, LPNs) 135 from rehabilitation center (in direct and indirect care, patients services, management) Tools: Burnout: MBI (short version 16 items) PE: PES	■ Individuals with high levels of four cognitions less prone to EE when organizational changes occur. ■Only meaning has a constant effect on the three dimensions of burnout. ■Competence and meaning combined have a buffering effect on stressors and reduce the occurrence of burnout. *Conclusion:* PE has a main and moderating effects on burnout and is desirable to reduce burnout.

Çavus & Demir. (2010) *Turkey*	Study: A cross-sectional, correlational design *Goal: Examine the relationship between SE, PE and burnout among RNs.*	194 RNs Tools : Burnout: MBI SE: CWEQ-II PE: PES	■RNs reported low levels of SE, high levels of PE and low levels of burnout. ■High levels of SE and PE correlations: EE (negative), PA (positive) and reduce burnout. ■Participatory workplace most significant to reduce EE. ■Opportunities and support significantly influence PA. *Conclusion:* RNs with high perceptions of SE and PE are less prone to burnout. Participation enhances individual perception of importance in the organization and may reduce burnout. Promoting support and opportunities to learn and grow would increase self-efficacy which increases PE and reduces burnout.
Wagner et al. *(2010)* *Global perspective (Canada & Netherlands*)	Study: systematic review (up to 2009) *Goal: Examine the relationship between SE and the PE of RNs.*	6 studies From databases; ABI Inform, Eric, AMED, PsycINFO, MEDLINE in process, Scopus, EMBASE, CINAHL and Proquest Tools : SE: CWEQ-II PE: PES	■Studies reported a significant and positive relationship between SE and PE. ■SE increase PE (with time) and PE has a mediating role between SE and the productivity behaviors (work satisfaction, reduce burnout). *Conclusion:* Studies demonstrate the benefits of a workplace that provides access to the SE. Increasing SE and PE (promotes innovation, job satisfaction and reduces burnout).

Hayes, Douglas, & Bonner (2014) *(Australia)*	Study: correlative, cross-sectional online survey design *Goal: Test relationships between work environment of HD RNs, job satisfaction, stress, burnout based on Kanter's theory.*	406 RNs; 11 LPNs (396 from Australia and 21 from New Zealand) Burnout: MBI only EE subscale SE and PE: B-PEM (26 items)	■High levels of EE were found. ■Presence of significant correlations between: perception of work environment and job satisfaction (positive), job satisfaction and stress (negative) and indirectly EE, all stress factors (death and dying; conflict with physicians; inadequate preparation; lack of staff support; conflict with other RNs; workloads; and uncertainty concerning treatments) and EE. Higher job stress equate higher EE. *Conclusion:* Empowering workplace is crucial to job satisfaction, reducing occupational stress and EE for RNs working in HD.

Harwood, Ridley, Wilson, & Laschinger (2010b) *Canada*	Study: secondary analysis cross-sectional survey design Primary study (descriptive) Ridley & al. (2009) *Goal: Examine the influence of empowerment on burnout of nephrology RNs.*	121 nephrology RNs (72 college prepared 49 university prepared) 68% HD RNs 50% Ontario 9% Quebec Tools: Burnout: MBI (shorter version 16 items) SE: CWEQ-II	■41% had a high level of EE and reported moderate empowerment. ■Presence of significant correlations between SE and EE (negative). ■Education and resources more predictive of burnout: RNs with a university degree had significantly higher EE than those with a nursing diploma. RNs who reported their workplace lacking of resources were also more prone to burnout. *Conclusion:* HD RNs who perceive their workplace being empowering experience less burnout. Organization should plan strategies to improve empowerment Education link was unclear, small sample not representative of provinces (study needs to be repeated with a larger sample).

O'Brien. (2011) *USA*	Study: descriptive, correlational survey design *Goal:Investigate the relationships between the SE and PE with the burnout of RNs working in outpatient HD centers*	233 HD RNs Tools: Burnout: MBI (only EE subscale) SE : CWEQ-II PE : PES	■33 % had high levels EE and 28 % had moderate levels. RNs also reported moderate levels of PE and SE. ■Presence of significant correlations between: SE and burnout (negative), PE and burnout (negative) and SE and PE (positive). *PE is not an independent predictor of burnout and has no mediating role between SE and burnout (contrary to studies found in the literature). Only SE predict burnout. ■All dimensions SE related to burnout; resources and formal power were significantly predictive of burnout. *Conclusion:* Managers should provide empowerment structures in the workplace of HD RNs: for quality of worklife and health of RNs and the quality of care and safety of patients. Possible sampling bias; author suggest to repeat study.

B-PEM: Brisbane Practice Environment Measure; **CWEQ-II**: Conditions for Work Effectiveness Questionnaire; **DP**: depersonalization; **EE:** emotional exhaustion; **LPN**: licensed practical nurse; **MBI:** Maslach Burnout Inventory subscales; **PA**: personal accomplishment;
PE: psychological empowerment (RNs' perceptions of being empowered at work);
PES: Psychological Empowerment Scale; **RN**: registered nurse; **SE**: structural empowerment (RNs' perceptions about workplace being empowering)

MANUSCRIPT 2

Burnout and Empowerment in Hemodialysis Nurses Working in Quebec: A Provincial Survey

First Author

Christina Doré, RN, MScN, PhD (candidate)

Professor, Faculty of Nursing, University of Abitibi-Témiscamingue.

Second Author

Linda Duffett-Leger, RN, PhD

Assistant Professor, Health Technology and Informatics,

Faculty of Nursing, University of Calgary.

Third Author

Mary McKenna, PhD

Professor and Assistant Dean, School of Graduate Studies, University of New Brunswick.

Fourth Author

Myriam Breau, RN, MScN, PhD (student)

Professor, Faculty of Nursing, University of Moncton.

Fifth Author

Marc Dorais, Statistician, MScN,

Consultant in biostatistics.

*Corresponding Author

Christina Doré, Department of Interdisciplinary Studies, Faculty of School of Graduate Studies, University of New Brunswick, PO Box 4400, Fredericton
3 Bailey Drive, NB, E3B 5A3

Abstract

This study investigated a key workplace concern: the existence of burnout and the empowerment status of hemodialysis (HD) registered nurses (RNs) working in Quebec. A sample of 308 participants completed a cross-sectional online survey that included demographic questions and scales for burnout, structural empowerment (SE), and psychological empowerment (PE). The findings revealed that 38% had high levels of emotional exhaustion (EE), 69% reported moderate levels of SE, and 64% moderate levels of PE. SE and PE were significantly related to burnout; therefore, they should be promoted. A website shows potential for empowering HD RNs, as 75% used the Internet to gain information for their practice and 88% would use it for continuing education. In conclusion, high levels of burnout were found among HD RNs in Quebec similar to other North American results. Empowering strategies would be key to reducing their risk of burnout, which a targeted website may help to achieve.

Keywords: burnout, empowerment, nurses, hemodialysis

List of Acronyms

ANQ: Association des néphrologues du Québec; CWEQ-II: Conditions for Work Effectiveness Questionnaire; DP: Depersonalization; EE: Emotional exhaustion; HD: Hemodialysis; ICT: Information and communication technology; PA: Personal accomplishment; PES: Psychological Empowerment Scale; PI: Principal investigator; PE: Psychological empowerment; OIIQ: Ordre des infirmières et infirmiers du Québec; MBI: Maslach Burnout Inventory; RN: Nurse; SE: Structural empowerment; WHO: World Health Organization

Introduction

Burnout manifests as a response to the cumulative effect of stressors within the workplace (Maslach, 2003). Over the years, the Canadian health system has undergone multiple organizational changes that have led nurses (RNs) to face many challenges in order to maintain quality care with fewer staff. Mounting demands at work create high levels of job stress on RNs who are the predominant group of professionals working in the health system (Santé Canada, 2007). Hemodialysis (HD) RNs practice in a highly technical and stressful work environment that is known to be intellectually, physically, and emotionally demanding. In North America, studies reported that burnout affects about 30-41% of RNs working in HD (Flynn, Thomas-Hawkins, & Clarke, 2009; Harwood, Ridley, Wilson, & Laschinger, 2010a; Ridley, Wilson, Harwood, & Laschinger, 2009). The World Health Organization (WHO) recognizes burnout as a major global workplace wellness concern and argues for interventions because of its negative effects on employees and organizations (WHO, 2013; 2014). The empowerment of RNs is closely related to workplace wellness since it is viewed as a positive strategy to support nursing practice and enhance RNs' well-being by increasing their job satisfaction and engagement (Laschinger, Finegan, Shamian, & Wilk, 2001). Recent studies found that empowerment would be useful to address the burnout of RNs working in HD (Harwood, Ridley, Wilson, & Laschinger, 2010b; Hayes, Douglas & Bonner, 2014; O'Brien, 2011). To date, there is no information available on the severity of burnout or the empowerment status of HD RNs working in Quebec. Thus, the present study sought to assess the burnout and empowerment status of RNs specialized in HD

working in the province of Quebec to obtain accurate and detailed information on the situation.

Background

The number of patients with end-stage renal failure receiving HD treatment has been rising steadily in Canada. However, the province of Quebec has a higher rate of new HD patients (MSSS, 2015). Patients are also older and sicker, thus requiring more complex and demanding care (OIIQ-ANQ, 2003). In 2014, there were 4,587 patients in Quebec receiving HD treatment three times per week in a university hospital centre, affiliated hospital, or satellite unit (MSSS, 2015). HD RNs administer the HD treatment and provide direct, individualized continuous care for these patients. HD RNs are responsible for teaching and supporting people receiving HD and their families on how to manage and cope with the illness, and to follow a complex therapeutic regimen (e.g., multiple medications, and strict dietary and fluid restrictions) (Desseix, Merville, & Couzi, 2010).

RNs are known to practise in work environments that are intense and provide a wide range of stressors. Furthermore, a Canadian study revealed that nephrology nursing is a particularly stressful specialty, and that there is a need to better understand the context of care and develop positive work environments (Ridley et al., 2009). Recent studies highlighted numerous stressors in HD such as: (1) the complexity and highly technical nature of care with risks of breakdown of the HD machine (Karkar, Dammang, & Bouhaha, 2015) and contamination with blood (Chenoweth, 2013); (2) physically demanding care (Karkar et al., 2015); and (3) management of complications requiring

intense reflective thinking and fast actions (Wright & Merriweather, 2013). Other challenges include: inadequate working conditions and low professional status, and poor communication and interprofessional relationships (Bohmert, Kuhnert, & Nienhaus, 2011; Hayes & Bonner, 2010); lack of opportunities, time, and support to update knowledge and skills and for patient education (mandatory for their practice) (Dermody & Bennett, 2008; Hayes & Bonner, 2010); and the intensity of the therapeutic relationship related to dealing with the gravity of the patient's condition, suffering and death (Ashker, Penprase, & Salman, 2012).

According to Maslach (2003), RNs exposed to chronic work stressors are at risk for developing burnout, a syndrome consisting of emotional exhaustion (EE), depersonalization (DP), and reduced personal accomplishment (PA) (Maslach & Jackson, 1986). Emotional exhaustion occurs when an RN feels emotionally and physically depleted from work. Depersonalization is marked by RN irritability, negative attitudes, and/or distancing oneself from patients and others. Reduced personal accomplishment occurs when an RN feels incompetent or useless at work (Maslach, 2003). Burnout is known to have detrimental effects on RNs, patients, and healthcare organizations so it is important to identify effective interventions to address burnout (Maslach, 2003). Furthermore, Maslach, Schaufeli, and Leiter (2001) argue that burnout develops from a combination of individuals and organizational contributing factors, and propose that burnout interventions can target either the individuals or the organization. A combined approach (individual-organizational) is recommended due to longer-lasting positive effects (Awa, Plaumann, & Walter, 2010). Empowerment is one burnout strategy that can address both the individual and organizational needs, and was recently

found to be promising in reducing burnout among HD RNs (Harwood et al., 2010b; Hayes et al., 2014; O'Brien, 2011).

Workplace empowerment is a process of enabling RNs to optimize control over their practice (Page, 2004). It has two distinctive perspectives that should be integrated to obtain a global perspective (Spreitzer, 2008). Structural empowerment (SE) refers to the organization and psychological empowerment (PE) refers to the individual. Structural empowerment (SE) focuses on actions taken to enhance the shared power (manager-RNs) and decision-making influencing the way RNs accomplish their work. Kanter (1977, 1993) has argued that the organizational structures put in place by managers are essential to the growth of empowerment. Health organizations are considered empowering to RNs if access to six dimensions is provided: opportunity, information, resources, support, and formal and informal power (Laschinger & al., 2001). For RNs, these dimensions involve: access to opportunities to learn and grow; information and resources essential to perform work; the support needed; a job that provides high visibility, creativity, and flexibility in completing tasks; and positive relationships at work with colleagues and managers. Working conditions are improved by these empowering structures, causing RNs to be more effective, satisfied, and engaged in their work, leading to a reduced risk of burnout, and resulting in better outcomes for patients (Laschinger, Finegan, Shamian, & Wilk, 2003). Workplace empowerment is a process of enabling RNs to optimize control over their practice (Page, 2004). It has two distinctive perspectives that should be integrated to obtain a global perspective (Spreitzer, 2008). Structural empowerment (SE) refers to the organization and psychological empowerment (PE) refers to the individual. Structural empowerment

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Psychological empowerment (PE) focuses on the individual's attributes of empowerment contributing to a cognitive state of feeling empowered (Seibert, Silver, & Randolph, 2004). Spreitzer (1995) identified four cognitive dimensions that are key motivational factors that employees must experience at work to determine their own work role, accomplish meaningful work, and influence important decisions. The four dimensions are: meaning, competence, self-determination, and impact. They involve the employees' value of work task, goal, or purpose judged in relation to their own ideals or standards; the capacity to do the work well; a sense of choice about how to perform the work; and a sense that the work accomplished or their organizational contribution makes a difference. Authors have reported on the benefits of empowering healthcare

professionals, such as RNs, without giving a precise and simple way to attain it (Dooher & Byrt, 2005). One potential strategy to strengthen empowerment and address burnout risk is through the use of information and communication technology (ICT) since it was recently suggested that ICT can respond to individuals' needs, and support the professional practice of RNs (Jackson, Fraser, & Ash, 2014).

Burnout is an issue affecting HD RNs and using ICT to promote empowerment in HD may enhance their well-being and reduce burnout risk. Research on nursing burnout and empowerment in HD is limited worldwide and non-existent in Quebec, and is therefore worthy of study.

Conceptual Framework

Laschinger, Finegan, Shamian and Wilk (2001) actualized Kanter's theory of structural power in organizations and integrated Spreitzer's theory of psychological empowerment in the workplace, which serves as a guiding framework for this study because it can examine burnout and the global empowerment of RNs (see Figure 1). They contend that organizations that provide access to the six structural empowerment (SE) dimensions in the workplace allow the emergence of the four psychological empowerment (PE) dimensions within individuals. Thus, RNs' attitudes, behaviours, and work are positively influenced, resulting in a greater control over situations, work productivity, trust, and engagement toward the organization and job satisfaction, consequently enhancing the well-being of RNs and reducing their risk of burnout.

Methodology

Aim and Objectives of Study

The purpose of this descriptive correlational study was to explore the burnout and empowerment status of RNs specialized in HD working in the province of Quebec, and to achieve the following objectives: (1) Assess their level of burnout; (2) evaluate their SE and PE indicators; and (3) explore association(s) between burnout and empowerment.

Sample: Participants and Data Collection

Approval to conduct this study was granted by the University of New Brunswick's Research Ethics Board and the OIIQ (Ordre des infirmières et infirmiers du Québec). Participants were recruited from the OIIQ. On March 31, 2016, there were 1,375 RNs practising in nephrology (HD, peritoneal dialysis, pre-dialysis, transplant, research, and others unspecified areas) of which approximately 60% (approximately 825 RNs) worked in HD (Association canadienne des infirmières et infirmiers et des technologues de néphrologie, personal communication, June, 6, 2016). The OIIQ provided a contact list with email addresses of 376 RNs who agreed to participate in any study when they renewed their nursing license (29% of nephrology RNs). Strategies used to enhance participation followed key aspects of the Dillman survey method (Dillman & Dillman, 2000; Dillman, Smyth, & Christian, 2014). In addition to sending emails to these RNs, a recruitment poster was posted in Quebec HD centres, with follow-up telephone calls to HD nursing managers and visited 13 HD centres the surrounding Montreal area. An online survey was used to collect data in French from

November 9 to December 12, 2016. The anonymous survey required approximately 30 minutes to complete. In the study, there were 308 respondents out of a possible 825 participants, representing a response rate of 39%. The average response rate is 27% for surveys with healthcare staff (Carley-Baxter et al., 2009) and 33% for online surveys (Nulty, 2008).

Instruments

A questionnaire developed by the primary researcher was used to collect information on sociodemographic/ occupational data (Table 1) and Internet use (Table 2), and three pre-existing instruments on burnout, structural and psychological empowerment. The occupational section was composed of a well-being at work measure, which included pre-existing questions (Table 3): one item from the Psychological General Well-Being Index (Dupuy, 1977) to assess well-being; one item from the Overall Job Satisfaction Scale (Judge, Boudreau, & Bretz, 1994) to assess work satisfaction; three items from the Affective Organizational Commitment Scale (Meyer & Allen, 1997) to assess work engagement; and two items developed to capture the RNs' intention to leave their HD practice and the profession. All pre-existing instruments had sound psychometric properties (i.e., valid and reliable) Cronbach's alpha between 0.65 and 0.80) (Vaske, Beaman, & Sponarski, 2017).

The Maslach Burnout Inventory (MBI) was developed by Maslach and Jackson (1986), and translated into French by Dion and Tessier (1994). This 22-item questionnaire assesses the three dimensions of burnout: emotional exhaustion (EE), depersonalization (DP), and personal accomplishment (PA). Each item is rated using a

seven-point Likert-type scale ranging from 0 (never) to 6 (every day). For the analysis, the average of each dimension's subscale was used. These scores were then categorized into low, average, and high risk of burnout according to established normative data for North American RNs (Maslach & Jackson, 1986). High risk of burnout is observed with high mean scores of EE and DP, and low mean scores of PA. Currently, subscale scores are mostly presented separately (Dyrbye, West, & Shanafelt, 2009). The MBI has well established reliability with Cronbach's alpha subscale scores ranging from 0.64–0.90 (Dion & Tessier, 1994), and in this study, scores ranged from 0.71–0.91 (see Table 4).

The Conditions for Work Effectiveness questionnaire (CWEQ-II) was developed by Laschinger et al. (2001) and translated into French by Laschinger and her team in 2005 (personal communication, July 27, 2015). The CWEQ-II is a 19-item questionnaire measuring the six dimensions of structural empowerment (SE): opportunity, information, support, resources, and formal power and informal power. Each item was rated using a five-point Likert-type scale ranging from 1 (none) to 5 (a lot). The global score of SE is calculated by summing up the mean score of each dimension's subscale, and can vary from low, moderate, and high. The global score represents the RN's perception of working in an empowering work environment. The internal consistency of the CWEQ-II was previously reported with Cronbach's alphas of 0.97 for the global score and subscale scores ranging from 0.67–0.89 (Laschinger et al., 2001). We obtained Cronbach's alphas of 0.89 for the global score and a range from 0.70– 0.85 for subscale scores (see Table 4).

The Psychological Empowerment Scale (PES) was developed by Spreitzer (1995) and translated to French by Boudrias, Rousseau, Migneault, Morin, & Courcy (2010). This 12-item questionnaire measures the four dimensions of PE: meaning, self-determination, competence and impact. Each item was rated using a 5-point Likert-type scale ranging from 1 (*Strongly disagree*) to 5 (*Very strongly agree*). The global score of PE is calculated by summing up the mean scores of each dimension's subscale, and can vary from low, moderate, and high. The global score of PE represents the RN's perception of being empowered at work. The internal consistency of PES was previously demonstrated with Cronbach's alphas of 0.90 for the global score and subscale scores ranging from 0.73–0.90 (Boudrias et al., 2010). We calculated Cronbach's alphas of 0.90 for the global score and a range from 0.65–0.73 for the subscale scores (see Table 4).

Data Analysis

Descriptive analyses were performed for continuous variables using mean and standard deviation (SD) for normal distribution or median with interquartile range for non-normal distribution. Categorical variables were presented using frequency and percentage data. The Kolmogorov-Smirnov test was performed to verify the normality of distributions. Cronbach's alphas were calculated to estimate the reliability within the burnout, structural empowerment (SE), and psychological empowerment (PE) scales and subscales. Wilcoxon Mann-Whitney test (for two groups) or Kruskal-Wallis test (for three groups or more) were used to compare the scores between groups. Comparisons between categorical variables were performed using the Chi-Square test or Fisher's

exact test. Spearman correlations were calculated between scale scores. All burnout analysis used North American cut-off values. Missing data were removed from the analysis. SAS software, version 9.4 (SAS Institute Inc., Cary, NC, USA) was used to perform the analysis and a p value $\leq .05$ was considered statistically significant.

Results

HD RNs' Characteristics

The sociodemographic and occupational profile of participants is summarized in Table 1. The majority of HD RNs were women (91%), either married or in a relationship (73%), and had children (68%). Half were older than 40 years (52%) with a mean age across participants of 41.6 years (standard deviation [SD] = 10.51). Twenty percent of these RNs were considered novice in HD (less than five years) and 20% were considered senior (more than 16 years) with a mean number of years worked in HD across participants of 9.12 years (SD = 7.08). Two-thirds (65%) of RNs were working full-time and providing HD treatments in a university hospital (24%), affiliated hospital (58%), or in a satellite unit (18%). RNs were either college prepared (52%) or university educated (48%).

The descriptive statistics on burnout, structural empowerment (SE), and psychological empowerment (PE) for the participants in this study are presented in Table 4. In regard to burnout, the Maslach Burnout Inventory (MBI) scores indicate moderate levels across all three subscales: emotional exhaustion (EE) (mean [M] = 22.48, [SD] = 11.65), depersonalization (DP) (M = 5.96, SD = 5.47), and personal accomplishment (PA) (M = 36.12, SD = 6.61). Thirty-eight percent of the sample had

high levels of EE, 22% had high levels of DP, and 33% had low levels of PA. For SE, the CWEQ-II global scores indicated that two-thirds (69%) of HD RNs perceived their workplaces as moderately empowering. For all RN respondents, global scores of SE were of moderate levels (M = 16.74, SD = 3.80). In addition, subscale scores demonstrated that RNs rated their workplaces to provide inadequate access to information (M = 2.36, SD = 0.84), support (M = 2.67, SD = 0.85), resources (M = 2.79, SD = 0.72), opportunity (M = 3.41, SD = 0.82), and a lack of formal power (M = 2.16, SD = 0.70) and informal power (M = 3.36, SD = 0.73). For PE, the Psychological Empowerment Scale (PES) global scores demonstrated that nearly two-thirds (64%) of HD RNs felt moderately empowered at work. RNs who responded reported total scores of PE that were of moderate levels (M = 14.42, SD = 2.75); subscale scores were rated lower in impact (M = 3.44, SD = 0.73) and self-determination (M = 3.49, SD = 0.65), and higher in competency (M = 3.71, SD = 0.70) and meaning (M = 3.78, SD = 0.66). In addition, 78% of HD RNs reported being satisfied and 34% being disengaged at work, and 30% complained of being up and down in spirits a lot, while 27% of HD RNs intended to leave their job for another specialty and 15% intended to leave the profession (Table 3). Internet use behaviours were examined to understand if a professional website would be useful to address HD RNs' health needs and strengthen their empowerment. Results are presented in Table 2. Almost all HD RNs (96%) reported having access to the Internet after work hours. Two-thirds (69%) of HD RNs used the Internet to gain information on personal health needs, whereas three-quarters (75%) of HD RNs used it for work-related topics and information on evidence-based innovations regarding their practice. Nearly half (44%) of these RNs reported using the

Internet as a modality to obtain continuing education credits, and the majority (88%) indicated that they would actively use the Internet for continuing education if given the chance.

Sociodemographic and Professional Factors Influencing Burnout of HD RNs

The results demonstrated that there were no statistically significant associations between the three burnout subscales and gender, education background, the type of renal unit, and the RN-to-patient ratio in our sample. However, single, separated, divorced, and widowed participants had higher scores of depersonalization (DP) ($p = .0244$) and lower scores of personal accomplishment (PA) ($p = .0260$). Participants who had at least one child had higher scores of emotional exhaustion (EE) ($p = .0103$) and depersonalization (DP) ($p = .0090$). Participants who worked full-time had higher scores of PA ($p = .0280$). When participants were compared between low and high risk of burnout, RNs with more seniority in HD had higher scores of PA ($p = .0503$), and when compared between low/ moderate and high risks of burnout, older HD RNs had higher scores of PA ($p = .0357$). With the RN-to-patient ratio, a trend was identified: as the RN-to-patient ratio increased from 1:3 to 1:4, an increase in the levels of emotional exhaustion (EE) and depersonalization (DP) levels occurred. In Table 5, all associations between wellness at work characteristics with burnout and empowerment scales were significant ($p = < .05$), where the satisfaction, engagement, and well-being at work were inversely proportional to greater EE and DP scores, and proportional to greater PA scores. In addition, higher scores of structural empowerment (SE) and psychological

empowerment (PE) were associated with greater satisfaction, engagement, and well-being at work.

Associations Between Empowerment and Burnout of HD RNs

Spearman's correlation associations between burnout and structural empowerment (SE) and with psychological empowerment (PE) are presented in Table 6. All correlations were statistically significant ($p < .05$). SE and PE (subscales and scales) were negatively correlated with the emotional exhaustion (EE) and depersonalization (DP) scales while being positively associated with the personal accomplishment (PA) scale, indicating that higher scores of SE and PE are associated with a lower risk of burnout (all three dimensions).

Discussion

To our knowledge, this is the first study to investigate burnout and empowerment of HD RNs working in Quebec and to examine the relationships between empowerment and burnout. Given the stressful nature of HD, it is not surprising that nearly 40% of these HD RNs had high levels of emotional exhaustion (EE), 44% experienced dehumanizing contact with their patients, and 33% had a low sense of personal accomplishment (PA). These results support previous research reporting high levels of burnout among North American HD RNs (Flynn et al., 2009; Harwood et al., 2010a, 2010b; O'Brien 2011).

Results of this study suggest that the age of HD RNs and their seniority in HD increased their levels of personal accomplishment (PA). These findings are consistent

with results from a previous study indicating that HD RNs had higher levels of PA when compared to intensive care unit (ICU) RNs because they were older and more experienced (Arikan, Köksal, & Gökçe, 2007). HD RNs' professional activities are oftentimes reported being similar as those of ICU RNs. Conversely, another study demonstrated that older and more senior staff reported lower levels of PA (Ross, Jones, Callaghan, Eales, & Ashman, 2009). However, this study did not distinguish frequency ratings of clinical versus non-clinical staff (e.g., hospital porters). Our results may be related to the fact that HD RNs who are older and have more years of employment have a higher level of experience and decision-making skills that could contribute to greater confidence and enhanced sense of personal efficacy. We found that HD RNs working full-time had higher levels of PA. Similar and contradictory findings were reported in the literature. According to a previous study conducted in the general nursing population, RNs working full-time were more engaged in their organizations and invested in their work, and they felt more satisfied and competent (Oudot, 2009), which may have contributed to higher levels of PA. In contrast, a study that investigated the working status of women suggested that those working part-time may achieve a better work-life balance, which enables them to better manage work demands and increase their general sense of PA (Higgins, Duxbury, & Johnson, 2000). With regard to marital status, we found that single, separated, divorced, and widowed HD RNs had higher levels of depersonalization (DP), as well as lower levels of PA. Moreover, we found that HD RNs with children had higher levels of emotional exhaustion (EE) and DP. Another study has also shown that HD RNs with children had high levels of EE and DP with lower levels of PA (Kavurmacı, Cantekin, & Tan, 2014). RNs in these circumstances

may benefit from additional support in the workplace. Workload had an impact on burnout levels such as an increase of EE and DP levels that occurred when the RN-to-patient ratio increased from 1:3 to 1:4. This is important information for nursing practice when designing guidelines for suitable workloads. Previously, a North American study found that excessive workload, care activities left undone (due to lack of time), and unsupportive work environments were the main contributors to HD RNs' burnout (Flynn et al., 2009).

The results in this study indicate that workplace empowerment would be key to reducing burnout and enhancing the well-being of HD RNs; the results further support the use of Laschinger, Finegan, Shamian and Wilk 's (2001) conceptual framework to examine and address burnout and empowerment of HD RNs. Specifically, structural empowerment (SE) represents the perception of RNs about the presence of empowering structures within the workplace, and our findings demonstrated that SE was significantly negatively associated with emotional exhaustion (EE) and depersonalization (DP), and positively associated with personal accomplishment (PA). This means that for HD RNs in our sample, higher levels of SE reduced the levels of EE and DP and increased the levels of PA. These results are consistent with the Hatcher and Laschinger (1996) study, which discovered among Canadian RNs that empowering structures in the workplace reduce burnout by impacting its three dimensions. Although these associations are well established in the literature concerning RNs in general nursing practice, our results contribute to the very limited evidence in HD, indicating that SE within this specialized setting is beneficial in reducing burnout among RNs (Hayes, Douglas, & Bonner, 2015; Harwood et al., 2010b; O'Brien, 2011).

Psychological empowerment (PE) represents the perception of RNs being empowered at work. Our findings demonstrated that PE was significantly negatively associated with emotional exhaustion (EE) and depersonalization (DP), and positively associated with personal accomplishment (PA). Again, this means that for HD RNs in our sample, higher levels of PE reduced the levels of EE and DP, and increased the levels of PA. Although these results are consistent with previous studies with RNs in general practice, our results highlight that HD RNs who possess individual characteristics of empowerment are more likely to feel empowered at work and have lower risk of burnout (Boudrias, Morin, & Brodeur, 2012; Hochwalder, 2007). However, O'Brien (2011) reported that structural empowerment (SE) was the sole predictor of EE among RNs working in outpatient HD centres. When comparing our findings for Quebec HD RNs with results from an American study conducted in HD (O'Brien, 2011), we find that the American HD RNs rated their workplace higher than Quebec HD RNs in terms of having access to information to perform work, support from peers and manager, and opportunities for continuing education and professional development. American HD RNs also felt they had low access to formal power and lack of resources in their work environment. Harwood et al. (2010b) conducted a study on SE with Canadian nephrology RNs (68% were HD RNs) and found a significant negative association between the global SE score and EE (correlation [r] = -0.276, $p < .001$). In addition, results indicated that RNs who perceived their workplace as lacking resources to accomplish work were more likely to experience burnout. Importantly, our results identified that two-thirds of HD RNs in Quebec reported their workplace to be

moderately empowering and feeling empowered at work suggesting that workplaces and managers in HD still have room to improve.

In terms of the wellness at work characteristics in HD, research has previously identified that burnout is associated with RNs' intention to leave the job (Flynn et al., 2009; Harwood et al., 2010a). Our results support these findings and provide further evidence (Table 5). All three dimensions of burnout were associated with HD RNs' intention to leave their job and/or leave the profession. Results indicated that 27% of HD RNs intended to leave their job for another specialty and 15% intended to leave the profession, and that satisfaction, engagement, and well-being at work were significantly associated with the three burnout dimensions. Given the costs associated with hiring and training new staff, these results warrant more attention.

While the majority (78%) of HD RNs felt satisfied at work, 34% felt disengaged at work, and 30% complained of being up and down in spirits frequently. Encouragingly, structural empowerment (SE) and psychological empowerment (PE) were found to be significantly associated with RNs' satisfaction, engagement, and well-being at work. Recently, research in workplace wellness has intensified on the influence of nursing managers on their staff. In our study, it was unfortunate that only half of the RNs surveyed felt that their manager was concerned about their well-being and committed to making changes to improve the workplace. Authentic nursing managers in the general practice were found to play an instrumental role in creating positive nursing work environments, thereby, fostering RNs' empowerment, and resulting in positive outcomes for wellness at work for RNs such as work engagement (Greco, Laschinger &

Wong, 2006; Laschinger, Finegan, & Wilk, 2009), work satisfaction (Laschinger, Finegan, & Wilk, 2009; Wong & Laschinger, 2013) and job retention (Laschinger et al., 2009; Laschinger, & Read, 2016). These results have important implications for the practice of nursing and managers (see Figures 2a and 2b for a summary of the interrelationships found in this research). Lastly, our results highlight that the Internet shows potential to promote empowerment of HD RNs and address risk of burnout.

Limitations

Some challenges were encountered in this study. The survey was limited to the province of Quebec; therefore, the generalization of results must be considered with caution. The nature of the cross-sectional study design makes it impossible to infer causality. This study used a self-reported survey and, therefore, it may include response set biases such as: (1) social desirability (participants' tendency to misrepresent their beliefs and behaviours by answering questions in a consistent manner with social views); (2) acquiescence (participants' tendency to automatically agree with all the questions regardless of their content); or (3) extreme responding (participants tendency to consistently answer questions with extreme responses such as "strongly agree" or "strongly disagree") (Loiselle, Polit, & Beck, 2007; Polit & Beck, 2006). However, RNs are known to be reliable and consistent when responding to surveys (Aiken & al., 2012), and an anonymous survey was utilized to reduce the potential of these biases (Tourangeau & Yan, 2007).

Implications

For Nurses

This research provides meaningful results for individual HD RNs to promote their self-knowledge and critical thinking regarding their practice, well-being, and health. HD RNs must be able to identify signs of stress and burnout, and periodically perform self-assessments, recognize their personal limits, and seek appropriate resources if necessary. HD RNs are encouraged to take personal responsibility and actions for their health and well-being by first identifying the stressors at work. They can actively participate in decisions and measures to manage work-related issues and reduce stress. As with other employees, HD RNs need to be aware of strategies for healthy living that can reduce the risk of burnout such as eating a balanced diet, exercising regularly, relaxing, getting the proper amount of sleep, engaging in leisure activities, and spending quality time with friends and family. At work, HD RNs need to work as a team, prioritize work, avoid missing meal breaks, and try to take short breaks to recharge from stressful situations, and practice relaxation techniques.

For Professional Practice

Burnout is a significant problem among HD RNs in Quebec that managers and decision-makers must acknowledge and address. Our results provide useful information to improve the work environment of HD RNs and delivery of care. A culture of wellness including burnout prevention should be promoted. At the micro level, HD managers must set the stage for an equal partnership with their RN staff and develop and

implement empowering strategies. To achieve this, we recommend that HD managers be educated to foster workplace empowerment. Furthermore, it is critical that they provide a clear structure of tasks and responsibilities with ongoing workload assessment, and find new strategies to achieve work and address the lack of resources in the HD settings. They must share information necessary for RNs to do their work and allow them to participate in decision-making about their clinical practice and patient care. HD managers could schedule regular team meetings to discuss work issues and provide support, and encourage social activities to foster positive work relationships. They ought to meet RNs individually to give feedback, guidance, and performance appraisal. It is crucial that HD managers value and recognize RNs' work, and provide opportunities to be visible within the organization, and participate in innovative activities to keep them engaged and feeling efficient. They must supply or facilitate continuing education and professional development opportunities (e.g., develop in-services on disease and its therapeutic regimen for patients, and participate in the development of resources and tools) because these foster a sense of competency and autonomy for HD RNs. HD managers may rely on qualified professionals (e.g., organizational psychologist) to support nursing teams in identifying and implementing empowerment strategies, and increase staff sense of meaning and personal accomplishment in their work. HD managers may organize self-reflective sessions to improve critical thinking on complex cases or ethical issues in collaboration with educational team members (e.g., educator, nurse practice consultant, or nurse practitioner) and, thereby, increase the RNs' sense of competency. At the macro level, the OIIQ recognizes that professional associations are privileged partners to address specific needs and provide quality and up-to-date training

for their professionals (OIIQ, 2011). Information and communication technology (ICT) has slowly migrated into nursing practice and has recently been found to be helpful in addressing the health needs of RNs (e.g., health promotion information, social support) and supporting their professional practice (e.g., continuing education, clinical guidelines). The development of a professional website could be beneficial since the majority of RNs would be inclined to use a professional website if one existed.

Conclusion and Future Research

This study was the first to examine burnout and empowerment among HD RNs working in Quebec and shed light on important results for RNs, clinical practice, and future research. A significant number of HD RNs experienced high levels of emotional exhaustion (EE) and depersonalization (DP), and moderate-high levels of personal accomplishment (PA). In this study, HD RNs rated their HD settings to be moderately empowering; they also reported feeling moderately empowered at work. Importantly, structural empowerment (SE) and psychological empowerment (PE) had a significant negative association with EE and DP, and a significant positive association with PA. This indicates that RNs who possess high perceptions of SE and PE are less likely to experience burnout, substantiating the need for managers to implement workplace empowerment strategies in HD. The use of a professional website could be a useful tool to enhance the empowerment and reduce the burnout of HD RNs.

The results from this research will form the basis for future research using a participatory action research approach with HD RNs to develop recommendations for the creation of a future professional website. Relatively few studies have been

conducted in HD, and further research would be beneficial to examine the relationships among burnout and empowerment of HD RNs related to the quality of care, and to gain a deeper understanding of factors influencing job retention, engagement, and satisfaction of these highly specialized RNs.

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Authors' Contributions

CD was responsible for study conceptualization and design and conducted the survey data collection. CD performed the data analysis in collaboration with the statistician (MD). The survey results were presented and discussed with the Ph.D. co-supervisors (LD-L, MM), the Advisory Team members for this study and a co-author who specializes in empowerment (MB). CD drafted the article and revisions were made in collaboration with the co-authors (CD, LD-L, MM, MB, MD). All authors agreed with the final version that was sent for publication.

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Table 1. Sociodemographic and Occupational Descriptive Profile of Participants

Characteristics	Number	Percentage
Gender (n=297)		
Female	271	91.25
Male	26	8.75
Marital Status (n=299)		
Single	51	17.06
Married	108	36.12
Common law	111	37.12
Separated	8	2.68
Divorced	20	6.69
Widowed	1	0.33
Children (number) (n=299)		
0	95	31.77
1	57	19.06
2	99	33.11
3	40	13.38
> 3	8	2.68
Education Background (n=301)		
College diploma in nursing	158	52.49
Baccalaureat	102	33.89
Certificate (1-2)	29	9.63
Master	12	3.99
Certification in Nephrology (n=299)		
Yes	29	9.70
No	270	90.30
Continuing Education in Nephrology Nursing (in the last year) (n=300)		
Yes	203	67.67
No	97	32.33
Work Status (n=296)		
Full time	192	64.86
Part time	104	35.14
Type of Renal Unit (n=296)		
University hospital center	71	23.99
Affiliated hospital	173	58.45
Satellite	52	17.57
RN-to-patient Ratio (n=297)		
1:2	18	6.06
1:3	163	54.88
1:4	91	30.64
1:5	25	8.42

* Not all respondents answered the questions, therefore the calculations were performed with available data.

Table 1 …continued from page 136

Characteristics	Number	Percentage	Mean	Standed Deviation
Age (years) (n=295)				
20-30	55	18.64	41.60	10.51
31-40	87	29.49		
41-50	80	27.12		
51-60	67	22.71		
+ 61	6	2.03		
Seniority in HD (years) (n=297)				
< 1	8	2.69	9.12	7.08
1-5	112	37.71		
6-10	73	24.58		
11-15	44	14. 81		
16-20	37	12.46		
21-25	14	4.71		
26-30	9	3.03		
Seniority as a RN (years) (n=297)				
< 1	3	1.01	16.48	10.27
1-5	42	14.14		
6-10	55	18.52		
11-15	58	19.53		
16-20	38	12.79		
21-25	31	10.44		
26-30	36	12.12		
31-35	22	7.41		
36-40	10	3-37		
41-43	2	0.67		
* Not all respondents answered the questions, therefore the calculations were performed with available data.				

Table 2. Internet Use Behaviours Descriptive Profile of HD RNs

Characteristics	Number	Percentage
Where (mostly) (n=294)		
Home	283	96.26
Work	11	3.74
When (mostly) (n=294)		
During work	12	4.08
After work	282	95.92
Purpose: To seek information for Personal health (n=290)		
Yes	201	69.31
No	89	30.69
Work (updating practice) (n=292)		
Yes	219	75.00
No	73	25.00
Part of a chat group/ online support group (n=292)		
Yes	11	3.77
No	281	96.23
At present using Internet to obtain continuing education credits (n=290)		
Yes	130	44.83
No	160	55.17
Would use Internet for continuing education (n=259)		
Yes	229	88.42
No	30	11.58
N.B. Not all respondents answered the questions; therefore, the calculations were performed with available data.		

Table 3. Wellness at Work Descriptive Profile of Participants

Characteristics	Number	Percentage
Sense of Well-being (in last month) (n=294)		
In excellent spirits	19	6.46
In very good spirits	47	15.99
In good spirits	117	39.80
Up and down in spirits a lot	90	30.61
In low spirits mostly	14	4.76
In very low spirits	7	2.38
Work Satisfaction (n=292)		
Yes	229	78.42
No	63	21.58
Sense of Pride to Work in the Organization (n=294)		
Yes	246	83.67
No	48	16.33
Strong Personal Attachment to the Organization (n=292)		
Yes	193	66.10
No	99	33.90
Considering to Leave Job for Another Specialty (n=291)		
Yes	78	26.80
No	213	73.20
Considering Changing Career (n=292)		
Yes	43	14.73
No	249	85.27
Manager Appears Concerned About Well-being at Work and Health (n=293)		
Yes	133	45.39
No	160	54.61
Manager Appears Committed to Implement Changes to Improve Workplace (n=294)		
Yes	147	50.00
No	147	50.00
* Not all respondents answered the questions, therefore the calculations were performed with available data.		

Table 4. Burnout and Empowerment Descriptive Profile of Participants

Characteristics	Classification Percentage		Score		*Possible ranges*	*Cronbach Alpha*
			Mean	SD*		
Burnout						
Emotional Exhaustion (EE)	Quebec	North America	22.48	11.65	(0-54)	0.91
Low Mod High	41% 26% 33%	41% 21% 38%				
Depersonalization (DP)	Quebec	North America	5.96	5.47	(0-30)	0.71
Low Mod High	46% 23% 31%	56% 22% 22%				
Personal Accomplishment(PA)	Quebec	North America	36.12	6.61	(0-48)	0.71
Low Mod High	33% 32% 35%	33% 35% 32%				
Cut-offs thresholds to define RNs burnout risk according to Quebec classification: EE: low (≤ 18), moderate (19–27), high (≥ 28); DP: low (≤ 3), moderate (4–7), high (≥ 8); PA: low (≥ 40), moderate (39–35), high (≤ 34). Cut-offs thresholds to define RNs burnout risk according to North American classification: EE: low (≤ 18), moderate (19–26), high (≥ 27); DP: low (≤ 5), moderate (6–9), high (≥ 10); PA: low (≥ 40), moderate (39–34), high (≤ 33).						
Empowerment						
SE						
Opportunity	---		3.41	0.93	(3-15)	0.82
Information	---		2.36	0.93	(3-15)	0.84
Support	---		2.67	0.98	(3-15)	0.85
Resources	---		2.79	0.82	(3-15)	0.72
Formal Power	---		2.16	0.83	(3-15)	0.70
Informal Power	---		3.36	0.79	(4-20)	0.73
Total Score Low Mod High	 25.48% 68.82% 5.70%		16.74	3.80	(6-30)	0.89
Mean range scores for each dimension (1-5). Cut-offs of SE global score: Low (6-13), moderate (14-22), high (23-30).						
PE						
Meaning	---		3.78	0.73	(3-15)	0.66
Competency	---		3.71	0.74	(3-15)	0.70
Self-determination	---		3.49	0.79	(3-15)	0.65
Impact	---		3.44	0.82	(3-15)	0.73
Total Score Low Mod High	 4.89% 63.91% 31.20%		14.42	2.75	(4-20)	0.90
Mean range scores for each dimension (1-5)						
Not all respondents answered the questions, therefore the calculations were performed with available data. SD: standard deviation						

Table 5. Associations Among RNs Wellness at Work Characteristics, Burnout and Empowerment

Burnout subscales and global score of empowerment[a]					
Variables	Emotional Exhaustion (EE)	Depersonalization (DP)	Personal Accomplishment (PA)	SE	PE
Well-being at Work (n=294)					
In excellent spirits	11.0 (3.0-19.0)	2.5 (1.0-6.0)	41.0 (37.0-45.0)	19.5 (17.25-20.58)	15.0 (13.33-17.67)
In very good spirits	10.0 (7.0-23.0)	3.0 (1.0-7.0)	39.5 (35.0-43.0)	18.67 (16.33-20.75)	16.0 (14.0-17.33)
In good spirits mostly	17.0 (12.0-25.0)	3.0 (1.0-7.0)	37.0 (32.0-41.0)	16.33 (14.42-19.17)	14.67 (13.0-16.33)
I have been up and down in spirits a lot	30.0 (24.0-37.0)	7.0 (3.0-11.0)	35.0 (30.5-38.5)	15.33 (12.67-18.29)	13.67 (11.67-15.0)
In low spirits mostly	38.0 (27.0-41.0)	5.0 (5.0-14.0)	38.0 (27.0-41.0)	13.92 (9.83-16.42)	11.67 (9.0-14.67)
In very low spirits	30.0 (20.0-46.0)	10.5 (6.0-12.0)	38.0 (35.0-42.0)	16.75 (15.58-16.83)	15.5 (11.67-17.0)
p-value[b]	**<.0001**	**0.0002**	**<.0001**	**0.0003**	**<.0001**
Work Satisfaction (n=292)					
- Yes	19.0 (11.5-27.0)	3.0 (1.0-7.0)	38.0 (33.0-41.0)	17.25 (14.5-19.88)	15.0 (13.33-16.67)
- No	36.0 (27.0-40.0)	8.0 (3.0-14.0)	34.0 (30.0-39.0)	14.58 (12.67-16.83)	12.33 (10.67-14.67)
p-value[b]	**<.0001**	**<.0001**	**0.0018**	**<.0001**	**<.0001**
Work Engagement (n=294)					
Yes	19.0 (12.5-28.0)	4.0 (2.0-8.0)	38.0 (33.0-41.0)	17.33 (14.58-19.83)	14.67 (13.0-16.67)
No	33.5 (23.5-41.0)	7.5 (2.0-14.0)	33.5 (28.5-37.5)	13.71 (11.42-15.58)	12.5 (10.33-14.5)
p-value[b]	**<.0001**	**0.0044**	**0.0004**	**<.0001**	**<.0001**
Intention to Leave Job for Another Specialty (n=291)					
Yes	26.5 (18.5-36.0)	6.0 (3.0-11.0)	35.0 (30.0-39.0)		
No	20.0 (12.0-28.0)	4.0 (2.0-8.0)	37.5 (33.0-42.0)		
p-value[b]	**0.0008**	**0.0228**	**0.0102**		
Changing Career (n=292)					
- Yes	29.0 (19.0-38.0)	6.0 (3.0-14.0)	35.0 (30.0-39.0)		
- No	21.0 (13.0-29.0)	4.0 (2.0-8.0)	37.0 (32.0-41.0)		
- p-value[b]	**0.0027**	**0.0314**	**0.0216**		

[a] Data are presented as median and interquartile range (Q1-Q3)

[b] Comparisons of two groups were done using Wilcoxon Mann-Whitney test and comparisons of more than 2 groups were done using Kruskal-Wallis test.

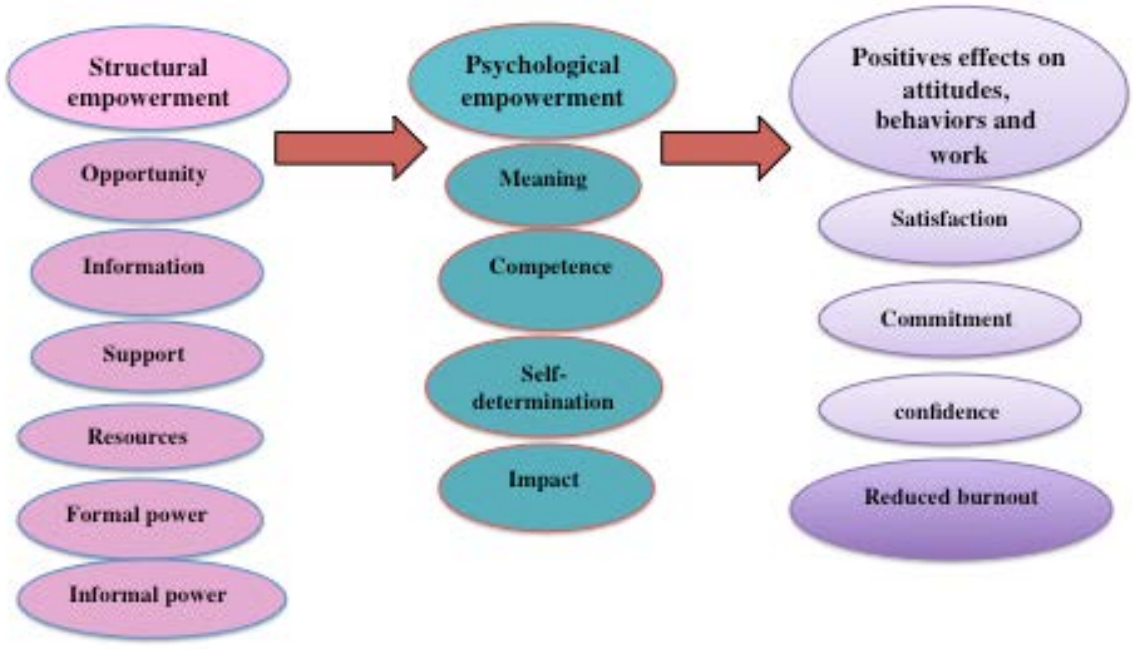
Table 6. Correlations Between Burnout and Structural Empowerment (SE) and Psychological Empowerment (PE) (subscales and Global Score)

Variables	EE	DP	PA
SE			
Opportunity	ρ = -0.28**	ρ = -0.15*	ρ = 0.33**
Information	ρ = -0.16*	ρ = -0.05*	ρ = 0.25**
Support	ρ = -0.34**	ρ = -0.16*	ρ = 0.25**
Resources	ρ = -0.40**	ρ = -0.20**	ρ = 0.15*
Formal Power	ρ = -0.37**	ρ = -0.10*	ρ = 0.21**
Informal Power	ρ = -0.21*	ρ = -0.13*	ρ = 0.28**
SE Global Score	ρ = -0.40**	ρ = -0.16*	ρ = 0.34**
PE			
Meaning	ρ = -0.44**	ρ = -0.27**	ρ = 0.41**
Competency	ρ = -0.29**	ρ = -0.14*	ρ = 0.49**
Self-determination	ρ = -0.35**	ρ = -0.18*	ρ = 0.39**
Impact	ρ = -0.35**	ρ = -0.15*	ρ = 0.35**
PE Global Score	ρ = -0.40**	ρ = -0.20*	ρ = 0.45**
SE Global Score and PE Global Score		ρ = 0.54**	

ρ:Spearman correlation coefficient
*** *p* <.05 * * *p* <.0001**

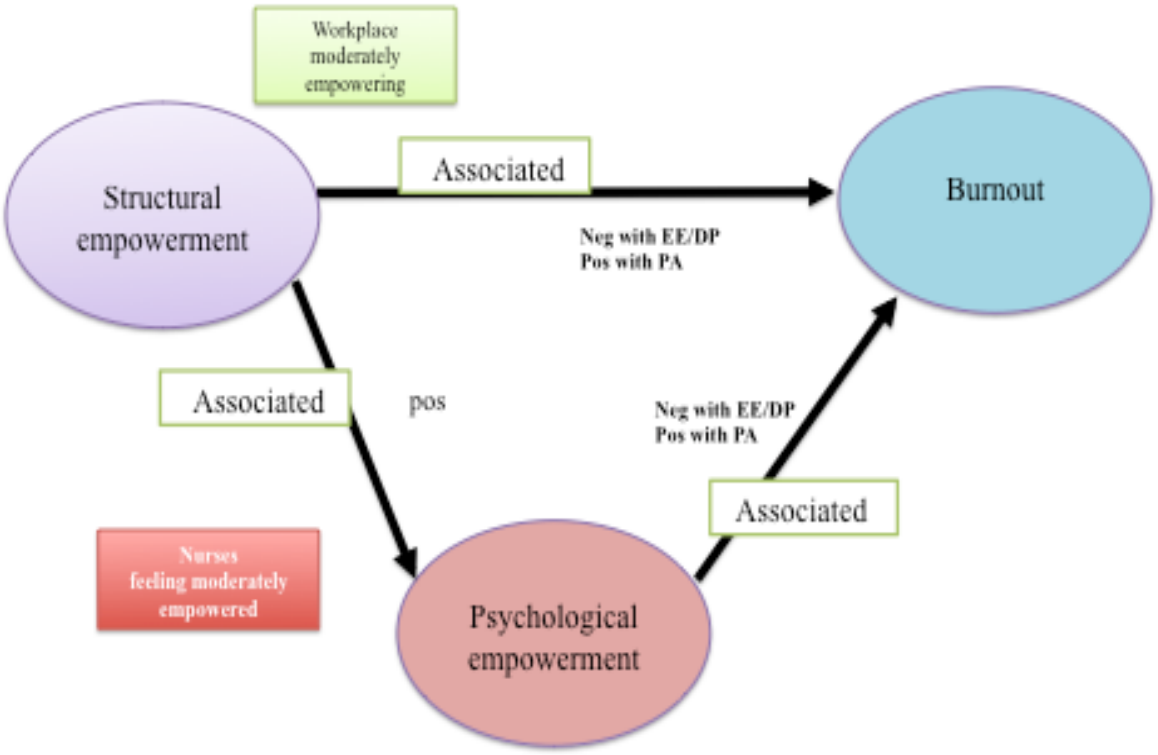
(**EE**: emotional exhaustion; **DP**: depersonalization; **PA**: personal accomplishment)

Figure 1. Laschinger & al. (2001) Actualized Kanter Theory of Structural Power in Organization (1977, 1993) and Integrated Spreitzer Theory of Psychological Empowerment



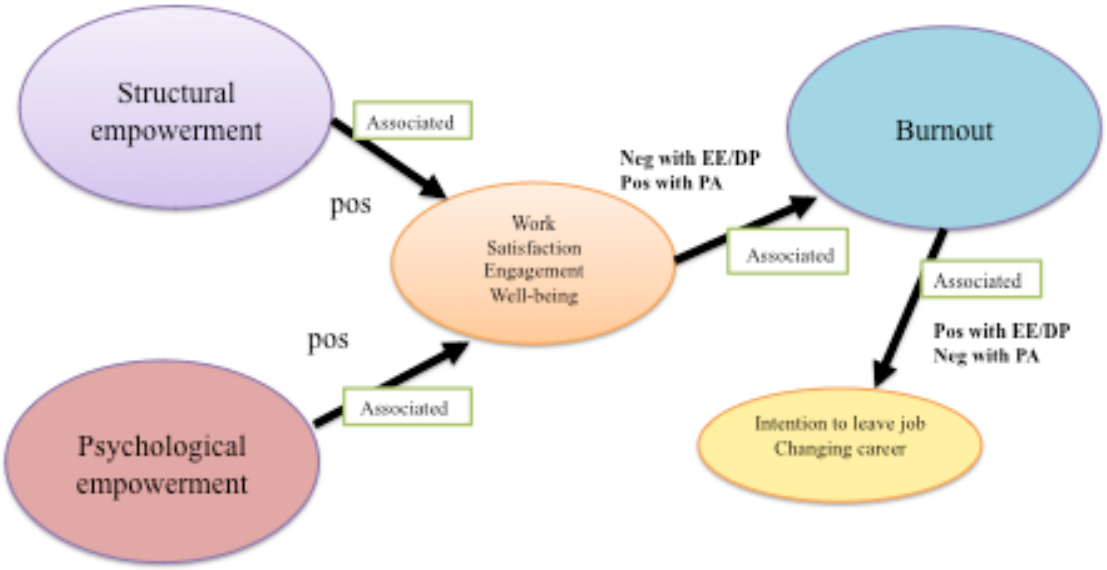
SE contributes to PE, leading to positive effects at work and reducing burnout

Figure 2a. Summary of Findings on Burnout and Empowerment for Hemodialysis Nurses in Quebec



1) SE was positively associated with PE
2) SE and PE were associated with burnout (negatively with EE DP and positively with PA)

Figure 2b. Summary of Findings for Wellness at Work Characteristics With Burnout and Empowerment Among Hemodialysis Nurses in Quebec



1) Empowerment was positively associated with work satisfaction, engagement, and well-being
2) Work satisfaction, engagement, and well-being were associated with burnout (negatively with EE DP and positively with PA)
3) Burnout was associated with intention to leave one's job or career (positively with EE and DP and negatively with PA)

MANUSCRIPT 3

Participatory Action Research to Empower Hemodialysis Nurses and Reduce Risk of Burnout

First Author
Christina Doré, RN, MScN, PhD (candidate)
Professor, Faculty of Nursing, University of Abitibi-Témiscamingue.

Second Author
Linda Duffett-Leger, RN, PhD
Assistant Professor, Health Technology and Informatics,
Faculty of Nursing, University of Calgary.

Third Author
Mary McKenna, PhD
Professor and Assistant Dean, School of Graduate Studies, University of New Brunswick

Fourth Author
Jonathan Salsberg, PhD,

Senior Lecturer in Primary Care, Graduate Entry Medical School, University of Limerick, Ireland

Fifth Author
Myriam Breau, RN, MScN, PhD (student)
Professor, Faculty of Nursing, University of Moncton.
*Corresponding Author

Christina Doré, Department of Interdisciplinary Studies, Faculty of School of Graduate Studies, University of New Brunswick, PO Box 4400, Fredericton, 3 Bailey Drive, NB, E3B 5A3

Abstract

Nursing is notorious for being a stressful profession with high rates of burnout. It is increasingly apparent that hemodialysis (HD) nurses (RNs) are not immune and empowerment is a promising tool to address burnout among HD RNs (Harwood, Ridley, Wilson, & Laschinger, 2010b). Recent research revealed that HD RNs in Quebec are at considerable risk of burnout and have reported moderate levels of structural and psychological empowerment (Doré, Duffett-Leger, McKenna, Breau & Dorais, 2018, pre-print). This research used a participatory action research approach to obtain input from HD RNs on the types of information and elements to include in a website to enhance RNs' empowerment and reduce their risk of burnout. In a series of three focus groups, a total of 7 participants identified that a potential professional website could provide information updates, offer continuing education, promote healthy lifestyles and encourage networking. Results confirmed the usefulness of a website to promote empowerment thereby addressing RNs' practice needs and reducing their risk of burnout.

Keywords: burnout, empowerment, nurses, hemodialysis, participatory action research approach, information communication technology

List of Acronyms

CNA: Canadian Nurses Association; HD: Hemodialysis; ICT: Information and communication technology; PAR: Participatory action research; OIIQ: Ordre des infirmières et infirmiers du Québec; PE: Psychological empowerment; PI: Principal investigator; RNs: Nurses; REINQ: Regroupement visant l'excellence de la pratique infirmière en néphrologie au Québec; SE: Structural empowerment; SQN: Société québécoise de Néphrologie

Introduction

Freudenberger (1974) explored burnout among people engaged in a helping profession following a prolonged exposure to stress. When burnout occurs in nursing it can have harmful consequences on the nurses (RNs), patients and the functioning of the entire organization (Halbesleben, Wakefield, Wakefield, & Cooper, 2008). Extensive research has been conducted on empowerment over the last two decades, focusing on the close relationship between empowerment and burnout (Laschinger, Finegan, & Shamian, 2001).

In North America, more than one third of HD RNs were found to be at high risk of burnout because they practiced in work environments that combined high-stress situations and high work demands, and that empowering strategies would be helpful to address their risk of burnout (Doré, Duffett-Leger, McKenna, Breau, & Dorais, 2018, pre-print; Harwood, Ridley, Wilson, & Laschinger, 2010b; O'Brien, 2011; Ridley, Wilson, Harwood, & Laschinger, 2009). While there is growing evidence on the merit of empowerment, questions remain about how to enhance empowerment among RNs in the workplace (Dooher & Byrt, 2005).

An important strategy may be to develop a professional website for RNs working in HD focused on enhancing their empowerment to reduce their risk for burnout. Researchers have suggested that Information and Communication Technology (ICT) can be used to positively influence the health of RNs and support their professional practice (Jackson, Fraser, & Ash, 2014). According to the Canadian Nurse Association (CNA), RNs should participate in the selection, design and implementation of websites to ensure

the tools are user-friendly and meet RNs' needs in order to encourage website usage (CNA, 2006). To date, however, limited academic research has occurred that seeks input from RNs. This study used a participatory action research (PAR) approach to provide community-based recommendations for the development of a future professional website to enhance empowerment; well-being, and reduce the risk of burnout of HD RNs working in Quebec.

Background

Understanding the Burnout of HD RNs

Occupational stress is the major contributor to burnout (Maslach, 2003). Nursing has long been recognized as a stressful profession due to difficult working conditions contributing to the increasing incidence of burnout among Canadian RNs (Santé Canada, 2007). More recently, research has identified a high prevalence of burnout among HD RNs practicing in North America and in Quebec (Doré et al., 2018; Flynn, Thomas-Hawkins, & Clarke, 2009; Harwood et al., 2010a; O'Brien, 2011; Ridley et al., 2009). HD is well-known to be a stressful nursing specialty that requires RNs to care for patients with complex health issues, encounter life-threatening situations, make critical decisions under pressure and face emotionally demanding interactions while mastering the skills and challenges related to HD technology (Ashker, Penprase, & Salman, 2012; Karkar, Dammang, & Bouhaha, 2015; Wright & Merriweather, 2013). Maslach and Jackson (1986) conceptualized burnout based on three specific dimensions: emotional exhaustion, depersonalization and reduced personal accomplishment. Moreover,

evidence suggests that burnout manifests as a result of a complex interplay between individual and organizational factors (Maslach, Schaufeli, & Leiter, 2001).

Burnout was found to have serious health consequences for RNs such as anxiety, depression, impaired memory, sleep disturbances, neck and back pain, and alcohol consumption (Peterson, Bergström, Samuelsson, Åsberg, & Nygren, 2008). At the organizational level, burnout was also found to affect RNs through: reduced work performance (Taris, 2006), decreased satisfaction and engagement and increased absenteeism and intention to leave their job. Burnout hindered interprofessional relationships (Kalliath, O'Driscoll, Gillespie, & Bluedorn, 2000) and negatively impacted quality of care and patient safety (Van Bogaert et al., 2014). Thus, burnout is an important problem to address for HD RNs.

In the literature, two main approaches have been recognized for burnout management. The first focuses on providing individuals with tools and resources they need to improve their ability to cope with stress and well-being, and the second aims at creating a more positive work environment (Leiter & Maslach, 2000; Maslach et al., 2001). A literature review of 10 studies indicated that despite some positive effects with individual-directed interventions to reduce work stress of RNs, a combined approach (interventions targeting both individual and organization) was promising for addressing the complex nature of stress in nursing (Mimura & Griffiths, 2003). Another systematic review of 25 studies, mostly conducted with RNs, found that a combined approach had greater potential for long-term reduction of burnout (Awa, Plaumann, & Walter, 2010).

Empowerment is becoming an important strategy to reduce the risk of workplace burnout for RNs (Laschinger, Finegan, & Shamian, 2001; Laschinger, Finegan, Shamian, & Wilk, 2001). Since individual and organizational factors are central to burnout (Maslach, 2003) and since workplace empowerment considers the individuals within their workplace to indentify multifaceted strategies to increase productivity while focusing on their well-being (Laschinger, Finegan, & Shamian, 2001), it might be an ideal solution. Workplace empowerment of RNs is divided into two types: structural empowerment (SE) and psychological empowerment (PE). In this study, Laschinger, Finegan, Shamian, & Wilk' conceptual framework (2001) served as a guide to obtain recommendations from HD RNs (intended users) on the type of information and elements to include in a future professional website to enhance empowerment, well-being and reduce their risk of burnout.

Conceptual Framework

Laschinger, Finegan, Shamian, & Wilk (2001) integrated Kanter's theory of structural empowerment (SE) with Spreitzer's theory of psychological empowerment (PE). This conceptual framework is particularly helpful in attaining a global perspective about empowerment among RNs and for developing strategies focusing on their well-being and health while ensuring their productivity in care. According to Kanter (1977, 1993), RNs' behaviors and attitudes are shaped by their perceptions of how organizations supply opportunities to grow and the tools needed to perform their work. A structurally empowered workplace includes the following six organizational structures: (a) opportunities to acquire new knowledge and skills and professional

advancement; (b) information concerning the work and organization; (c) resources, either time, material or human, to perform the work expected; (d) support needed from peers and managers; (e) formal power referring to a job that allows some flexibility, visibility, and creativity; and (f) informal power referring to a job that cultivates positive relationships with peers and managers and encourages networking. The presence of the aforementioned dimensions facilitates the development of four PE dimensions, which represent RNs' beliefs about their work role (Laschinger, Finegan, Shamian, & Wilk, 2001; and 2003). Spreitzer (1995) defined these PE dimensions: (a) meaning refers to the congruence between the RNs' beliefs, values and behaviors and work expectations; (b) competence reflects the RNs' confidence in their ability to perform work activities; (c) self-determination denotes a sense of choice among RNs in the execution of the work; and (d) impact indicates a belief among RNs that their own actions influence the strategies and results of work. When RNs possess these PE dimensions they feel empowered, which is reflected by positive attitudes and behaviors and influences their sense of control over situations, thereby improving their work effectiveness and productivity, enhancing their trust and engagement with the organization, improving their work satisfaction, and ultimately reducing their risk of burnout (Laschinger, Finegan, Shamian, & Wilk, 2001).

Relevant Research on Burnout and Empowerment for HD RNs

Laschinger (1996) demonstrated that SE is instrumental in addressing the work demands of RNs by increasing their sense of control over their practice, improving their job effectiveness and workplace satisfaction (Laschinger & Havens, 1996), and

significantly lowering their levels of burnout (Hatcher & Laschinger, 1996). Laschinger, Finegan, Shamian and Wilk' (2003) established that SE within the workplace significantly increased RN's level of PE, which in turn greatly reduced the effects of occupational stress and levels of burnout over time. Research found that SE increased RN's person-job fit, work engagement by addressing organizational risk factors predictive of burnout (Greco, Laschinger, & Wong, 2006; Laschinger &Finegan, 2005), and that staff RNs who presented high perceptions of PE (feeling empowered) at work were less likely to suffer from burnout (Boudrias, Morin, & Brodeur, 2012; Hochwalder, 2007).

RNs working in American hospitals known for their positive conditions and improved patient outcomes identified the following positive characteristics of their workplace: high standards of care settings, working with competent RNs, and having good intra- and interdisciplinary relationships. At the same time, the RNs identified many negative aspects, such as limited participation in decision-making and shared governance, opportunities for professional development and advancement, and managerial recognition for their performance or answering staff concerns (Thomas-Hawkins, Flynn, & Clarke, 2008). In a similar study, Ridley et al. (2009) explored the links between workplace empowerment and traits of high performance hospitals among Canadian nephrology RNs (about 68% were HD RNs). Findings were comparable to the American study, however, Canadian RNs reported much lower ratings on items such as up-to-date nursing care plans and assignments that fostered continuity of care, highlighting concerns about the quality of nursing care. In terms of empowerment, results indicated that all SE dimension subscales were reported deficient (Ridley et al.,

2009). A secondary analysis demonstrated that SE was significantly inversely correlated with emotional exhaustion (Harwood & al., 2010b), a finding supported by further studies (Hayes, Douglas & Bonner, 2015; O'Brien, 2011).

Phase one of our study identified that 38% of HD RNs in Quebec (n=308) were experiencing high risk of burnout, and that increased SE and PE were associated with reduced burnout (Doré et al., 2018). Furthermore, HD RNs reported moderate levels of SE and PE and inadequate access to all SE and PE dimensions, thus should be strengthened. Participants also indicated that a professional website would be a useful way to achieve empowerment. In short, there is an evident need to address the burnout of HD RNs working in Quebec and to use a combined approach based on SE and PE strategies. Based on earlier findings, we posit that a professional website may offer an innovative way of empowering HD RNs, positively influencing their personal well-being and reducing their risk for burnout.

Professional Websites to Enhance Empowerment and Reduce Burnout of HD RNs

ICT has evolved at a fast pace in healthcare and is integrated within nursing practice (CNA, 2006; Phaneuf, 2009). ICT uses various digital technologies to capture, process and exchange information on health promotion, treatment and management of diseases, and practices (Rouleau, Gagnon, & Côté, 2015). Recently, increased focus has been placed on the role and impact of ICT in the worklife of RNs (While & Dewsbury, 2011). A literature review identified the areas of nursing practice that can be influenced by ICTs: patient assessment, planning, providing and evaluating care, patient/family teaching, time management, time spent documenting and for patient care, knowledge

updating and utilization, information quality and access, RNs autonomy, communication and care coordination, intra- and interprofessional collaboration, RNs' competencies-skills, RN-patient relationship, RNs' perspective of the quality of care provided, patient comfort and quality of life related to care, empowerment, functional status, and satisfaction or dissatisfaction of RNs and patients using ICTs (Rouleau et al., 2017).

Professional websites are part of ICT and offer many benefits for the RN users. They can create a community of practice network that promotes communication on clinical topics and diverse aspects of the practice, and provide access to clinical guidelines, continuing education and professional advancement (Bernhardt, Chaney, Chaney, & Hall, 2013; Ventola, 2014) to enhance the quality of care delivered by RNs (Rouleau et al., 2017). They can also diffuse information about health promotion, wellness and provide social support and networking (Lefebvre & Bornkessel, 2013; Silversides, 2012). Social support is a favored strategy to reduce burnout and enhance the well-being of RNs (Jenkins & Elliot, 2004).

Evidence suggests that RNs have positive perceptions about using ICT for professional development (Karaman, 2011). The main reasons are that the access to resources is flexible (anytime and anywhere), effective (evidence-based information to provide best care to patients, especially with RNs working in specialized areas) and can provide affordable continuing education (Cassano, 2014; Karaman, 2011; Sweeney, Saarmann, Flagg, & Seidman, 2008). The Ordre des infirmières et infirmiers du Québec (OIIQ) recognizes that professional websites may offer a practical option to fulfill the continuing education prerequisite for the professional registration norm adopted in 2012,

and that professional associations are privileged partners in providing quality training that meet the needs of RNs (OIIQ, 2011). To our knowledge, research is limited on web-based interventions in nursing; few websites were created for RNs themselves and none to promote empowerment and reduce burnout. One literature review indicated that a major challenge with website use is to avoid high dropouts (maybe due to discomfort with the use of technology or website not responding to specific needs of users) (Im & Chang, 2013). The Canadian Nurses Association (CNA) highlights the importance of engaging RNs in the website design, to ensure that they are user-friendly and meet the needs of RNs, so as to encourage their usage (CNA, 2006). With this in mind, a PAR approach was utilized in this study of HD RNs working in Quebec to identify key information and elements in the design for a future professional website intended to enhance the RNs' empowerment, well-being, and reducing their risk of burnout.

PAR Approach to Address Burnout Among HD RNs

PAR has its origins in action research (Lewin, 1946), emancipatory and feminist research (Maguire, 1996; Rose, & Glass, 2008) and empowerment research (Freire, 1970). The goal of PAR is to combine theory and practice to advance research by providing a holistic view of the problem and create or support an action to solve a problem (Roy & Prévost, 2013). Central to PAR is a reflective practice aiming at producing a social and systemic change of practice or condition of life (Higginbottom & Liamputtong, 2015). PAR leads to empowerment and emancipation of individuals and the development of skills (Anadón, 2007; Gillis & Jackson, 2002) because it enables individuals, groups and communities such as HD RNs to be knowledgeable about

their social realities, participate and engage in research, learn, take action and transform their own situations and realities (Higginbottom & Liamputtong, 2015). PAR differs from traditional research by the position of the researcher who adopts a researcher-guide role (Catroux, 2002) and due to the co-construction of knowledge in action (Roy & Prévost, 2013). The knowledge is the product of a collaborative process and consensual dialogue between participants who each contribute their perspective (Roy & Prévost, 2013). The key principle is that those who are affected by the problem under study are involved in making the decisions that concern them (Salsberg, Macaulay, & Parry, 2014). The focus group is regularly used as a method with a PAR approach because it allows participants to express spontaneous opinions and experiences on the subject under study (Loiselle, Polit, & Beck, 2007) and the group interactions stimulates memories, discussion, debate and disclosure producing a broader and more in-depth understanding of issues or topics (Wilkinson, 2003). Focus groups can be used as a complement to a survey by corroborating the findings or exploring in greater depth the relationships suggested (Wolff, Knodel, & Sittitrai, 1993). PAR can be seen as a cornerstone in organizations for management issues or the development of practices (Bradbury-Jones, Sambrook, & Irvine, 2011). PAR was previously found to be advantageous for addressing nursing burnout in acute care facilities (Bourbonnais, Brisson, & Vézina, 2011; Bourbonnais, Brisson, Vinet, Vézina, Abdous, & Gaudet, 2006). With PAR, an Advisory Team composed of practice experts and decision-makers is central to the research process in order to ensure that results are relevant and translatable to address the practice needs of everyone concerned (Strauss et al., 2001).

The PAR approach was chosen for our study because of the need to situate the complex problem of burnout in the unique working context of HD RNs (input from their lived experience) to find an innovative way to address it and to propose a solution.

Methodology

Aim of Study

The purpose of this study was to adopt a PAR approach to generate community-based recommendations for the development of a future web-based intervention to enhance the empowerment, and well-being and reduce the risk of burnout of HD RNs working in Quebec.

Ethical approval from the University of New Brunswick's Research Ethics Board and the OIIQ were obtained.

Sample: Data Collection and Analysis

Sample. A maximum variation purposeful sampling strategy was adopted to recruit participants to establish two focus groups and a subset group of participants available for further follow-ups. The PI and an Advisory Team selected participants based on the reputation method (Miles & Huberman, 2003). The inclusion criteria were used to identify the best fit RNs to obtain relevant information/elements for the potential website were: a mixture of novice RNs (seniority of less than five years), experienced RNs (seniority of more than 16 years), nursing educational team members or RNs with educational support function; (b) working in different types of French and English HD facilities (university hospital; affiliated hospital; satellite) in the Montreal region in the

province of Quebec; (c) ability to speak, read and write in French; and (d) engaged in or would like to make positive changes in their workplace. Data. The PI then contacted the potential participants by phone and explained the research and expectations. The data for the study data were collected from February 19th - March 12th, 2017 and consisted of two rounds of focus groups; the first round consisted of two focus group sessions and the second round consisted of one session. All sessions were conducted in French, lasted about 120 minutes each, and were video-recorded. The Advisory Team consisted of two HD RNs (one HD RN was part of the focus group), two nursing educational team members, two managers and one physician to provide guidance and feedback on the process, and met at critical times to provide additional feedback. These members were highly recommended by the Regroupement visant l'excellence de la pratique infirmière en néphrologie au Québec (REINQ) and the Société québécoise de Néphrologie (SQN) associations or known in their workplace for making positive changes.

First Round - Focus Groups

In the first round of focus groups, the first session had four participants and the second session had three. The sessions began with a brief presentation on the background of the study and key concepts and results from the survey of HD RNs in Quebec. This information was followed by a series of pre-determined probing questions informed by Laschinger, Finegan, Shamian, & Wilk's (2001) conceptualization of empowerment and aimed at identifying the types of information and elements (see Table 1a) to include in a professional website aimed at enhancing empowerment, well-being

and reducing the risk of burnout of HD RNs. Data saturation was achieved (redundancy of information and no new information emerging) in the two focus groups.

Analysis. The treatment and analysis of data was performed manually as it allowed intimate knowledge of the data. Transcripts were thematically analyzed using Miles and Huberman's (2003) method which included the following steps: (a) data reduction (b) data display; and (c) conclusion and verification. A mixed mode analysis was used; codes were categorized in predetermined categories: SE and PE dimensions based on Laschinger, Finegan, Shamian, & Wilk (2001) conceptualization of empowerment (deductive) or new emerging themes (inductive). The thematic analysis was presented and discussed with the research committee and two members of the Advisory Team (one HD RN and one nursing educational team member) to strengthen the analysis, interpretation and conclusion (member checking). Then, the PI presented and discussed the results obtained from the focus group sessions with the remaining Advisory Team members.

Second Round - Focus Group

This round consisted of one focus group with a subset of three participants from the two previous focus groups. One week prior to the session, the PI sent (through a secured email) a summary of the thematic analysis from round one. The PI began the session with a short presentation on the thematic analysis for validation (member checking) and followed with examples of websites or web tools available to meet the specific needs of HD RNs. The session was facilitated by the PI and the discussions were free-flowing in order to further define and organize the information and elements

for the proposed website (see Table 1b). Following the session, the PI compiled, presented and discussed the results with her co-supervisors and two members of the Advisory Team (one HD RN and one nursing educational team member) to ensure the recommendations were representative of the HD RNs' specific needs (member checking).

Results

A total of seven HD RNs participated in the focus groups. They were aged between 22 and 56 years old, French speaking, ranged from novices to experts HD RNs (length of time working in HD varied from less than one year to 18 years), and worked in various types of French and English HD settings in the Montreal region. The participants were all clinical RNs and more than half had educational support duties (e.g., preceptorship). All were engaged in their respective workplace to advance nursing or were known for wanting to create positive changes. The themes that resulted from the discussions fit into SE and PE dimensions categories as conceptualized by Laschinger, Finegan, Shamian, & Wilk (2001) (opportunity, information, and support were the main themes of the discussion). Two additional themes also emerged: feelings of burnout among HD RNs and HD RNs' personal strategies for reducing work stress/burnout and enhancing well-being. Themes were classified into two main categories: proposed changes at the organizational level and benefits of having a professional website for HD RNs, as summarized below (see Table 3).

Feelings of Burnout Among HD RNs

HD RNs described their work as very technical. The care is complex, demanding and is intensifying especially with the increasing complexity of patient needs. RNs commented about feeling a constant pressure to perform, requiring fast thinking and actions, and creating high levels of stress. They reported that HD care is physically demanding and, for some RNs, too tiring. Interactions with patients and colleagues and lack of support from peers and managers were recognized as significant sources of stress leading to burnout. They mentioned that a workplace wellness approach should be considered.

HD RNs Personal Strategies for Reducing Work Stress/Risk of Burnout and Enchancing Well-being

HD RNs discussed the importance of having a good work-life balance and healthy lifestyles. They reported using some strategies both at work and outside work to reduce their stress and enhance their well-being. The most important strategy was social support, which was provided firstly by colleagues, then family and friends. Physical activities, relaxation techniques, yoga, self-reflection and social activities were also identified. They indicated that social activities with the nursing team would solidify team spirits and provide support and that a website would be handy to provide useful information to promote a healthy lifestyle, and could provide self-assessment tools and resources.

Opportunity

HD RNs divulged being very conscientious about delivering high quality care and the pressing need for opportunities in their workplace to update their knowledge and skills that are tailored to their specific needs and would benefit from including the interdisciplinary team. They explained that the website could give access to live or recorded conferences, symposia or seminar training, web simulations and exercises, tutorials, learning modules (with learning objectives and potentially a continuing education certification), slide presentations, scientific articles/theses with a scope in nephrology and an online journal club for HD RNs. They mentioned that all web resources must target RNs' needs but an interdisciplinary approach would be welcomed (i.e., contributions from physicians, pharmacists, nutritionists and social workers).

Information

HD RNs explained that information is essential in the workplace to perform work activities and that oftentimes, they are not knowledgeable about key information and new procedures. They feel that this situation impacts on the quality and safety of care as well as their feelings of empowerment. They recommended having a better communication system (visible bulletin boards on the units that are regularly updated or a dedicated intranet homepage for HD). They mentioned that team meetings are frequently cancelled and become sporadic. They recommended having regular team meetings to share information, discuss issues and promote shared governance or a more participative process in decision-making. They commented that a website for HD RNs would be valuable because all HD settings in Quebec could share: policies and

procedures, collective prescriptions, practice guidelines, tools and information for patients and new RNs, and useful web links. They indicated that a directory with an online bulletin board to create a community of practice would be useful.

Support

RNs reported that support is indispensable at work to address current challenges in HD. HD RNs are known to be a close circle of professionals who are usually very supportive. However, the participants revealed that some of their RN colleagues are more rigid and rough especially with new RNs who are not performing according to standards. They mentioned that managers should meet with these RNs and encourage them to self-reflect. They highlighted the need for a better preceptorship program to retain new RNs in HD and to improve skills of preceptors. They commented on the need for team meetings to discuss difficult care situations or ethical issues to de-dramatize situations. They indicated that these situations might require a facilitator to address issues to ensure a constructive outlook on situations and outcomes. RNs also stressed the importance of having a manager who is encouraging and gives recognition. They indicated that a professional website could provide useful tools for conflict management, problem solving and/or to provide support for colleagues. They mentioned that an online discussion forum would be favorable for HD RNs to share their lived-experience.

The PI presented and discussed the results with the Advisory Team who suggested some useful links to websites and training activities such as reflexive workshops. We originally anticipated presenting the recommendations for the creation of a future website for HD RNs to the Société québéçoise de Néphrologie (SQN). It was

further discussed and agreed with the Advisory Team to propose the recommendations to the Regroupement visant l'excellence de la pratique infirmière en néphrologie au Québec (REINQ) and collaborate with the SQN in order to gain community buy-in (HD RNs). Both professional organizations were contacted to present the project. Lastly, the PI met again with the Advisory Team to discuss the final report, which included four recommendations for website: target the needs of HD RNs, form an executive committee, develop a website ground rules and ensure easy website navigation (see Table 4). In early August 2017, the report was presented to the REINQ. They supported the recommendations and agreed to assist with the future development of a professional website.

Discussion

To our knowledge, this study is the first to propose the development of a professional website to address burnout among HD RNs. Focus group results support the findings from the online cross-sectional survey conducted in phase 1 of this research, indicating that a significant amount of burnout exists among HD RNs working in Quebec and empowerment is key in addressing the issue. For the current phase, our research team initially expected that in using a PAR approach, the focus group would illuminate nursing practice and engage RNs to discuss actions for their practice and health. More precisely, this action would come in the form of providing community-based recommendations (by checked-in with HD RNs) for the development of a future professional website to enhance empowerment and well-being and reduce the risk of burnout of HD RNs working in Quebec. We held this assumption on the basis that focus

groups usually provide a more comprehensive understanding of the problem under study and determine sustainable solutions (Ivanka, 2015; Mills 2011). However, the focus changed somewhat when the RNs also identified priorities to be addressed at the organizational level by suggesting structural and psychological strategies. The RNs were enthusiastic and clear about the many positive outcomes that a future website could have on their practice and well-being.

With a PAR approach, the researcher and facilitator must be knowledgeable about the community and sensitive to participants' issues (Gillis & Jackson, 2002). Argyris and Schön (1999) and Schwarz (2002) added that the facilitator must have deep reflective skills and be able to create a supportive environment for mutual learning. The PI, who was also the facilitator in this study, has extensive experience as a HD RN in Montreal and as a Nursing Practice Consultant reviewing work processes and practices and implementing organizational changes using participatory principles. Although the PI had no power of authority on the staff or conflict of interest, she did self-reflect on her mobilizing potential before undertaking the study. The goal of the PI was to give a voice to these HD RNs, share their stories and move forward to create strategies to enhance empowerment and well-being and reduce the risk of burnout within their nursing community. This goal was achieved; positive group synergy existed at each session and the RNs were able to articulate their thoughts and engage in proposing changes. It is important to note, however, that although these participants contributed fully, there was resistance from some managers when the PI was recruiting participants, minimizing the burnout problem.

At the end of the first round of focus group sessions, the PI asked participants about their experience. They described their experience as positive and that their participation provided an occasion to self-reflect on their work situation and well-being as well providing them with new insights into their practice. They felt empowered to participate in proposing recommendations for the development of a future website that represents an innovation to support their professional practice and promote their well-being. They mentioned that this research project was important to them and to the HD nursing community. Most of them volunteered to continue contributing to the development of the website if created. Following the focus group sessions, the PI sent an email to participants asking them to share their experience about the process. Three RNs reported:

« I appreciated my experience in participating in the focus groups. This allowed me to find out about the nursing realities in other HD facilities and it made me realize that we live the same work situations despite our different types of facilities - this shared experience taught me a lot.» (RN-1).

« It was empowering to discuss with other RNs in our specialty without judgment or pressure - to share our positive and negative experiences, to recognize the challenges and difficulties that are common to all - small focus groups facilitate communication and everyone could confide, propose solutions - we really felt the researcher's interest in helping us, we felt confident and well guided to allow us to self-reflect and express our opinion to create a clinical innovation.» (RN-2).

« I thoroughly enjoyed my experience - the small focus groups allowed us to feel the trust among each other to discuss difficult topics related to our work-life - I felt energized to be able to express my thoughts and opinions for the benefit of creating positive changes for the practice.» (RN-4).

Limitations

The primary limitation of this study is the small sample size. HD RNs have a very busy work schedule making it impossible to integrate the PAR activities within their work schedule. The focus groups were conducted during their days off (consensual decision among the potential participants) which may explain a lower attendance rate than expected. Despite the small sample size, the strength of this study was the group

synergy that generated rich data during the focus group sessions providing a clear and comprehensive perspective of HD RNs' needs and corroborated the findings of the earlier survey. Another limitation of this study is that the results were meant to recommend systemic changes and provide sustainable solutions for the HD RNs community in Quebec, which may be difficult to generalize beyond our population. However, our research further supports the usefulness of a PAR approach to address burnout of RNs and the benefits of using ICT to address the personal and professional needs of RNs..

Implications and Recommendations

The results of this study demonstrate the usefulness of Laschinger, Finegan, Shamian, & Wilk's (2001) conceptual framework to develop strategies to empower HD RNs to be efficient at work and address burnout and well-being. With this study, the most valuable lesson we learned about using a PAR approach that may guide future research is that to achieve empowerment of RNs in order to create a social change, we must have RNs and managers that are concerned about the problem and engaged at improving nursing practice and creating a supportive work environment. When RNs engage in examining their practice and worklife there is occasion to enhance awareness and learning, see new possibilities and contribute their efforts to solve a problem. At the micro level, managers must engage RNs to be more active in the decision-making that affects their work, the delivery of patients' care and their well-being. RN participants felt they had a voice that should be heard to make local structural changes and to establish wellness initiatives and that an institutional quality committee could be

beneficial. At the macro level, HD nursing managers would benefit from having a formal provincial committee that would promote the sharing of workplace concerns, resources and solution-making as well as obtaining support and transformative leadership training to empower staff. This was discussed and agreed among focus groups participants and presented to the Advisory Team who thought it was an excellent idea. Furthermore, for RN researchers-practitioners who are contemplating using a PAR approach, three main principles must be observed: (a) shared ownership of the project; (a) community-based analysis (collaborators examine the problem arising within the community); and (c) orientation towards a community action (participants willing to act upon findings) (Kemmis & McTaggart, 2000). The engagement of participants and group synergy must be promoted during the focus groups through open communication (focused on honesty and transparency principles), respect, trust, engagement, balance in power relations (ensuring everyone has the chance to speak equally), positive conflict resolution (frankly speak about disagreements and conflicts), and promotion of abilities and competencies that are stimulating and conducive to share lived experiences, situate the problem and find solutions (Lasker, Weiss, & Miller, 2001). Furthermore, since a PAR approach is conducted with those who are affected by the problem under study and oriented toward a meaningful action, it requires a high degree of reflexibility and flexibility (Bergold & Thomas, 2012).

Conclusion

Phase I of this study confirmed that burnout was a significant problem for HD RNs working in Quebec, that empowerment would be key to address it and highlighted

that a professional website would be an innovative way to achieve it. This current phase of the study developed recommendations for the creation of a future professional website to enhance HD RNs' empowerment, well-being and reduce their risk of burnout and highlighted important workplace changes that could be further developed with HD nursing care teams and with a provincial group of managers. Based on the results, the recommendations were well received and plans are to develop an actual website.

Having used a PAR approach, we are confident that this web-based intervention is promising for responding to the practice and health needs of HD RNs and ensuring its sustainability. PAR was a valuable approach to explore issues in the workplace of RNs and complex problems such as burnout and to develop systemic changes of practice and condition of worklife.

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Conflict of Interest

The authors declare that there is no conflict of interest regarding the publication of this paper or the conduct of this study.

Intellectual Property and Contributions

CD was responsible for study conceptualization and design, conducted the focus groups and wrote the final report for the REINQ. CD performed the data analysis and discussed results with the PhD co-supervisors (L.D-L, MM) and

Advisory Team members for this study and co-authors who specialize in empowerment (JS, MB) and participatory approach (JS). CD drafted the article and revisions were made in collaboration with the co-authors (CD, L.D-L, MM, JS, MB). All authors agreed with the final version that was sent for publication.

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Table 1a. Focus Groups Guide and Questions

First Round

Introduction

Brief presentation on the study concepts: burnout, empowerment (structural an psychological), well-being & significant results obtained from the survey.

Do you have any comments about the results?

Probe: results that did or did not surprise you?

Empowerment, Well-being, and Burnout

Now, I would like to ask you a few questions about empowerment, well-being, and burnout:

1. Have you ever been feeling disempowered at work... and why?
2.What are you currently doing or have done in the past to help support your own well-being at work?
3. What are you currently doing or have done in the past to help you feel more empowered at work?
4. What are you currently doing or have done in the past to help you reduce your risk of burnout due to work?

Website

*If there is a mention about the use of an on-line resource, then follow-up questions: what are the resources, how and where do you use them (at work or away from work), how did you learn about them, benefits from using them, challenges to use them? …

5. If a professional website was designed for hemodialysis nurses that provided you with resources to help with your well-being and empowerment and reduce burnout risk, what would you think of that idea? Probes: reasons why it is a good or poor idea?

*If the answer is that a website is a poor idea, then no point in pursuing this line of questions, except to probe more on the reasons why it is a poor idea and what other strategies might help improve well-being, empowerment, and reduce burnout risk.

*If the answer is that a website is a good idea, then you can continue with the website questions.

A. What information about well-being could be part of the website?
B. What information about empowerment could be part of the website?
C. What information on the website about burnout risk might be helpful to you?
D. What types of activities on the website might support your well-being and empowerment and help reduce burnout risk, such as chat rooms, etc.?
E. When do you think it would be appropriate to use such a website (at work or on your own time)?
F. What do you see as potential benefits of such as website (for you and in general for the HD community)?
G. What do you see as the main barriers or issues (to using it or other)?

Specific on Structural and Psychological Empowerment

A. What type of resources you would like to find on a website to support your continuing education or professional development needs?
B. What would be the type of information (themes/subjects that you think should be covered)?
C. What resources or activities could be available on a website to make you feel more supported?
D. What information or resources would you like to find on a website to help you do your job?
E. What resources could be included on a website to better respond to your patients' needs?
F. What opportunities could a website offer to increase your visibility and creativity?
G. What can be included in a website to increase your autonomy at work and your ability to make clinical decisions and feel competent?

Table 1b. Focus Groups Guide and Questions

Second Round
Introduction Brief presentation on the thematic analysis on the first round of focus groups and examples of websites or web tools available to meet the specific needs of hemodialysis nurses. There were few formal questions, however extensive discussion about website development occurred). 1. Who should be involved in analyzing updating the content? 2. Do you feel this website should provide a competency certificate following online self-learning activities? 3. How could this website be promoted?

Table 2. Characteristics of Focus Groups Participants

Characteristics	1	2	3	4	5	6	7
Years of Experience in Hemodialysis							
< 1							√
1-5	√						
6-10				√			
11-15		√	√		√		
16-20						√	
Type of Renal Unit							
University hospital center							√ E
Affiliated hospital		√ F		√ F	√ E	√ F	
Satellite	√ F		√ F				
E = English F = French							
Type of Nursing Role							
Clinical nurse	√	√	√	√	√	√	√
Educational support function		√	√	√		√	
Participants were all female nurses, able to speak, read and write in French and known for their engagement in their workplace							

Table 3a. Presentation of Thematic Analysis Results From the Focus Groups Participants

Categories SE / PE	Proposed Changes at the Organizational Level	Benefits of Having a Professional Website for HD RNs
Opportunity	*« Regular access to continuing education at work makes it possible to regain engagement and a sense of purpose in the work. We feel re-energized.» (RN-3);* *« Bi-annual meetings for continuing education with interdisciplinary team members would be helpful to update practices.» (RN-6)*	*« An online journal club, where everyone reads the same article trainings and conferences.»(RN-5) and log-in at a specific time to discuss the article would be great to share knowledge.» (RN-2);* *« An online journal club would encourage us to do our continuing education because we cannot always go to training and conferences.» (RN-5)*
Information	*«There is an overload of information on bulletin boards and we have a hard time finding the relevant and newest information. There is a need for a better internal communication system.» (RN-4); « It would be very convenient to have at work an intranet page dedicated for dialysis.» (RN-2)*	*«A website would facilitate the networking for nursing educational teams to standardize practice - because they all do their own literature review and the literature is limited.» (RN-4)*
Support	*« We perceive that managers know that our efforts are important but they do not talk about it, they are greedy of compliments and recognition of our actions » (RN-3); « Have support meetings to talk about our good deeds and give recognition» (RN-1)*	*« A website could provide access to information on effective communication between professionals and with patients.» (RN-6)*
Resources	*« Sometimes you start work and the careplan of a patient is disorganized with many objectives to reach and the other RN who takes over will not be able to achieve them. It's frustrating because you know you will arrive the next day and it will be the same.»(RN-1); «Team stability in patients plays a decisive role in the empowerment of RNs.» (RN-3)*	*« A website could give tips on time management.» (RN-6)*
Formal Power	*« Have a Clinical Quality of Care Committee with clear guidelines and objectives - We would like to participate to make changes to improve the care.» (RN-4);* *« A board in the HD to write proposals to develop the practices: staff RNs work on a protocol supported by a nursing counselor and the manager.» (RN-6)*	----------
Informal Power	*« Other professionals in our team also face difficult situations - it would be nice to invite them sometimes to our meetings to share their experience.» (RN-1)*	*« a website could be used for announcements of conferences, social events, fundraising or other events.» (RN-7)*
Meaning	*«In order to increase the meaning in the work, we need qualified people in empowerment to support managers and nursing counselors in identifying empowering strategies for employees.» (RN-3)*	----------
Competence	*« I like the idea of team meetings and talking about a complex case and do a debriefing - where each RN gives her opinion on how she would have proceeded.» (RN-2)*	*« Contributing to the website would improve our sense of competence.» (RN-2)*
Self-determination	*« Having training to help patients become autonomous in their care and empowered with their illness - will necessarily help us with our professional autonomy and empowerment as a RN.»(RN-3)*	*« With the website, we would have easier access to collective prescriptions, rules of care, policies and procedures that will make us more autonomous in our practice.» (RN-2)*
Impact	*«It is surprising how much RNs are interested in participating when they are asked - if there is no attempt to solicit them, than they disengage from work.» (RN-3)*	*« With a website, we would think about proposing innovations for the practice.» (RN-3)*

Table 3b. Presentation of Thematic Analysis Results From the Focus Groups Participants

Emerging Themes	Feeling Burnout Among HD RNs	HD RNs Personal Strategies for Reducing Work Stress/ Risk of Burnout and Enhancing Well-being
	« *Last time I was obliged to work overtime, I was more tired, I felt less patient with my colleagues and the patients. I said things I regretted and felt guilty*.» (RN-2); « *We feel like just letting ourselves be carried by the wave, we do not take initiatives or make any more efforts. We focus only on our work tasks, we are reluctant to change*.» (RN-1) **Proposed changes at the Organizational Level** «*We do not have workplace wellness conception - RNs are not asked how they are doing – it should be considered*.» (RN-3)	« Talk about work situations and issues with colleagues in HD, take part in group activities at work on lunch break, do yoga and see friends.» (RN-7) «*Talk about work situations with colleagues, see friends and do sports.*» (RN-3) (RN-5) **Proposed Changes at the Organizational Level** « *Outings to do group activities with colleagues would be good to reduce stress and solidify the RNs team.» (RN-7)* **Benefits of Having a Professional Website for HD RNs** « *A website would be a good idea to have self-assessment and resources to promote healthy lifestyle, exercises to self-reflect*.» (RN-6)

Table 4. Final Recommendations for the Development of a Future Website for HD RNs

Recommendation #1	To develop a professional website targeting the professional needs of the hemodialysis nurses community in Quebec. ***Rationale and Benefits (perceived by the participants):*** - Provide easy access to resources relevant to nurses and be available at any time - Promote standardization of care across Quebec - Promote sharing of expertise - Provide opportunities for professional development and continuing education (perform these activities at convenient times) - Promote clinical innovation - Provide peer support and information to optimize wellness and reduce job stress and burnout - Facilitate communication between RNs who work varied schedules Overall provide a general sense of empowerment at work
Recommendation #2	To create an executive committee to overview and update the content of the Website. This committee should be composed of: two hemodialysis nurses, one nursing practice consultant, one nurse practioner, one nursing counselor, two nursing managers, one member of the executive of the REINQ, one physician (member of the SQN), one dietician, one pharmacist. The members should meet at least once every two months and the membership should be renewed yearly. The committee should designate two members as site managers. ***Rationale and Bbenefits (perceived by participants):*** - Ensure the content is evidenced-based and updated
Recommendation #3	Develop written ground rules for online discussions and have a moderator (for any forums that are created). The committee should designate a member or someone external. ***Rationale and Benefits (perceived by participants):*** - Ensure that discussions are professional and courteous
Recommendation #4	The potential professional website should be user-friendly and easy to navigate to all nurses and comprise the following five main tabs: - Continuing education: documentation (e.g., vascular access, nutrition for patients, comorbidity in hemodialysis, diabetes and heart failure) and online continuing education (e.g., video, case studies, live or past web conferences, seminars, symposia and web tools for patients, online reading club, research and publications, bulletin board event to announce learning activities) - Information for practice (e.g., news and clinical innovation, glossary, best practice including policies and procedures, guidelines, collective prescriptions, nursing rules, health and safety, infection control, vaccination and resources for nurses and patients) with a forum for discussion - Healthy lifestyle habits (e.g., information on improving nutrition, exercise, relaxation and sleep, reducing stress and strategies to adapt, promoting a better work-life balance as well as self-assessment tools and links to employee and family assistance programs and other resources) - Networking (e.g., social activities, training activities, general announcement board and fundraising activities) - Contact information (e.g., emails, phone numbers of managers and clinical support teams) Each tab would have their own subtabs and specific information and element
	All focus group participants agreed to the above recommendations

CONCLUDING CHAPTER

The purpose of this research was to explore HD RNs' burnout and empowerment. The main objectives of this study were: 1. To assess the risk of burnout in Quebec RNs working in HD; 2. To evaluate the structural and psychological empowerment indicators of these RNs; 3. To explore the association (s) between burnout and empowerment; and 4. To generate community-based recommendations for the development of a professional website to increase their empowerment and reduce their risk of burnout. The final chapter includes a summary of research and discussion, the diffusion plan of research results, the implications and recommendations for RNs, nursing education, the practice and research and the conclusion.

Summary of Research and Discussion

This dissertation includes three manuscripts that build on each other, highlighting the findings from this research. The first manuscript consisted of a literature review that provided a critical examination of the main research themes and support for the design and methods selected for this research. This review explored the existing evidence on burnout among RNs working in HD, current interventions used to address burnout and the relationships between empowerment and burnout of RNs. Despite the fact that research in HD is very limited, evidence has identified that burnout appears to be unacceptably high in this specialty, especially in North America (Flynn, Thomas-Hawkins, & Clarke, 2009; Harwood, Ridley, Wilson, & Laschinger, 2010a; O'Brien, 2011) and Australia (Hayes, Douglas, & Bonner, 2015). This manuscript

highlighted the main sources of stress in HD conducive to nursing burnout including: (a) patient-based; (b) work role; (c) working conditions; (d) interprofessional collaboration (Bohmert, Kuhnert & Nienhaus, 2011; Hayes & Bonner, 2010); (e) patient abuse and violence against RNs (Hayes & Bonner, 2010); and (f) lack of access to continuing education opportunities and support (Hayes & Bonner, 2010). In terms of individual determinants of burnout for HD RNs, age and seniority in HD and education were the most significant. Findings, however, were somewhat inconsistent throughout the research. While some studies found that younger and novice RNs in HD were prone to burnout because of their inability to cope with the challenges of the practice, other studies reported that older and more experienced RNs in HD were susceptible to burnout due to inability to maintain the pace of work. Some research found that less educated HD RNs exhibit low risk of burnout compared to other studies that revealed highly educated HD RNs were at elevated risk for burnout. A study from North America found that excessive nursing workload, unsupportive work environment and impaired care processes due to lack of time were the main organizational determinants of burnout in HD (Flynn et al., 2009). Furthermore, research identified numerous negative impacts of burnout on both the individual and the organization (Maslach, 2003). RNs may experience the following physical symptoms: fatigue, lack of energy, sleep disorders, migraines, gastrointestinal disorders, musculoskeletal symptoms, cardiac symptoms (e.g., hypertension) and respiratory symptoms (e.g., episodes of flu/cold) (Maslach, 2003; Leiter & Maslach, 2000). At the psychological level, symptoms may include: sadness, detachment, isolation, irritability, frequent

anxiety, inability to concentrate, inability to adapt to situations, take initiatives or recognize personal accomplishments (Maslach, 2003). Socially, burnout can manifest itself in altered communication, generating conflicts among RNs and their family members, friends, colleagues and patients (Maslach, 2003). At the organization level, burnout of RNs can affect the quality of care and patient safety (Leiter & Laschinger, 2006; Van Bogaert et al. 2014) as well as patient satisfaction with their care (Argentero, Dell'Olivo, & Ferretti, 2008; Vahey, Aiken, Sloane, Clarke, & Vargas, 2004). In addition, burnout can increase RNs' dissatisfaction (Khamisa, Peltzer, Ilic, & Oldenburg, 2016) and disengagement (Schaufeli, Salanova, González-romá, & Bakker, 2002) with work, reduce RNs' work performance (Parker & Kulik, 1995), increase their absenteeism (Davey, Cummings, Newburn-Cook, & Lo, 2009) and intention to leave their job (Heinen et al., 2013). Given the serious implications of burnout, the issue needs to be addressed.

According to the literature, there are two types of burnout interventions. One focused on the employees and includes measures attempting to increase psychological resources and enhance their ability to cope with work stressors. The second focused on the work environment and include measures intended to change the work context and reduce sources of stress (Maslach, Schaufeli, & Leiter, 2001). Results of this literature review indicated that combined (individual-organizational) interventions may have long-term positive impacts on burnout reduction for RNs (Awa, Plaumann, & Walter, 2010). Researchers have identified empowerment as a strategy of choice to reduce occupational stress and burnout of RNs because it targets the individual and the organization

(Laschinger, Finegan, & Shamian, 2001a; Laschinger, Finegan, Shamian, & Wilk, 2001b). Structural empowerment (Hatcher & Laschinger, 1996; Laschinger, Finegan, Shamian, & Wilk, 2003) and psychological empowerment (Boudrias, Morin, & Brodeur, 2012; Hochwalder, 2007) are desired conditions to increase well-being and reduce burnout of RNs. According to Kanter (1977, 1993), an empowered environment provides an antidote to the unfavorable nursing environment that leads to burnout (Laschinger et al., 2003). Hochwalder (2007) added that an improved work environment enhances RNs' sense of empowerment, which in turn reduces their risk of burnout. Furthermore, managers may play a pivotal role in creating empowering conditions within the workplace for RNs, thereby improving their person-job fit resulting in better work engagement and reduced risk of burnout (Greco, Laschinger, & Wong, 2006). While limited, evidence suggests that structural empowerment is associated with lower levels of burnout among HD RNs (Harwood, Ridley, Wilson, & Laschinger, 2010b; Hayes, Douglas & Bonner, 2014; O'Brien 2011) and higher work satisfaction (Hayes et al., 2014). According to Manojlovich (2007) strategies to empower RNs are based on three elements: a workplace that has the structures required to enhance empowerment, optimizing the psychological belief in one's ability to be empowered, and the recognition that there is power to act in the relationships and caring that RNs provide. This manuscript highlighted that burnout is an emerging health and wellness issue for RNs working in HD and that empowerment may be a key ingredient to address their risk of burnout. Up to now, most nursing researchers have relied on Laschinger et al.'s (2001b) conceptualization of empowerment to obtain a thorough understanding on RNs

empowerment and burnout and to propose strategies to empower their workplaces, substantiating the value of this framework to address burnout. Currently, there is a gap in interventions to address burnout and a web-based intervention, such as a professional website, appears to be an innovative tool to empower HD RNs and reduce their risk of burnout by supporting their individual needs and nursing practice.

The second manuscript provided findings from phase 1 of this study: a survey assessing burnout and empowerment among HD RNs working in the province of Quebec. While limited, evidence suggested that burnout is highly prevalent among HD RNs in North America and empowerment emerges as a positive strategy to address this issue. The aim of this first phase of study was to assess the risk of burnout for Quebec RNs working in HD, the structural and psychological empowerment indicators of these RNs, and association(s) between burnout and empowerment. Findings from this survey indicated that burnout is a significant problem among HD RNs in Quebec; 38% of RNs surveyed had high levels of emotional exhaustion and 21% had moderate levels, while 22% had high levels of depersonalization and 33% had low levels of personal accomplishment. The following determinants of burnout among HD RNs working in Quebec were identified: (1) age and seniority in HD; increasing age and seniority in HD were associated with higher levels of personal accomplishment; (2) employment status; being employed full time was associated with higher levels of personal accomplishment; (3) marital status; being single, separated, divorced and widowed were associated with higher levels of depersonalization and lower levels of personal accomplishment; (4) children; having children was associated with higher levels of emotional exhaustion

and depersonalization; and (5) workload; increasing RN-patient ratios demonstrated a trend towards increased emotional exhaustion and depersonalization levels. Results also identified that wellness at work characteristics in HD such as satisfaction, engagement and well-being were protective factors in all three dimensions of burnout. Intention to leave the job or the profession was found to be associated with burnout risk of HD RNs.

Results indicated that two thirds of the HD RNs surveyed in this study rated their work settings as moderately empowering, while two thirds reported feeling moderately empowered at work. Notably, structural empowerment and psychological empowerment were both significantly negatively associated with emotional exhaustion and depersonalization and positively associated with personal accomplishment. In addition, both structural empowerment and psychological empowerment were found to increase HD RNs' satisfaction, engagement and well-being at work. These findings supports the need for managers to develop and implement workplace empowerment strategies to reduce the risk of burnout among HD RNs. Findings, however, revealed that all indicators of structural empowerment and psychological empowerment were suboptimal among participants, indicating that structural empowerment and psychological empowerment dimensions need to be targeted in workplace interventions. Furthermore, results identified that HD RNs were in favor of using a professional website as an innovative way to promote empowerment and well-being, thereby reducing the risk of burnout of the HD nursing community. This manuscript identified evidence demonstrating that burnout is an important issue among RNs working in HD settings in Quebec and that empowerment strategies would be critical for these RNs to reduce their

risk of burnout. It exposed some modifiable and non-modifiable burnout risk factors for these HD RNs. As the workload is a modifiable risk factor, it warrants greater attention. Our study provided the first data specific to HD RNs in Quebec to inform managers and decision-makers to improve HD settings. Furthermore, this study presented key dimensions of empowerment that we identified based on Laschinger's et al. (2001b) conceptualization of empowerment to be addressed with a professional website designed for HD RNs.

The third manuscript provided findings from phase 2 of this study: a rationale for introducing a professional website to enhance empowerment and reduce the risk of burnout among HD RNs, and discussed the relevance of using a PAR approach to support nursing practice and address burnout. The goal of this second phase of study was to identify the contributions a potential website could make, including key information and elements required to address HD RNs' specific needs. This study was guided by Laschinger and colleagues' (2001b) conceptualization of empowerment and used a series of focus groups with HD RNs and support of an Advisory Team. Most participants viewed the Internet as a promising tool to support their practice, health and well-being. Based on their suggestions, recommendations were generated for the development of a future professional website to enhance empowerment and well-being of the HD nursing community in Quebec, thereby reducing their risk for burnout. The HD RNs voiced their experiences about feeling burned out at work and discussed strategies at work and outside currently taken or that could be taken to prevent burnout. Srategies used by these HD RNs included: talking about work situations and issues with

colleagues in HD, taking part in group activities at work, spending time with friends and family and doing recreational activities, sports and yoga and relaxation techniques. They also talked about positive changes that could be implemented within their organizations based on structural and psychological strategies which included: providing opportunities for continuing education within the workplace; establishing a better communication system; scheduling regular team meetings to provide information and shared decision-making to optimize care delivery and support HD RNs; establishing a better orientation program and preceptorship for new HD RNs; providing opportunities for RNs to get involved in the development of their practice; and promoting healthy relationships at work with colleagues. These RNs expressed that they would welcome the opportunity at work to be more involved in the decisions influencing their practice and patient care. Furthermore, a strategy proposed was the creation of a formal provincial committee for HD managers to promote the sharing of workplace concerns, resources and solutions, as well as obtaining transformative leadership training to help support and empower staff. This study demonstrated the value of using a PAR approach within the workplace of HD RNs to address their nursing practice and health problems and demonstrated the relevance of using a PAR approach for the development of future websites. This is the first study to have used a PAR approach with HD RNs and Laschinger et al.' (2001b) conceptualization of empowerment to develop an intervention to empower RNs and reduce burnout. This manuscript presented the focus groups activities, which confirmed results obtained from the survey and the literature review and allowed further examination of burnout and empowerment of HD RNs, then

generated recommendations from these RNs based on Laschinger et al.'s (2001b) conceptualization of empowerment to inform the development of a relevant and useful professional website for HD RNs in Quebec to promote their empowerment and reduce their risk of burnout as well as strategies to implement in workplaces.

Diffusion Plan

The three written manuscripts were submitted to the CANNT Journal, the official publication of the *Canadian Association of Nephrology Nurses and Technologists*. The CANNT Journal is a Canadian peer-reviewed publication recognized and listed in the International Nursing Index, MEDLINE, and the Cumulative Index to Nursing and Allied Health Literature. This journal targets nephrology RNs, educators, nursing practice consultants, nurse practitioners, administrators and researchers. As a result of this research, and with the encouragement of the Avisory Team, I was invited to present to the yearly conferences of the *Regroupement visant l'Excellence de la pratique Infirmière en Néphrologie au Québec* (REINQ) and the *Société québécoise de néphrologie* (SQN). In addition, I was invited to present to the *Canadian Association of Nephrology Nurses and Technologists* (CANNT) conference, to be held in Quebec city in 2018. Additional professional (e.g., videoconferencing presentations with HD centers RNs and managers) and research presentations are planned at the annual congress of the Ordre des infirmières et infirmiers du Québec (OIIQ) and the world congress of the *Secrétariat international des infirmières et infirmiers de l'espace francophone* (SIDIIEF) to share the findings of this research with nursing populations.

Vigilance in Research Activities

Numerous steps were taken to ensure vigilance in my research activities and the achievement of high quality of the research. Lincoln and Guba (1985) established four objectives demonstrating the achievement of scientific adequacy with research: 1. How truthful are the findings of the study?; 2. How applicable are these findings to other settings, groups or people?; 3. How can the PI ensure replication of the findings (same people in the same context)?; 4. How can the PI guarantee that the findings are reflective of the subjects and the inquiry itself (ensuring that the findings are not reflective of the PI's perspective or the result of research biases)?. The credibility (accuracy of the description regarding the problem investigated; phenomenon and concepts) and confirmability/objectivity (ensuring that if the study is replicated it will provide the same results) of the research were ensured with the use of the online survey, that described the burnout and empowerment of HD RNs (reaching a large amount of the population under study), and collaboration with HD RNs that identified the types of information and elements to include in a future website to empower, enhance the well-being and reduce the risk of burnout of their own community. The PI confirmed the dependability of data (trackability of the research steps throughout the research project reflecting changes in the data over time and conditions) by providing an audit trail (Appendix-T). Trustworthiness of data was validated with the use of member checking with the Advisory Team members at different stages of the study and the use of a self-reflective journal throughout the study (Appendix-T) presents a summary of the PI's self-reflective journal). In terms of transferability, our research provides a process for

developing a professional website and supports the value of using a PAR approach to explore the workplace context of RNs and complex problems such as burnout and to develop strategies to enhance practice and condition of worklife (Gillis & Jackson, 2002; Lincoln & Guba, 1985).

Research Implications and Recommendations for RNs and Practice

This research has implications for RNs and nursing practice. Since burnout represents an important health and wellness issue that develops from individual and organizational factors, approaches targeted at RNs and health organizations will be important to address this issue. Based on our findings and evidence, we developed seven main recommendations that are presented with the rationale and additional recommendations to facilitate the achievement of the main recommendations. Recommendations proposed for RNs aim to promote their empowerment to self-care in order to increase their health, well-being and reduce risk of burnout. Recommendations proposed for workplaces aim to promote HD RNs' control over their practice and well-being and reduce their risk of burnout.

Implications for RNs

The results of this study have several implications for HD RNs, providing a basis for reflection, self-knowledge and critical thinking about their practice, well-being and health. RNs are at increased risk of suffering from burnout because they are exposed to highly stressful work environments (Maslach, 2003). Tolerance to stress can differ from one individual to another. In the same work context, some people manage to cope with

stressful situations, while others are more vulnerable to stress and experience burnout (Gustafsson, Norberg, Strandberg, 2008). Furthermore, since burnout is a process including three key dimensions that typically starts with emotional exhaustion, which triggers depersonalization and leads to reduced personal accomplishment, it can be preventable (Maslach, 2003). Therefore, it is essential that HD RNs understand the burnout experience within their nursing specialty, be aware of workplace stressors and be able to detect signs of stress and burnout and take preventive actions to better cope with work stress.

Recommendations for RNs

Recommendations # 1: HD RNs to adopt Self-care to address their health and wellness. According to Maslach & Leiter (2016) the primary focus of burnout are usually on individuals to better cope with stress. We recommend that HD RNs protect themselves against burnout by being knowledgeable about healthy lifestyle strategies and introduce them in their life as self-care in order to reduce levels of stress and risk of burnout such as: healthy eating, regular exercise, relaxation, proper sleep habits, having a balanced social and family life with leisure activities. HD RNs should perform self-assessments routinely, be capable of recognizing their personal limits and seek appropriate resources. At work, HD RNs need to work collaboratively within the team and prioritize work, avoid skipping meals, and take short breaks to counteract stressful situations and use relaxation techniques as well as developing their coping skills (e.g., cognitive restructuring, conflict management, time management). Strategies targeting individual changes fail when individual's behaviors do not match his or her health

beliefs (Gross, 2012). Health beliefs are opinions or convictions firmly held about how to attain, maintain or regain good health and to prevent illness. Health education and awareness enhance health belief and behaviors adoption or changes by informing health beliefs with best available evidence (Gross, 2012).

Implications for Nursing Practice

The aim of the first phase of study was to address the absence of research evidence on the severity of the burnout situation and the empowerment status of HD RNs in Quebec, and their association(s), in order to inform HD managers, educational team members, and decision-makers on this important workplace concern that is burnout and to identify targets for improving HD RNs empowerment thereby reducing their risk of burnout. We have done so by obtaining results through our survey that revealed that HD RNs in Quebec are confronted with high levels of burnout risk similar to other HD RNs in North America (Harwood et al., 2010a; O'Brien, 2011; Ridley, Wilson, Harwood, & Laschinger, 2009) and that structural and psychological empowerment were significantly related to burnout risk, therefore should be enhanced. The aim of the second phase of study was to generate community-based recommendations for the development of a professional website for HD RNs to increase their empowerment and reduce their risk of burnout because it appears to be a promising vehicle to address practice and health needs of RNs. Typically, professional websites are designed independently of users' input resulting in websites that are irrelevant and poorly used. The Canadian Nurses Association (2006) calls for the integration of RNs in the selection, design and implementation process to address this issue. In this sense, by

having direct consultation with HD RNs our findings identify the specific types of information and elements required for a future website that would be relevant and practical for their community to promote their empowerment and well-being, thereby reducing their risk of burnout.

Recommendations for Nursing Practice

Our findings provide several recommendations for nursing practice. It is apparent that changes are needed in the HD settings to empower HD RNs and reduce their risk of burnout, which will influence the quality of patient care. In Quebec, nursing leadership in the HD settings is composed of nursing managers (i.e., program managers, head nurses and assistant head nurses) and educational team members (i.e., nursing practice consultant, nurse practitioners and educators), therefore, our recommendations for the practice involve both HD nursing managers and educational team members as well as Health Services Department and Infection Prevention and Control Department.

Recommendations # 2: Educate and Support HD Nursing Managers and Educational Team Members to Promote Empowerment and Combat Burnout Among HD RNs. In order to reduce the risk of burnout among HD RNs, nursing managers and educational team members need to be conscious and well-informed about the burnout issue, its causes, how to prevent it, and be engaged in implementing strategies to address it. Jordan, Khubchandani, & Wiblishauser (2016) identified that currently, healthcare managers have a lack of understanding of nursing burnout. Regan and Rodriguez (2011) indicated that nursing managers should be better informed about developing and implementing empowering strategies because they play a pivotal role in

empowering their staff and creating positive work environments. We recommend the creation of a provincial committee composed of HD nursing managers and educational team members to support each other, discuss practice concerns and solution, as well as sharing resources, ways of doing and obtaining leadership training to empower staff (e.g., workshops on effective communication and how to enhance staff collaboration, motivation, empowerment self-awarness and self-reflective process). Research indicates that leaders have increased responsibilities with larger spans of control, therefore they must be supported and provided resources that will lead to their own empowerment and increased capacity to empower their staff (Greco et al., 2006). There are two leadership styles that may be taught to leaders (i.e., nursing managers and educational team members) that are known to positively influence nursing teams.

According to Avolio & Gardner (2005), a good leader is authentic and leads by example, demonstrates transparency and fairness in decision-making as well as being supportive and invested in creating positive work environment that promotes health, empowerment and well-being for his or her employees. Avolio & Gardner (2005) maintains that an authentic leader is a leader that is true to oneself instead of conforming to expectations of others, he or she is motivated by personal convictions and values rather than by gaining a status, honors or personal benefits and is guided by self-awareness and self-reflective process and strong ethic.

The literature emphasize the importance of having strong transformational leadership at all levels to support RNs' empowerment (Choi, Goh, Adam, & Tan, 2016), decrease work stress (Diebig, Bormann, & Rowold, 2017) and burnout (Morsiani,

Bagnasco, & Sasso, 2016). A fundamental goal of transformational leadership is for the leaders and their followers (e.g., RNs, licensed practical nurses) to discover meaning and purpose in their work and grow to have a sense of collective identity (Smith, 2011; Burns, 1978). A transformational leader is sensitive, determined and has the ability to convey the organization's vision, to inspire and motivate followers, he or she is able to recognize the areas where changes are required and encourages, guides and engages followers in making these changes (Smith, 2011), optimizes person-job fit (Hong, Zen, & Higgs, 2017), and increases self-efficacy (Fitzgerald & Schutte, 2010). Four characteristics are requisite for good transformational leadership that include being an effective communicator (i.e., communication that is adapted to individual person's ability to process and understand situations, empathic, respectful and that leaves room for everyone opinions), possessing inspirational traits (i.e., display an optimism outlook on situations, passion for work, charisma, honesty and respect which lead to followers confidence and trust), having a trustworthy character (i.e., trust results from leader integrity and consistency in discourse and actions which is essential to maintain positive work relationships and meet the challenge of practice), and promoting teamwork (i.e., leader engages the followers and fosters their collaboration to achieve goals) (Smith, 2011).

Recommendations # 3: Promote a Culture of Health Promotion, Wellness and Structural and Psychological Empowerment. Khamisa, Oldenburg, Peltzer, and Ilic (2015) contend that there is evidence that a culture of health promotion and disease prevention in the workplace improves the health and wellness of RNs. Furthermore, the

Registered Nurses' Association of Ontario RNAO (2008) has developed best-practice guidelines to create an organizational culture that focuses on health, wellness and safety. They mentioned that many aspects of the RNs' practice environment (i.e., biological, chemical, physical and psychological hazards) place them at high risk for burnout and that up to now, psychological health has received less attention than physical health and both should be addressed. Creating a psychologically safe working environment for RNs should be focused on work-related stress, burnout, job satisfaction and professional autonomy and include aspects of empowerment. In addition, it is well-known that HD care includes a variety of stressors for staff associated with health and safety hazard (e.g., bloodborne infectious diseases, malfunction of HD equipment and machine) (Chenoweth, 2013; Karkar, Dammang, & Bouhaha, 2015). We first recommend that HD managers engage RNs in the identification process of organizational stressors, decisions and measures taken to address work-related issues, decrease stress and prevent burnout. We further recommend that leaders collaborate with health services and infection disease services to develop safety guidelines specific to HD care and supply ongoing in-service education to HD staff to create a safe work environment, provide support and motivate RNs' to self-care activities, and enhance healthy coping skills to manage stressful situations and offer access to employees assistance program.

Recommendations # 4: Managers to Empower HD RNs in their Work Settings. Empowerment for RNs is having control over their practice (Page 2004). Research has demonstrated that empowered HD RNs lead to reduced risk of burnout (Harwood et al. 2010b; Hayes et al., 2015; O'Brien, 2011). Greco et al. (2006) found

that Canadian nursing managers who implemented empowering structures within their workplaces enhanced the sense of person-job fit of RNs, which is conducive to a better work engagement and lower risk of burnout. Boudrias, Morin, and Brodeur (2012) and Hochwalder (2007) demonstrated that staff RNs who presented high perceptions of PE (feeling empowered) at work were less likely to suffer from burnout. Thus, we recommend that HD managers play an essential part in RNs' empowerment and should implement empowering strategies in HD settings. HD managers can increase RNs empowerment by supplying information necessary for RNs to do their work (have better communication system such as bulletin board on units or an intranet page dedicated for HD) and involve them in making decisions that have an impact on their clinical practice and patient care. RNs workload needs to be continuously monitored with clear tasks and responsibilities provided, as well sa findings innovative ways of doing things that promote RN-Licensed practical nurses interprofessional collaboration. Regular team meetings should be scheduled to discuss work issues, give support and encourage social activities to foster positive work relationships. In addition, HD managers could form an informal discussion groups for HD staff to provide social support, where HD RNs can share experiences, feelings, opinions, information and coping strategies. HD Managers may also meet RN's individually to give feedback, guidance and performance appraisals. Value and recognition are indispensable for RNs' work productivity, satisfaction and retention, therefore managers need to provide opportunities for RNs to be visible within the organization and develop or contribute to innovation for the practice. They need to encourage, supply or facilitate professional development opportunities of HD RNs

because they increase their knowledge and competency and enhance their autonomy. HD managers may invite qualified professionals (e.g., organizational psychologist) to support nursing team in identifying and implementing empowerment strategies and increase employees' sense of competency and personal accomplisment in their work. HD managers may organize in collaboration with the educational team members self-reflective sessions to improve critical thinking on complex cases or ethical issues and increase their sense of competency. HD managers may invite HD RNs to participate in the development of resources or tools for nursing practice or offer them the opportunity to develop in-services for patients to be adjusted to their disease and compliant to their therapeutic regimen, which would increase HD RNs sense of competency and professional autonomy.

Recommendations # 5: Increase Educational Teams Ability to Empower HD RNs in their Practice and Provide Opportunities to Update Knowledge and Skills. According to Marshall (2016), the Institute of Medicine expects by 2020 that ninety percent (90%) of clinical decisions in healthcare will be supported by accurate, timely, and current clinical information, and will reflect the best available evidence. Marshall (2016) further reported that the International Council of Nurses agreed that, being in an era of knowledge-driven healthcare with evidence-based practice, RNs have a professional obligation to dispense the best care possible, that is constantly reviewed, researched and validated. Educational team members act as leaders, experts, facilitators, mentors and change agents, with the ultimate goal to empower clinical RNs to deliver high-quality care according to evidence-based practice (Gordon, Lorilla, & Lehman,

2012). One of the core competencies of these expert RNs is to optimize nursing practice by providing scientific knowledge to clinical staff and help them mantain skills to meet expected outcomes (Gordon et al., 2012). These expert RNs are essential in a healthcare system to support staff in their mission. However, in Quebec these positions are currently limited or non-existent in many HD centers. Therefore, we recommend that managers promote and develop the role of the members of the education team as they represent valuable resources in HD for RNs to face the challenges in this specialized area of care, which will have an important impact on their competencies and the care delivery. Educational team members could support HD nursing managers in group discussions with HD RNs, to facilitate critical thinking, encourage discussions about ethical issues, encourage clinical innovation, provide educational sessions and develop practice resources and tools.

Recommendations # 6: Create a Quality Improvement Committee in HD to empower HD RNs. HD RNs are working in complex, highly stressful work environments that are technology-driven and are constantly expanding and changing. Thus, HD RNs are required to maintain their knowledge and skills up to date. Another measure we recommend to empower HD RNs is the creation of a quality improvement committee allowing HD RNs to voice their perspectives regarding patient care and their practice and engage them in changes related to processes and their work environment. This committee should consist of HD RNs, educational team members and HD nursing managers and promote interprofessional collaboration. The mission of this committee should be focused on improving the working conditions, including safe work culture and

the development of institutional policies and procedures, collective prescriptions, practice guidelines and protocols to support the HD nursing practice, providing resources and continuing education activities and developing suitable preceptorship and mentorship programs for new RNs ensuring that they adapt well to their work role in HD and remain. Rathert, Ishqaidef, and May (2009) recognized that clinical staff perceptions about their work environment and their involvement in decision-making regarding patient care as well as with the development of clinical guidelines to support the practice are essential elements in quality improvement efforts and lead to their empowerment to optimize patient safety and quality of care. Ulrich and Kear (2014) performed a safety assessment of nephrology care settings and discovered that RNs felt they worked in a rushed environment, resulting in incomplete work, missed medications, poor infection control compliance, and a lack of communication between team members. Ulrich and Kear (2015) agreed that a quality improvement committee involving staff RNs and focused on interprofessional collaboration provides a means to open the lines of communication to discuss a culture of safety and to change work behavior patterns.

Recommendations # 7: Develop a Professional Website for HD RNs in Quebec to Enhance their Empowerment and Reduce their Risk of Burnout. There is a growing body of literature suggesting a combined approach to burnout prevention is needed that comprises strategies targeting both the individual and organization needs (Awa & al., 2010; Mimura & Griffiths, 2003). Strategies responding to the individual needs include elements to increase the ability to cope with work-related stress and well-

being such as relaxation techniques, meditation, massage, music therapy, and cognitive behavioral training. While organizational strategies target the workplace to create a change in the system and may include structural changes, providing social support and supplying practical continuing education resources (Leiter & Maslach, 2000; Maslach et al., 2001). Evidence suggests that ICT approaches can optimize health of RNs and support their professional practice (Jackson et al., 2014). In regard to individual-focused interventions, some promising ICTs were developed to provide online CBT exercises such as problem-solving and stress management exercices to better cope with stress and prevent burnout (Cuijpers, van Straten, & Andersson, 2008); CBT is effective for RNs to manage work stress contributing to burnout (Brunero, Cowan, & Fairbrother, 2008; Mimura & Griffith, 2003; Shariatkhah, Farajzadeh, & Khazaee, 2017). Other ICTs were designed to provide information targeting the adoption of healthy living, health promotion and wellness (Jackson et al., 2014; Lefebvre & Bornkessel, 2013; Silversides, 2012). Concerning organization-focused interventions, ICTs approaches were developed to offer social support and networking for RNs using for example chat room, blogs, bulletin board (Dietrich, 2000; Lefebvre & Bornkessel, 2013; Silversides, 2012; Ventola, 2014). Social support is considered a common strategy in nursing to cope with job stress and reduce risk of burnout among RNs working in general practice, critical care areas, and long-term care is social support, which may be provided through different means (Bourbonnais, Comeau, & Vezina, 1999; Li, Ruan, & Yuan, 2015; Woodhead, Northrop, & Edelstein, 2016). Others ICTs were designed to provide professional support, giving access to clinical practice guidelines (Ventola, 2014),

continuing education tools and resources such as webinars, interactive exercices, online courses, and professional advancement opportunities (Bernhardt, Chaney, Chaney, & Hall, 2013; Du et al., 2013; Im & Chang, 2013; Ventola, 2014) and information and resources for a health and safety culture at work (Jackson et al., 2014). Thus, we recommend the development of a professional website for the HD nursing community in Quebec to promote their empowerment, address both their individual and practice (organizational) needs, thereby reducing their risk of burnout.

The Internet is becoming an increasingly popular tool for health consumers to access information about their health (Fox, 2003) and healthcare professionals to support their practice (Ventola, 2014). Nursing has been slower in broadly adopting ICT into practice (Lupianez-Villanueva, Hardey, Torrent, & Ficapal, 2011). However, RNs are highly motivated to provide the best patient care possible that is evidence-based (Cassano, 2014) and are conscious about the benefits of using ICTs to respond to the patients' health and education needs (Cassano, 2014; While & Dewsbury, 2011). Efforts were made in Quebec to introduce ICT in the nursing education curriculum because ICT represents practical and necessary skills in the clinical settings of RNs (Phaneuf, 2009), however, some RNs who are in the workforce for a longer period remain less skilled in mastering the use of ICT (Forbes & While, 2009; Lavin, Harper, & Barr, 2015; Phaneuf, 2009). Gagnon et al. (2012) reported for healthcare professionals the two most frequent adoption factors of ICT is a clear understanding of the benefits of the ICT as a useful innovation for practice by its users and ease of use, while the most cited barriers were the design and technical concerns followed by the incompatibility of ICT with work

processes, tasks or practice. Similarly, Mitchell (2005) reported for RNs that a major obstacle in the adoption of ICTs is that they are oftentimes developed and selected without RNs' input, consequently their particular practice needs are not considered and RNs have to adapt to technology rather than the technology adapting to RNs. Currently a limited number of ICT are developed to respond to specific needs of RNs (Im & Chang, 2013). The most compelling benefits for RNs to use a website for professional development are the easy and flexible access to evidence-based resources that respond to their variable and heavy work schedule (Fitzpatrick & Montgomery, 2002; Karaman, 2011; Sweeney et al., 2008). This professional website would be highly relevant for HD RNs since they reported being often stressed by lack of available resources or time for continuing education (Dermody & Bennett, 2008). In particular, HD RNs in Quebec have to comply with their continuing education norm for their annual professional registration in place since 2012 (OIIQ, 2011). Furthermore, evidence-based related to HD are mostly in English and dispersed; this professional website would be providing ressources mostly in French and giving acces to organized and standardized information and resources to support HD RNs' practice according to nursing practice regulations in Quebec and best practices. Most existing websites tend to be designed for a targeted population or specific users and they are mostly designed by web designers, who often fail to involve users in the design process with the result that many websites are generic and do not reflect the specific needs of the targeted population. This gap between what websites offer and what they should provide to respond to the targeted users needs demonstrates a growing need to get them involved in the development process

(Nikolova-Houston, 2005). We further recommend the involvement of HD RNs in the selection, design and implementation process to ensure the relevance of content and that websites are user-friendly.

Implication and Recommendations for Future Research

Our research has implications and recommendations for research in phase 1 and phase 2 of this study and for research on ICT web-based interventions.

Phase 1

This study is the first conducted in Quebec on burnout and empowerment among RNs working in HD. Survey results in phase 1 provided information on the indicators measuring the prevalence of burnout and the appearance of the empowerment characteristics as well as the link(s) between the burnout and structural empowerment and psychological empowerment of the HD RNs population from Quebec (Fortin 2010). Our results have made a valuable contribution to existing research because it is the first study in HD to find that structural empowerment and psychological empowerment were both significantly negatively associated with emotional exhaustion and depersonalization and positively associated with personal accomplishment. In addition, our findings inform nursing practice because we generated new knowledge on the severity of the burnout of HD RNs, and we established that both structural empowerment and psychological empowerment are associated with reduced burnout of HD RNs, therefore should be enhanced. Moreover, our study findings offer opportunities to extend the development of knowledge in HD. Firstly, we recommend

for future research to conduct regression analyses (e.g., examining moderating role of psychological empowerment), interprete and discuss findings. We further recommend that more research elaborate on the relationships between structural empowerment, psychological empowerment, and burnout of HD RNs and associations with patient safety, quality of care, and satisfaction with care received. Future research in HD should consider replicating the design of our study in order to obtain a global understanding of workplace empowerment of HD RNs (Spreitzer, 2008) and should use standardized burnout measurement approaches (three burnout dimensions) to improve comprehension and generalization of results (Maslach & Leiter, 2008). Based on our findings that work satisfaction, engagement and well-being are protective factors against burnout of HD RNs and that intention to leave the job or the profession was found to be associated with their burnout risk, we recommend that research further explore factors influencing work satisfaction, engagement, well-being and job retention of HD RNs.

Phase 2

A PAR approach was used in phase 2 with focus groups, which allowed to confirm and confirmed some findings obtained through the survey in phase 1 and the literature review (Wolff, Knodel & Sittitrai, 1993). It enables us to further examine the views of HD RNs on burnout, empowerment and how a professional website could help enhance their empowerment at work and promote their wellness thereby reducing their risk of burnout. A PAR approach helps promote the reflexive process, where participants critically think and discuss about their situation, and collaborate to find solutions and address the issue (Robertson, 2000). In our study, it resulted in

recommendations for the development of a future professional website and for structural changes in the HD settings in the province of Quebec. These results provided important information for the practice in order to optimize the wellness at work of HD RNs and patient care. We recommend for future research to use a PAR approach with RNs to create systemic changes to reduce their risk of burnout and empower them in their practice. The PAR could be used to develop nursing practices in order to better meet the needs of patients. Furthermore, this research was the first to use Laschinger et al. (2001) conceptual framework as an organizational construct to gather information to develop a a professional website for RNs. We recommend that similar studies aiming at empowering RNs utilize this framework in the future.

Research on ICT web-based interventions

In terms of research on the development of ICT web-based interventions, evidence suggests that websites that are tailored to the specific needs of intented users are more relevant and engaging. Up to now, less attention has been placed on developing ICT web-based interventions to address the needs of RNs themselves and some studies revealed high dropout in use, which may be related to discomfort with the use or ICT not responding to the specific needs of users (Im & Chang, 2013). Presently, there is a lack of research supporting the development of professional websites for RNs. Our study used a PAR approach to determine the information and elements required for a future professional website for HD RNs which ensured highly relevant content that responds to specific needs of the HD nursing community. In planning the development of a professional website for RNs, understanding their needs and attitude towards

website utilization is essential. In our study, participants were highly engaged, enthusiastic, and contributed valuable information in the group discussion. Since nursing is a practice discipline, and RNs like to be involved in decisions that concern their practice, we recommend to future RN researchers who wish to design a professional website for RNs to use a collaborative participatory design approach. The participatory design is grounded in a PAR approach (Spinuzzi, 2005) and is a successful software interface design approach (Weng, Gennari, & McDonald, 2003) in which the users, stakeholders and designers actively work together in the design process (Sanders, Brandt, & Binder, 2010; Weng, McDonald, Sparks, & Gennari, 2007) to meet the needs and expectations of the users (Weng et al., 2007). Participatory design approaches increase relevance of websites and probability of use (Muller & Druin, 2012; Schuler, & Namioka, 1993), therefore should be promoted in design of future websites.

Conclusion

HD is a state-of-the-art technology care sector that is constantly evolving, with a growing, aging and sicker HD patient's population in Quebec. As a result, the care is becoming more complex and demanding, therefore increasing the stress of HD RNs, and this occupational stress may lead to burnout. Although limited, research has identified that North American HD RNs are experiencing high levels of burnout and that empowerment can be a key ingredient for HD RNs to face current realities in the HD settings. This research was the first in Quebec to assess burnout and empowerment of HD RNs and our findings discovered high levels of burnout and moderate levels of structural and psychological empowerment. Furthermore, our research adds to the

growing body of knowledge on the literature that links empowerment to burnout among HD RNs, demonstrating a need for empowering this community of RNs. Healthcare organizations needs to be creative in ways of empowering RNs and we propose that a professional website may be an innovative and useful strategy vehicule to empower HD RNs. Our research involved HD RNs (intended users) and an Advisory Team who identified key information and elements required in a professional website to promote empowerment of the HD nursing community in Quebec. By engaging HD RNs in this process, we ensured that this future website would be highly relevant, effective and sustainable. The Regroupement visant l'excellence de la pratique infirmière en néphrologie au Québec (REINQ) accepted our recommendations and the next steps include obtaining funds to develop this website and forming a committee that would work collaboratively with a web designer for its conception and implementation. This research made important contributions: (a) for RNs, our results may increase their awareness of burnout and influence the uptake of self-care strategies; (b) for HD settings in Quebec, managers and educational team members could adopt and implement our proposed empowering strategies; and (c) decision-makers may draw from our findings to take steps to reduce burnout among HD RNs. Lastly, we proposed the formation of a provincial committee for HD nursing managers and educational team members, who in our perspective would be a promising change agent for HD settings in Quebec.

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APPENDICES

Appendix A

Approval Letter from University of New Brunswick Research Ethics Board

UNB
EST. 1785
UNIVERSITY OF NEW BRUNSWICK

October 24, 2016

Christina Doré
School of Graduate Studies - IDST Program
University of New Brunswick
UNBF - Campus Mail

Dear Ms. Doré:

RE: Assessing and addressing the risk for burnout among hemodialysis nurses working in Quebec, **REB File # 2016-126**

The above project is approved as modified.

Approval is valid for a period of three years from the date of this letter.

Annual Reports for this project are due on the 15th January of each year, provided that this date is at least six months after the date of project approval. **Final reports** are due 90 days after project completion. Both of these reports can be found on our website at http://www.unb.ca/research/ors/forms/index.php#ethics.

Although your application was processed via Expedited Review, for your information we are providing a list of current Research Ethics Board members.

Sincerely,

R. Steven Turner

R. Steven Turner, Chair
Research Ethics Board

REB Members:
Joy Haines Bacon, Community Representative
Barbara Burnett, Community Representative
Jeff Landine, Faculty of Education
Tracey Rickards, Faculty of Nursing
Usha Kuruganti, Faculty of Kinesiology
Aloke Chatterjee, Faculty of Law
R. Steven Turner (Chair), Faculty of Arts, Department of History
Renée Audet-Martel, REB Coordinator

UNIVERSITY OF NEW BRUNSWICK
PO BOX 4400 | PO BOX 5050
Fredericton, NB | Saint John, NB
Canada E3B 5A3 | Canada E2L 4L5
unb.ca

OFFICE OF THE VICE-PRESIDENT (RESEARCH)
Room 212, 3 Bailey Drive
Fredericton, NB E3B 5A3
T 506 453-5189
F 506 453-3522

Appendix B

Acceptance Email from OIIQ for Contact list

From: <Danielle.Clerk@oiiq.org>

Sent: Monday, October 31, 2016 10:08 AM

To: Christina.Dore@unb.ca

Bonjour,

Après avoir analysé votre demande de liste nominative, l'OIIQ a consenti à votre demande, conditionnellement à ce qu'un engagement à la confidentialité (en pièce jointe) soit signé, **le tout avant la transmission de la liste**.

Aussi, dans un autre temps, selon la complexité de la demande, des frais vous seront chargés pour la liste. Vous recevrez une facture de l'OIIQ après avoir reçu votre liste.

La liste consistera en un fichier Excel envoyé par courriel et protégé par un mot de passe. Le mot de passe vous sera transmis dans un courriel distinct.

Si vous avez des questions, n'hésitez pas à communiquer avec nous.

Danielle Clerk, Adjointe administrative

Secrétariat général

4200, rue Molson, Montréal (Québec) H1Y 4V4 514 935-2501 ou 1 800 363-6048, poste 263

OIIQ, au nom de la santé des Québécois.

Appendix C

Permission to Use Scales

De : christina dore [christina_dore@yahoo.ca]
Date d'envoi : 5 janvier 2015 15:33
À : Réjean Tessier
Objet : Utilisation de la version francophone du MBI

Bonjour Dr Tessier,

Je planifie réaliser une recherche sur l'épuisement professionnel des infirmières au Québec.
J'aimerais vous demander la permission d'utiliser votre version traduite du MBI.

Cordialement,

Christina Doré, inf. MSc Inf

De : Réjean Tessier <Rejean.Tessier@psy.ulaval.ca>
À : christina dore <christina_dore@yahoo.ca>
Envoyé le : vendredi 9 janvier 2015 9h15
Objet : RE : Utilisation de la version francophone du MBI

Bien sûr que vous y êtes autorisée. Je ne connais pas votre thème de recherche mais vous savez sans doute que cette question a maintes fois été étudiée et publiée.
bonne chance pour votre recherche

Réjean Tessier
École de psychologie
CRCHUQ
Université Laval
2325 rue des Bibliothèques
Québec, CA
G1V 0A6
rejean.tessier@psy.ulaval.ca

De : christina dore [christina_dore@yahoo.ca]
Date d'envoi : 23 décembre 2014 10:55
À : Boudrias Jean-Sébastien
Objet : échelle

Bonjour Dr Boudrias,

Il y a quelques temps, je vous ai écrit concernant la traduction de l'outil de mesure de l'empowerment structurel de Laschinger.

Dr Laschinger m'a donné la permission d'utiliser son questionnaire version française.

J'aimerais aussi utiliser votre version française du questionnaire de Spreitzer sur l'empowerment psychologique si vous me permettez.

Merci & joyeuses fêtes.

Christina Doré inf. Ms Inf

De : Boudrias Jean-Sébastien <jean-sebastien.boudrias@umontreal.ca>
À : "christina.dore@umontreal.ca" <christina_dore@yahoo.ca>
Envoyé le : lundi 5 janvier 2015 8h49
Objet : RE: échelle

Bonjour madame Doré,
Vous pouvez utiliser sans problème le questionnaire que j'ai validé en français.
Bon début d'année 2015 et bonne recherche,

Jean-Sébastien Boudrias, Ph.D.
Professeur agrégé, département de psychologie
Université de Montréal
T. 514-343-2344
C. jean-sebastien.boudrias@umontreal.ca

Western

I request permission to copy the Nursing Work Empowerment Scale as developed by Dr. G. Chandler and Dr. Heather K. Spence Laschinger. Upon completion of the research, I will provide Dr. Laschinger with a brief summary of the results, including information related to the use of the Nursing Work Empowerment Scale used in my study.

Questionnaires Requested:
Conditions of Work Effectiveness-I (includes JAS and ORS): Yes
Conditions of Work Effectiveness-II (includes JAS-II and ORS-II): Yes
Job Activity Scale (JAS) only:
Organizational Relationship Scale (ORS) only:
Organizational Development Opinionnaire or Manager Activity Scale:
Other Instruments: Hello, Would it be possible to send (if available) a French version of both scales. Thank you.

Please complete the following information:

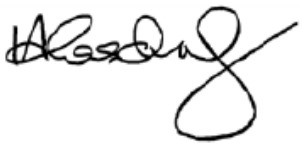
Date: November 15th, 2014
Name: Christina Doré©
Title: L'évaluation de l'épuisement professionnel et de l'empowerment des infirmières en hémodialyse.
Evaluation the burnout and the empowerment of nurses inhemodialysis
Home Address of Christina Doré© (PI) : --
E-mail: christina_dore@yahoo.ca
Description of Study: Population : Hemodialysis nurses in Quebec
Description of study:
Hemodialysis nurses experiment high level of burnout and it is expected to become higher with the increase of patients requiring dialysis and the clinical and psychological demands associated. Empowerment is closely link to burnout and would be promising for its reduction.

This study is aiming at :
1. evaluating the risk of burnout for the hemodialysis nurses inQuebec.
2. evaluating their empowerment.

The objective:
is to provide us with a clear portrait of the situation in Quebec and it will also serve to sensitize the policymakers and propose solution.

Permission is hereby granted to copy and use the Nursing Work Empowerment Scale.

Date: November 21, 2014



Dr. Heather K. Spence Laschinger, Professor
School of Nursing, University of Western Ontario
London, Ontario, Canada N6A 5C1
Tel: 519-661-2111 ext.86567
Fax: 519-661-3410
E-mail: hkl@uwo.ca

Appendix D

Recruitement Emails (participants)

De : Christina Doré <noreply@qemailserver.com>
Envoyé le : mardi 8 novembre 2016 21h00
Objet : Sondage visant les infirmières en hémodialyse du Québec

*** Ce courriel s'adresse exclusivement aux infirmières et infirmiers d'hémodialyse du Québec**

Chère collègue infirmière (infirmier),

L'OIIQ a transmis votre adresse courriel afin que nous puissions vous inviter à notre projet de recherche. Cette étude est entièrement anonyme, **indépendante de l'OIIQ** et toute information donnée de votre part restera confidentielle.

Je communique avec vous afin de vous inviter à participer à ce sondage en ligne qui porte sur l'évaluation du risque d'épuisement professionnel (Burnout) et de l'empowerment des **infirmières (ers) d'hémodialyse** du Québec. Cette information nous permettra de déterminer la présence de lien(s) entre les deux et ainsi de mieux comprendre votre expérience de travail et de proposer des pistes de solutions.

*** Attention: Seules** les **infirmières et infirmiers qui travaillent en hémodialyse** sont invités à compléter ce questionnaire.

***** Le temps utilisé pour compléter le questionnaire peut être comptabilisé pour vos heures de formation continue (non accréditées)

***** Le sondage doit être complété avant le 29 novembre 2016

Je vous remercie à l'avance pour votre précieuse collaboration qui favorisera l'avancement des connaissances et aidera à promouvoir la santé et la qualité de vie au travail des infirmières (ers) d'hémodialyse.

Cliquez sur ce lien pour accéder à l'enquête :
Participer à l'enquête
Ou copiez et collez l'URL ci-dessous dans votre navigateur Internet :
https://unb.az1.qualtrics.com/SE?Q_DL=5mwAOxhPT13YU0R_1GL61ksqDTn1ADH_MLRP_9B8k0R27RnJ1zOR&Q_CHL=email

Pour toutes questions, commentaires ou difficultés techniques, contactez :
Christina Doré, Infirmière au Québec, MSc. Inf., candidate au doctorat
Université du Nouveau-Brunswick

Christina.Dore@unb.ca

De : Christina Doré <noreply@qemailserver.com>
Envoyé le : vendredi 18 novembre 2016 16h14
Objet : Attention : Rappel pour le sondage visant les infirmières en hémodialyse du Québec (novembre 9-29)

For English speaking nurses who need assistance for translation, please communicate with me

*** Ce courriel s'adresse exclusivement aux infirmièreset infirmiers d'hémodialyse du Québec**:

Actuellement, nous avons obtenu un taux de participation de 10% et nous aimerions maximiser nos résultats afin qu'ils soient représentatifs.

Chère collègue infirmière (infirmier) **d'hémodialyse,**

Je suis infirmière au Québec (ancienne infirmière en hémodialyse)

Ceci est un rappel

Nous avons besoin de votre participation pour compléter un sondage en ligne qui vise l'évaluation du risque d'épuisement professionnel et de l'empowerment des infirmières (ers) d'hémodialyse afin de nous permettre de **proposer des pistes de solutions**.

*** Attention: Seules** les **infirmières et infirmiers qui travaillent en hémodialyse** sont invités à compléter ce questionnaire.

***** Le temps utilisé pour compléter le questionnaire peut être comptabilisé pour vos heures de formation continue (non accréditées)

Je vous remercie pour votre précieuse collaboration qui favorisera l'avancement des connaissances et aidera à promouvoir la santé et la qualité de vie au travail des infirmières (ers) d'hémodialyse.

Cliquez sur ce lien pour accéder à l'enquête :

Participer à l'enquête
Ou copiez et collez l'URL ci-dessous dans votre navigateur Internet :
https://unb.az1.qualtrics.com/SE?Q_DL=71ndDvjBFd6e1qB_1GL61ksqDTn1ADH_MLRP_8w7EHvdLgNalEmV&Q_CHL=email

Pour toutes questions, commentaires ou difficultés techniques, contactez :
Christina Doré, Infirmière au Québec, MSc. Inf., candidate au doctorat
Université du Nouveau-Brunswick

Christina.Dore@unb.ca

De : Christina Doré <noreply@qemailserver.com>
Envoyé le : jeudi 24 novembre 2016 17h06
Objet : Attention : 2e Rappel sondage visant les infirmières en hémodialyse du Québec (novembre 9-29)

For English speaking nurses who need assistance for translation, please communicate with me.

*** Ce courriel s'adresse exclusivement aux infirmièreset infirmiers d'hémodialyse du Québec**:

Actuellement, nous avons obtenu un taux de participation de 22% et nous aimerions maximiser nos résultats afin qu'ils soient représentatifs.

Chère collègue infirmière (infirmier) **d'hémodialyse,**

Je suis infirmière au Québec (ancienne infirmière en hémodialyse)

Ceci est un rappel

*** Attention: Seules** les **infirmières (infirmiers) qui travaillent en hémodialyse** sont invitées à compléter ce questionnaire qui vise l'évaluation du risque d'épuisement professionnel et de l'empowerment des infirmières (ers) d'hémodialyse afin de nous permettre de **proposer des pistes de solutions.**

***** Le temps utilisé pour compléter le questionnaire peut être comptabilisé pour vos heures de formation continue (non accréditées)

Votre participation serait grandement appréciée puisqu'elle favorisera l'avancement des connaissances et aidera à promouvoir la santé et la qualité de vie au travail des infirmières d'hémodialyse.

Cliquez sur ce lien pour accéder à l'enquête :

Participer à l'enquête
Ou copiez et collez l'URL ci-dessous dans votre navigateur Internet :
https://unb.az1.qualtrics.com/SE?Q_DL=71ndDvjBFd6e1qB_1GL61ksqDTn1ADH_MLRP_8w7EHvdLgNalEmV&Q_CHL=email

Pour toutes questions, commentaires ou difficultés techniques, contactez :
Christina Doré, Infirmière au Québec, MSc. Inf., candidate au doctorat
Université du Nouveau-Brunswick

Christina.Dore@unb.ca

Cliquez sur ce lien pour ne plus recevoir d'e-mails à l'avenir :
Cliquez ici pour vous désabonner

De : Christina Doré <noreply@qemailserver.com>
Envoyé le : mardi 29 novembre 2016 16h14
Objet : Période de prolongation du sondage visant les infirmières en hémodialyse jusqu'au 9 décembre

For English speaking nurses who need assistance for translation, please communicate with me.

Chère collègue infirmière (infirmier) ***d'hémodialyse,***

Je suis infirmière au Québec (ancienne infirmière en hémodialyse)

Tout d'abord, j'aimerais remercier toutes les infirmières (ers) qui ont répondu au sondage, votre collaboration est grandement appréciée**. Le taux de participation est d'environ 30% et nous aimerions maximiser nos résultats afin qu'ils soient représentatifs.**

Cette étude vise à *mieux comprendre votre expérience de travail, proposer des pistes de solutions et le développement de recommandations pour la création* d'une *intervention en ligne.*

Je vous invite donc à participer à un sondage en ligne qui porte sur l'évaluation du risque d'*épuisement professionnel (Burnout) et de l'empowerment (pouvoir* d'*agir sur la pratique) des* ***infirmières (ers) d'hémodialyse*** *du Québec.* ***Première étude sur le sujet au Québec****.*

***** Le temps utilisé pour compléter le questionnaire peut être comptabilisé pour vos heures de formation continue (non accréditées)

Cliquez sur votre lien pour accéder à l'enquête :

Participer à l'enquête
Ou copiez et collez l'URL ci-dessous dans votre navigateur Internet :
https://unb.az1.qualtrics.com/SE?Q_DL=5mwAOxhPT13YU0R_1GL61ksqDTn1ADH_MLRP_9B8k0R27RnJ1zOR&Q_CHL=email

**** SVP informer vos collègues car ce n'est pas toutes les infirmières qui sont au courant du projet de recherche***

Pour avoir accès à l'information/consentement et au sondage:

Elles peuvent écrire le lien ci-dessous dans la **barre de navigation** (en haut ; et non la barre de recherche google). *Ne pas transmettre votre lien, il ne fonctionnera pas.*

lien : https://proxy.qualtrics.com/proxy/?url=http%3A%2F%2Fbit.ly%2F2fUw2On&token=E2Y5f1CvV57%2FeiE4myek6XDBWt8Fx9XjIAQ68X92I0g%3D

Je vous remercie à l'avance pour votre précieuse collaboration qui favorisera l'avancement des connaissances et aidera à promouvoir la santé et la qualité de vie au travail des infirmières (ers) d'hémodialyse.

Pour toutes questions, commentaires ou difficultés techniques, contactez :
Christina Doré, Infirmière au Québec, MSc. Inf., candidate au doctorat
Université du Nouveau-Brunswick
Christina.Dore@unb.ca

Appendix E

Recruitement Emails (hemodialysis managers)

De : "christina.dore@unb.ca" <Christina.dore@unb.ca>
À: Gestionnaire hemodialyse
Envoyé le : mercredi 9 novembre 2016 11h33
Objet : Sondage visant les infirmières en hémodialyse du Québec (novembre 9-29)

Bonjour,

Je suis infirmière au Québec et candidate au doctorat et mon projet de recherche porte sur l'évaluation du risque d'épuisement professionnel (Burnout) et de l'empowerment des **infirmières (ers) d'hémodialyse** du Québec. Première étude au Québec sur le sujet.

J'ai obtenu de l'OIIQ les coordonnées d'infirmières (ers) travaillant en néphrologie désirant participer à des projets de recherche (réponse obtenue lors du renouvellement du permis d'exercice). Cependant, des infirmières d'hémodialyse et gestionnaires ont manifesté l'intérêt de donner l'accès au sondage à toutes les infirmières (ers) d'hémodialyse. J'envoie donc l'information sur le projet et le lien vers le sondage en ligne qui est anonyme.

Le temps de complétion du sondage peut être comptabilisé pour les heures de formation continue (non accréditées). Le sondage est ouvert du 9 au 29 novembre et **uniquement aux infirmières (ers) travaillant en hémodialyse**.

Si vous avez des **centres affiliés ou satellites d'hémodialyse**, SVP faire circuler l'information.

N'hésitez pas à communiquer avec moi pour tout renseignement complémentaire.

SVP, me **confirmer** la réception de ce courriel.

Cordialement,

Christina Doré, infirmière, MSc. inf., Ph.D.(cand)

De : "christina.dore@unb.ca" <Christina.dore@unb.ca>
À: Gestionnaire hemodialyse
Envoyé le : vendredi 18 novembre 2016 8h33
Objet : Attention : Rappel pour le sondage visant les infirmières en hémodialyse du Québec (novembre 9-29)

Bonjour,

Ceci est un rappel,

Je suis infirmière au Québec (ancienne infirmière en hémodialyse) et candidate au doctorat et mon projet de recherche porte sur l'évaluation du risque d'épuisement professionnel (Burnout) et de l'empowerment des **infirmières (ers) d'hémodialyse** du Québec. Première étude au Québec sur le sujet qui vise à proposer des solutions et ultérieurement des recommendations afin de développer une intervention pour les infirmières.

Important : Actuellement nous avons obtenu un taux de participation de 10% et aimerions maximiser nos résultats afin qu'ils soient représentatifs.

Si vous avez des **centres affiliés ou satellites d'hémodialyse**, SVP faire circuler l'information. N'hésitez pas à communiquer avec moi pour tout renseignement complémentaire.

SVP, me **confirmer** la réception de ce courriel. Merci beaucoup pour votre collaboration,

Christina Doré, infirmière, MSc. inf., Ph.D.(cand)

De : "christina.dore@unb.ca" <Christina.dore@unb.ca>
À: Gestionnaire hemodialyse
Envoyé le : mercredi 25 novembre 2016 10h05
Objet : Attention : 2e Rappel pour le sondage visant les infirmières en hémodialyse du Québec (novembre 9-29)

Bonjour,

Ceci est un rappel,

Je suis infirmière au Québec (**ancienne infirmière en hémodialyse**) et candidate au doctorat et mon projet de recherche porte sur l'évaluation du risque d'épuisement professionnel (Burnout) et de l'empowerment des **infirmières (ers) d'hémodialyse** du Québec. **Première étude au Québec** sur le sujet qui vise à **proposer des solutions** et ultérieurement des **recommendations** afin de **développer une intervention** pour les infirmières.

Important : Actuellement nous avons obtenu un taux de participation de 22% et aimerions maximiser nos résultats afin qu'ils soient représentatifs.

Le sondage est anonyme et le temps utilisé pour compléter le questionnaire peut être comptabilisé pour les heures de formation continue (non accréditées).

Si vous avez des **centres affiliés ou satellites d'hémodialyse**, SVP faire circuler l'information.

N'hésitez pas à communiquer avec moi pour tout renseignement complémentaire.

SVP, me **confirmer** la réception de ce courriel.

Merci beaucoup pour votre collaboration,

Christina Doré, infirmière, MSc. inf., Ph.D.(cand)

De : "christina.dore@unb.ca" <Christina.dore@unb.ca>
À: Gestionnaire hemodialyse
Envoyé le : mardi 29 novembre 2016 9h41
Objet : Attention : Période de prolongation du sondage visant les infirmières en hémodialyse jusqu'au 9 décembre

Bonjour,

Important :

Nous avons décidé de prolonger la période du sondage en ligne jusqu'au 9 décembre inclusivement.

Nous avons obtenu un taux de participation de 30% et aimerions maximiser nos résultats afin qu'ils soient représentatifs.

SVP, aviser vos infirmières et vous trouverez ci-joint un nouveau mémo pour votre personnel.

N'hésitez pas à communiquer avec moi pour tout renseignement complémentaire.

SVP, me **confirmer** la réception de ce courriel.

Merci beaucoup pour votre collaboration,

Christina Doré, infirmière, MSc. inf., Ph.D.(cand)

Appendix F

Recruitement Posters

Chère collègue infirmière (infirmier),

Je communique avec vous afin de vous inviter à participer à un sondage en ligne qui porte sur l'évaluation du risque d'*épuisement professionnel (Burnout) et de l'empowerment des* ***infirmières (ers) d'hémodialyse*** *du Québec. Cette information nous permettra de déterminer la présence de lien(s) entre les deux et ainsi de mieux comprendre votre expérience de travail et de proposer des pistes de solutions.*

Cette étude est entièrement anonyme et toute information donnée de votre part restera confidentielle.

***Attention: Seules** les **infirmières et infirmiers qui travaillent en hémodialyse** sont invités à compléter ce questionnaire.

**** Le temps utilisé pour compléter le questionnaire peut être comptabilisé pour vos heures de formation continue (non accréditées)***

Pour avoir accès à l'information/consentement et au sondage:

écrire le lien ci-dessous dans la barre

de navigation http://bit.ly/2fUw2On

Je vous remercie à l'avance pour votre précieuse collaboration qui favorisera l'avancement des connaissances et aidera à promouvoir la santé et la qualité de vie au travail des infirmières (ers) d'hémodialyse.

Pour toutes questions, commentaires ou difficultés techniques, contactez : Christina Doré, Inf. au Québec, candidate au doctorat
Université du Nouveau-Brunswick

christina_dore@unb.ca

Prolongation: du sondage en ligne jusqu'au 9 décembre 2016 inclusivement visant exclusivement les infirmières et

Chère collègue infirmière (infirmier),

Je suis infirmière au Québec (ancienne infirmière en hémodialyse)

Tout d'abord, j'aimerais remercier toutes les infirmières (ers) qui ont répondu au sondage, votre collaboration est grandement appréciée**. Le taux de participation est d'environ 30% et nous aimerions maximiser** nos résultats.

Cette étude vise à *mieux comprendre votre expérience de travail, proposer des pistes de solutions et le développement de recommandations pour la création* d'une *intervention en ligne.*

Je vous invite à participer à un sondage en ligne qui porte sur l'évaluation du risque d'*épuisement professionnel (Burnout) et de l'empowerment (pouvoir* d'*agir sur la pratique) des* ***infirmières (ers) d'hémodialyse*** *du Québec. Première étude sur le sujet au Québec.*

Cette étude est entièrement anonyme et toute information donnée de votre part restera confidentielle.

***Attention: Seules** les **infirmières et infirmiers qui travaillent en hémodialyse** sont invités à compléter ce questionnaire.

**** Le temps utilisé pour compléter le questionnaire peut être comptabilisé pour vos heures de formation continue (non accréditées)***

Pour avoir accès à l'information/consentement et au sondage:

écrire le lien ci-dessous dans la **barre de navigation** (en haut ; et non la

barre de recherche google) http://bit.ly/2fUw2On

Je vous remercie à l'avance pour votre précieuse collaboration qui favorisera l'avancement des connaissances et aidera à
promouvoir la santé et la qualité de vie au travail des infirmières (ers) d'hémodialyse.

Pour toutes questions, commentaires ou difficultés techniques, contactez : Christina Doré, Inf. au Québec, candidate au doctorat Université du Nouveau-Brunswick

christina_dore@unb.ca

Appendix G

Information and Consent Form Phase 1 (English version)

INFORMATION AND CONSENT FORM

(PHASE - 1 : OBSERVATION/EVALUATIVE)

You are invited to participate in a research project. This document provides information on the conditions for this research project. If there are words or paragraphs that you don't understand, feel free to ask us questions. To participate in this research project, you must read this document and click on «**next**».

Project Title

Assessment of the Risk of Burnout and Empowerment of Nurses Working in Hemodialysis

Research Team

Principal investigator: Christina Doré, MScN, Ph.D. candidate, Faculty of interdisciplinary studies at the University of New Brunswick, can be contacted by email at: Christina.Dore@unb.ca

Supervisors: Linda Duffett-Leger, Ph.D., Assistant Professor, Faculty of Nursing, University of Calgary, can be contacted by e-mail at: linda.duffettleger@ucalgary.ca

Mary McKenna, Ph.D., Professor, Faculty of Kinesiology, University of New Brunswick, Acting Assistant Dean, Faculty of interdisciplinary studies, can be contacted by e-mail at: mmckenna@unb.ca

Advisory member: Scott Bateman, Ph.D., Assistant Professor, Faculty of Computer Science, University of New Brunswick

Jonathan Salsberg, PhD, Associate Director of Participatory Research at McGill University (PRAM) – Department of Family Medicine.

Objective of the Project

The purpose of this study is to evaluate the risk of burnout among hemodialysis nurses working in Quebec and measure their level of empowerment.

Reason and Nature of Participation

As a nurse specializing in hemodialysis, you are invited to participate in this research by completing an electronic questionnaire via the Qualtrics secure site. You will be asked to complete a sociodemographic and occupational questionnaire (section A) as well as three measurement instruments to assess: burnout (section B); structural empowerment (self-efficacy) (section C); and psychological empowerment (psychological empowerment) (Section D). This participation will take about 30 to 45 minutes.

Benefits Associated with Participation

This research aims to advance knowledge about the risk of burnout of hemodialysis nurses in Quebec and the empowerment that contributes to its reduction. The ultimate purpose is to sensitize the policy-makers and provide recommendations for the development of a professional website for the promotion of the empowerment, well-being at work and the reduction of burnout. As members of the population directly targeted by this research, you might take advantage of the benefits of this project. Your participation may provide the opportunity to reflect on your current state of well-being (e.g., request for psychological support, make changes in professional life or personal habits) and to question your nursing practice (e.g., set professional goals).

Risk Associated with Participation

There is little risk associated with your participation in this study. It is possible that some questions require you to think about difficult or frustrating aspects of your

professional life. However, the questions you will be asked are associated with activities that occupy your everyday professional life: Thus, there is little risk that you are exposed to very unexpected or unknown content by answering the questions. In the event that you experience discomfort resulting from your participation, we invite you to communicate with a professional of the psychological health listed on the website of the Order of Psychologists of Quebec: https://www.ordrepsy.qc.ca/

Right of Withdrawal without Prejudice to Participation

It is understood that your participation in this research project is entirely voluntary and that you remain free, at any time, to terminate your participation without having to justify your decision. You can choose not to answer questions that you consider too personal and cause you discomfort. Finally, you can choose at anytime to stop your participation in this study by simply stopping to answer questions. However, it will be impossible to destroy your data since no information to identify respondents is collected.

Privacy, Sharing, Surveillance and Publications

Your participation in this survey is anonymous and there is no information that will be asked that can personally identify you. In addition, the information you give will be available only to me and my research team (Drs. Linda Duffett-Leger, Mary McKenna, Scott Bateman and Jonathan Salsberg). No further analyse will be performed on the collected data. All research data will be kept on a secured computer key (USB key), then destroyed five years after the end of the study. The project data may be published in scientific journals or shared with others in scientific discussions. No publication or scientific communication will include information that may personally identify you.

Research Results

If you wish to be informed of the results of the research and publications that will result, we invite you to contact the principal investigator to make a request by email at: Christina.Dore@unb.ca

This project was revised by the Research Ethics Board of the University of New Brunswick and has the following file number REB 2016-126. The ethics committee will first will approve beforehand any revision and any changes to the information and consent form as well as the research protocol.

You can talk about any ethical concerns regarding your participation in this project with Rendall Drew, Dean of Graduate Studies by contacting him by email: d.rendall@unb.ca or with Dr. Steven Turner, Chairman of the Research Ethics Board of the University of New Brunswick, by communicating through his Secretariat by email at: ethics@unb.ca

N. B. The researchers and partners declare they have no conflict of interest in relation with this research project.

THANK YOU FOR YOUR PRECIOUS COLLABORATION

Appendix H

Sociodemographic/Occupational Questionnaire

PERSONAL INFORMATION

1. Age? _____

2. Sex: ☐ Female ☐ Male

3.a. Marital status:

☐ Single ☐ Married ☐ Common Law

☐ Divorced ☐ Widowed

3.b. Number of children: ☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ More then 3

4 What is your last degree?

☐ College diploma

☐ Baccalaureate

☐ Certificate (1 or 2)

☐ Master

☐ PhD

CONTINUING EDUCATION

5. Do you have a certification for the nephrology specialty? ☐ Yes ☐ No

6. In the last year, have you taken continuing education related to nursing practice in nephrology? ☐ Yes ☐ No

WORK EXPERIENCE

7.a. Since when do you work in hemodialysis? (year, month) _____

7.b. Number of years of nursing experience? _____

8.a. What type of position do you hold? ☐ Full Time ☐ Part Time

b. What type of renal unit:

☐ Affiliated Hospital

☐ MUHC/CHUM

☐ Satellite

9. Nurse-to-patient ratio:

☐ 1:2

☐ 1:3

☐ 1:4

☐ 1:5

☐ > 1:5

☐ 2:5

☐ Other _____Specify

WELL-BEING (SATISFACTION, ENGAGEMENT) AT WORK

10. How have you been feeling in general (in the last month)?

☐ In excellent spirits

☐ In very good spirits

☐ In good spirits mostly

☐ I have up and down in spirits a lot

☐ In low spirits mostly

☐ In very low spirits

11. Overall are you satisfied with your current job? ☐ Yes ☐ No

12. Are you proud to tell others that you work for this organization (e.g., hospital)

☐ Yes ☐ No

13. Do you feel a strong personal attachment to your organization?

☐ Yes ☐ No

14. Do you think about changing your nursing practice for another specialty?

☐ Yes ☐ No

15. Do you think about giving up nursing for another career? ☐ Yes ☐ No

16.a. Is it easy to see if your manager is concerned about

your well-being at work or health? ☐ Yes ☐ No

16.b. Is it easy to see if your manager is commited to implement changes to improve workplace?

☐ Yes ☐ No

INTERNET USE

17. a. Where do you use the Internet the most? ☐ Home ☐ Work

b. When do you use the Internet the most? ☐ During work ☐ After work

18. a. Do you use Internet for information regarding your health? ☐ Yes ☐ No

b. Do you use Internet for information regarding your work? ☐ Yes ☐ No

(e.g., updating your practice with best practice guidelines)

19. Are you part of an online chat group (discussion) or support group?

☐ Yes ☐ No

20. a. At this time, do you use Internet to obtain continuing education credits?

☐ Yes ☐ No

b. If not, would you be interested in using the Internet to obtain continuing education credits? ☐ Yes ☐ No

(section A is inspired by : Dupuy, 1977; Judge & al., 1994; Meyers & Allen, 1997)

Appendix I

Measurement of Burnout (MBI scale) (section B)

INSTRUCTIONS

For each statement, specify the number (0-6) which corresponds to the frequency of occurrence of these feelings in you

	0 Never	*1 A few times a year*	*2 Once a month*	*3 A few times a month*	*4 Once a week*	*5 A few times per week*	*6 Every day*
1. I feel emotionally drained by my work.							
2. I am at the end of my patience at the end of my work day.							
3. I feel tired when I get up in the morning and have to face another day at work.							
4. I am easily able to understand what my patients feel.							
5. I feel I look after certain patients impersonally, as if they are objects.							
6. Working with people all day long requires a great deal of effort.							
7. I look after my patients' problems very effectively.							
8. I feel like my work is breaking me down.							
9. Through my work, I feel that I have a positive influence on people.							
10. I have become more insensitive to people since I've been working.							
11. I'm afraid that this job is making me uncaring.							
12. I feel full of energy.							
13. I feel frustrated by my work.							
14. I feel I work too hard at my job.							
15. I really don't care about what happens to some of my patients.							
16. It stresses me too much to work in direct contact with people.							
17. I am easily able to create a relaxed atmosphere with my patients.							
18. I feel refreshed when I have been close to my patients at work.							
19. I accomplish many worthwhile things in this job.							
20. I feel like I'm at the end of my rope.							
21. In my work, I handle emotional problems very calmly.							
22. I have the impression that my patients make me responsible for some of their problems.							

Maslach Burnout Inventory (MBI) scale (1986) developed by Maslach & Jackson (1986)

Appendix J

Measurement of Structural Empowerment (CWEQ-II) (section C)

INSTRUCTION For each statement, specify the number (0-6) which corresponds to the frequency of occurrence of these feelings in you					
	None		*Some*		*A lot*
	1	*2*	*3*	*4*	*5*
How much of each kind of opportunity do you have in your present job?					
1. Challenging work					
2. The chance to gain new skills and knowledge on the job					
3. Tasks that use all of your own skills and knowledge					
How much access to information do you have in your present job?					
4. The current state of the hospital					
5. The values of top management					
6. The goals of top management					
How much access to support do you have in your present job?					
7. Specific information about things you do well					
8. Specific comments about things you could improve					
9. Helpful hints or problem solving advice					
How much access to resources do you have in your present job?					
10. Time available to do necessary paperwork					
11. Time available to accomplish job requirements					
12. Acquiring temporary help when needed					
In my work setting/job:					
13. The rewards for innovation on the job are					
14. The amount of flexibility in my job is					
15. The amount of visibility of my work-related activities within the institution					
How much opportunity do you have for these activities in your present job:					
16. Collaborating on patient care with physicians					
17. Being sought out by peers for help with problems					
18. Being sought out by managers for help with problems					
19. Seeking out ideas from professionals other than physicians Ex.: physiotherapists, occupational therapists, dieticians					

Condition for Work Effectiveness questionnaire (CWEQ-II) developed by Laschinger & al. (2001)

Appendix K

Measurement of Psychological Empowerment (PES) (section D)

INSTRUCTIONS

The following statements relate to your current work experience.

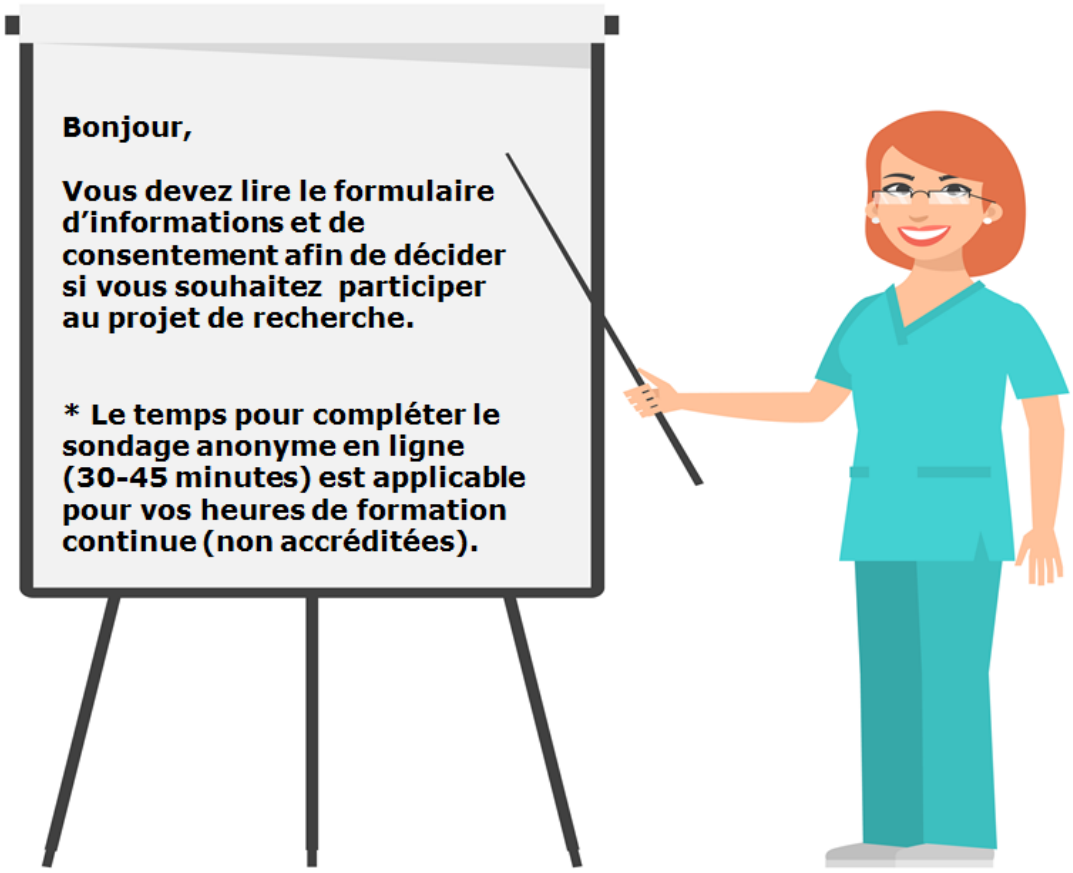
Circle the number that best reflects your level of agreement with the statement.

	1 Strongly disagree	*2 Disagree*	*3 Agree*	*4 Strongly agree*	*5 Very strongly agree*
1. The work I do is very important to me.					
2. I am confident about my ability to do my job.					
3. I have significant autonomy in determining how I do my job.					
4. My impact on what happens in my department is large.					
5. The work I do is meaningful to me.					
6. I am self-assured about my capabilities to perform my work activities.					
7. I can decide on my own how to go about doing my work.					
8. I have a great deal of control over what happen in my department.					
9. My job activities are personally meaningful to me.					
10. I have mastered the skills necessary for my job.					
11. I have considerable opportunity for independence and freedom in how I do my job.					
12. I have significant influence over what happens in my department.					

Psychological Empowerment Scale (PES) developed and validated by Spreitzer (1995)

Appendix L

Information and Consent Form Phase 1 and Survey in French (sections A-B-C-D)



Vous êtes invité(e) à participer à un projet de recherche. Le présent document vous renseigne sur les modalités de ce projet de recherche. S'il y a des mots ou des paragraphes que vous ne comprenez pas, n'hésitez pas à nous poser des questions. Pour participer à ce projet de recherche, vous devez lire ce document et cliquer sur **«Suivant ».**

Titre du projet

Évaluation du risque d'épuisement professionnel et de l'empowerment des infirmières en hémodialyse.

Équipe de la recherche

La chercheure principale: Christina Doré, MSc inf, candidate au doctorat, faculté des études interdisciplinaires de l'Université du Nouveau-Brunswick, peut être contactée par courriel à :
Christina.Dore@unb.ca

Les directrices: Linda Duffett-Leger, PhD, professeure adjointe, Faculté des sciences infirmières de l'Université de Calgary, peut être contactée par courriel à : linda.duffettleger@ucalgary.ca
Mary McKenna, PhD, professeure, Faculté de kinésiologie de l'Université du Nouveau-Brunswick et adjointe au doyen, faculté des études interdisciplinaires, peut être contactée par courriel à : mmckenna@unb.ca
Membres aviseurs: Scott Bateman, Ph D, professeur adjoint, Faculté d'informatique de l'Université du Nouveau-Brunswick
Jonathan Salsberg, PhD, Directeur associé et directeur de la recherche, Centre pour la recherche participative à McGill (PRAM).

Objectif du projet

La présente étude vise à évaluer le risque d'épuisement professionnel chez les infirmières d'hémodialyse du Québec ainsi que mesurer leur niveau d'empowerment.

Raison et nature de la participation

En tant qu'infirmière spécialisée en hémodialyse, vous êtes invitée à participer à cette recherche en remplissant un questionnaire électronique via le site sécurisé Qualtrics. Vous devrez remplir un questionnaire sociodémographique et professionnel (section A) et les trois instruments de mesure visant à évaluer: l'épuisement professionnel (section B); l'empowerment structurel (auto-efficacité) (section C); l'empowerment psychologique (habilitation psychologique) (section D). Cette participation vous demandera entre 30 et 45 minutes.

Avantages associés à la participation

Cette recherche vise à l'avancement des connaissances concernant le risque d'épuisement professionnel des infirmières d'hémodialyse du Québec et l'empowerment qui contribue à sa réduction. Le but ultime est de sensibiliser les décideurs et de formuler des recommandations pour le développement d'un site web professionnel visant la promotion de l'empowerment, le bien-être au travail et la réduction de l'épuisement professionnel. En tant que membres de la population directement visée par cette recherche, vous pourriez donc tirer avantage des retombées du projet. Votre participation peut être une occasion de faire le point sur votre état de bien-être actuel (ex., demander du soutien psychologique, faire des changements dans la vie professionnelle et des habitudes personnelles) et de se questionner sur votre pratique infirmière (ex., se fixer des objectifs professionnels).

Risques associés à la participation

Il y a peu de risques associés à votre participation à cette étude. Il est aussi possible que certaines questions nécessitent de réfléchir à des aspects difficiles ou frustrants de votre vie professionnelle. Par ailleurs, les questions qui vous seront posées sont associées à des activités qui occupent votre vie professionnelle de tous les jours : il y a donc peu de risque que vous soyez exposé à du contenu très inattendu ou inconnu en répondant aux questions. Dans l'éventualité où vous restez avec un malaise découlant de votre participation, nous vous

invitions à communiquer avec un professionnel de la santé psychologique répertorié sur le site de l'Ordre des psychologues du Québec: https://www.ordrepsy.gc.ca/

Droit de retrait sans préjudice de la participation

Il est entendu que votre participation à ce projet de recherche est tout à fait volontaire et que vous restez libre, à tout moment, de mettre fin à votre participation sans avoir à motiver votre décision. Vous pouvez choisir de ne pas à répondre à des questions que vous jugez trop personnelles et qui causent un inconfort. Finalement, vous pouvez choisir à tout moment de cesser votre participation à l'étude en arrêtant implement de répondre aux questions.Toutefois, il sera impossible de détruire vos données puisqu'aucune information permettant d'identifier les répondants n'est recueillie.

Confidentialité, partage, surveillance et publications

Votre participation à cette enquête est anonyme et il n'y a aucune information qui sera posée qui puisse vous identifier personnellement. De plus, les informations que vous donnez seront disponibles uniquement pour moi et mon équipe de recherche (Drs Linda Duffett-Leger, Mary McKenna, Scott Bateman et Jonathan Salsberg). Aucune autre analyse ne sera réalisée sur les données recueillies. Toutes les données de la recherche seront conservées sur une clé d'ordinateur sécurisée (clé USB), puis détruites cinq ans après la fin de l'étude. Les données du projet pourront être publiées dans des revues scientifiques ou partagées avec d'autres personnes lors de discussions scientifiques. Aucune publication ou communication scientifique ne comportera de l'information permettant de vous identifier.

Résultats de la recherche

Si vous désirez être informé des résultats de la recherche et des publications qui en découleront, nous vous invitons à contacter la chercheure principale pour en faire la demande. Contactez-la par courriel à :Christina. Dore@unb.ca

Ce projet a été révisé par le comité d'éthique de la recherche de l'Université du Nouveau-Brunswick et porte le numéro de dossier suivant REB 2016-126. Le comité d'éthique

approuvera au préalable toute révision et toute modification apportée au formulaire d'information et de consentement ainsi qu'au protocole de recherche.

Vous pouvez parler de toutes préoccupations d'ordre éthique concernant votre participation à ce projet avec Drew Rendall, doyen des études supérieures en communiquant avec lui par courriel: d.rendall@unb.ca ou avec Dr Steven Turner, président du Comité d'éthique de la recherche de l'Université du Nouveau-Brunswick, en communiquant avec son secrétariat par courriel à : ethics@unb.ca

NB. Les chercheures et partenaires déclarent n'avoir aucun conflit d'intérêts en lien avec le présent projet de recherche.

MERCI DE VOTRE PRÉCIEUSE COLLABORATION

J'ai lu le formulaire d'informations au sujet du projet de recherche.

*** Vous devez répondre à cette question**

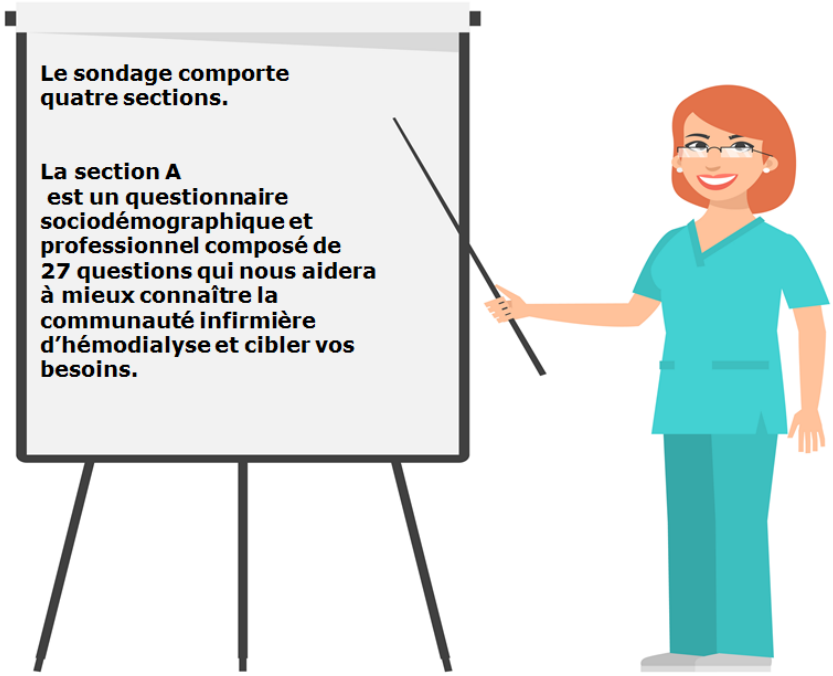
- **Oui**
- **Non**

Je consens volontairement et librement à participer à cette étude.
*** Vous devez répondre à cette question**

- **Oui**
- **Non**

*** Cliquez sur suivant pour poursuivre le sondage ***

Renseignements personnels



Section A est inspirée de: Dupuy, 1977; Judge & al. 1994: Meyer & Allen 1997

Section A : Questionnaire sociodémographique/ professionnel

Renseignements personnels (sous section)

1. Age? _____

2. Sexe?

- o Masculin
- o Féminin

3.a. État matrimonial?

- o Célibataire
- o Mariée
- o Conjointe de fait
- o Séparée
- o Divorcée
- o Veuve

3.b. Nombre d'enfant(s)?

- o 0
- o 1
- o 2
- o 3
- o Plus de 3

4. Quel est votre dernier diplôme?

- o Diplôme d'études collégiales
- o Baccalauréat
- o Cumul de 1 ou 2 certificats
- o Maîtrise
- o PhD

Formation continue

Formation continue (sous section)

5. Avez-vous une certification de spécialité en néphrologie?

- o Oui
- o Non

6. Dans la dernière année, avez-vous suivi de la formation continue liée à la pratique infirmière en néphrologie?

- o Oui
- o Non

Expérience de travail

Expérience de travail (sous section)

7.a. Nombre d'années d'expérience infirmière? _____

7.b. Nombre d'années d'expérience en hémodialyse? _____

8.a. Quel type de poste occupez-vous?

- o Temps plein
- o Temps partiel

8.b. Dans quel type d'unité rénale?

- o CHUM/MUHC
- o Hôpital affilié
- o Satellite

9. Ratio infirmière-patient dans votre unité rénale?

- o 1:2
- o 1:3
- o 1:4
- o 1:5
- o 2:5
- o Autre SVP préciser _____

Bien-être (satisfaction, engagement) au travail

Bien-être au travail (sous section)

10. Comment vous sentez-vous en général (dans le dernier mois)?

- o D'excellente humeur
- o De très bonne humeur
- o Surtout de bonne humeur
- o J'ai beaucoup de hauts et de bas
- o Plutôt découragé(e)
- o Très découragé(e)

11. Dans l'ensemble, êtes-vous satisfait(e) dans votre travail actuel?

- o Oui
- o Non

12. Êtes-vous fier(e) de dire aux autres que vous travaillez pour cette organisation (ex. hôpital)?

- o Oui
- o Non

13. Ressentez-vous un fort attachement personnel à votre organisation?

- o Oui
- o Non

14. Pensez-vous changer votre pratique infirmière pour une autre spécialité?

- o Oui
- o Non

15. Pensez-vous abandonner les soins infirmiers pour une autre carrière?

- o Oui
- o Non

16.a. Est-ce facile de voir si votre gestionnaire est soucieux de votre bien-être au travail et votre santé?

- o Oui
- o Non

16.b. Est-ce facile de voir si votre gestionnaire s'engage à mettre en oeuvre des changements afin d'améliorer les conditions de travail?

- o Oui
- o Non

Utilisation internet

Usage de l'Internet (sous section)

17.a. Où utilisez-vous le plus Internet?

- o Maison
- o Travail

17.b. Quand utilisez-vous le plus Internet?

- o Durant le travail
- o Après le travail

18.a. Utilisez-vous Internet pour des informations concernant votre santé?

- o Oui
- o Non

18.b. Utilisez-vous Internet pour des informations concernant votre travail (ex. actualiser votre pratique avec les guides de meilleures pratiques)?

- o oui
- o Non

19. Faites-vous partie d'un groupe de chat (discussion) ou un groupe de soutien en ligne?

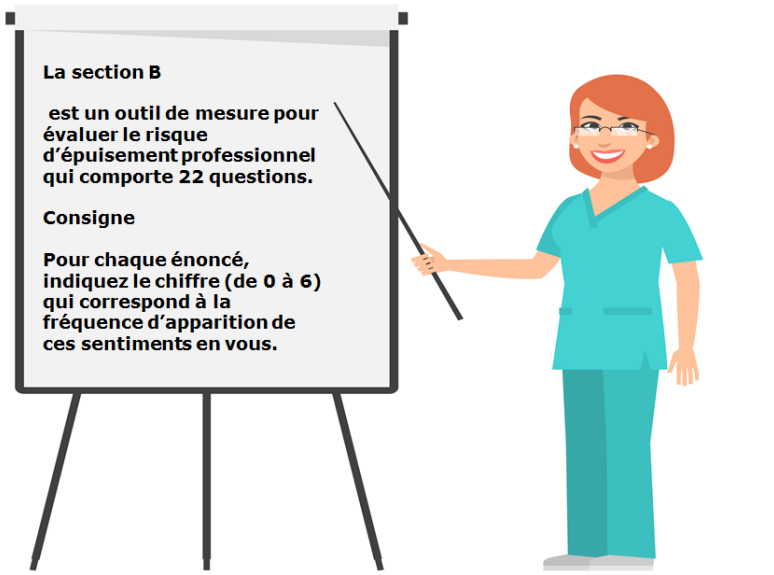
- o Oui
- o Non

20. a. En ce moment, utilisez-vous Internet pour obtenir des crédits de formation continue en ligne?

- o Oui
- o Non

20. b. Si non, seriez-vous intéressé(e) à utiliser Internet pour obtenir des crédits de formation continue?

- o Oui
- o Non



L'échelle Maslach Burnout Inventory (MBI) développée par Maslach & Jackson (1986) adaptée en français par Dion & Tessier (1988)

Section B : Épuisement professionnel

CONSIGNE

Pour chaque énoncé, indiquez le chiffre (de à 6) qui correspond à la fréquence d'apparition de ces sentiments en vous

1. Je me sens émotionnellement vidé(e) par mon travail.

□ 0 = Jamais

□ 1 = Quelques fois par année ou moins

□ 2 = Une fois par mois ou moins

□ 3 = Quelques fois par mois

□ 4 = Une fois par semaine

□ 5 = Quelques fois par semaine

□ 6 = Chaque jour

2. Je me sens épuisé(e) à la fin de ma journée de travail.

□ 0 = Jamais

□ 1 = Quelques fois par année ou moins

□ 2 = Une fois par mois ou moins

□ 3 = Quelques fois par mois

□ 4 = Une fois par semaine

□ 5 = Quelques fois par semaine

□ 6 = Chaque jour

3. Je me sens fatigué(e) quand je me lève le matin et que j'ai à faire face à une autre journée de travail.

□ 0 = Jamais

□ 1 = Quelques fois par année ou moins

□ 2 = Une fois par mois ou moins

□ 3 = Quelques fois par mois

□ 4 = Une fois par semaine

□ 5 = Quelques fois par semaine

□ 6 = Chaque jour

4. Je peux facilement comprendre ce que les patients ressentent.

□ 0 = Jamais

□ 1 = Quelques fois par année ou moins

□ 2 = Une fois par mois ou moins

□ 3 = Quelques fois par mois

□ 4 = Une fois par semaine

□ 5 = Quelques fois par semaine

□ 6 = Chaque jour

5. J'ai l'impression que je traite quelques patients comme s'ils étaient des objets impersonnels.

□ 0 = Jamais

□ 1 = Quelques fois par année ou moins

□ 2 = Une fois par mois ou moins

□ 3 = Quelques fois par mois

□ 4 = Une fois par semaine

□ 5 = Quelques fois par semaine

□ 6 = Chaque jour

6. Travailler avec les gens tous les jours est vraiment un effort pour moi.

□ 0 = Jamais

□ 1 = Quelques fois par année ou moins

□ 2 = Une fois par mois ou moins

□ 3 = Quelques fois par mois

□ 4 = Une fois par semaine

□ 5 = Quelques fois par semaine

□ 6 = Chaque jour

7. Je m'occupe très efficacement des problèmes des patients.

□ 0 = Jamais

□ 1 = Quelques fois par année ou moins

□ 2 = Une fois par mois ou moins

□ 3 = Quelques fois par mois

□ 4 = Une fois par semaine

□ 5 = Quelques fois par semaine

□ 6 = Chaque jour

8. Je me sens vidé(e) par mon travail.

□ 0 = Jamais

□ 1 = Quelques fois par année ou moins

□ 2 = Une fois par mois ou moins

□ 3 = Quelques fois par mois

□ 4 = Une fois par semaine

□ 5 = Quelques fois par semaine

□ 6 = Chaque jour

9. Je sens que j'influence positivement les autres personnes par mon travail.

□ 0 = Jamais

□ 1 = Quelques fois par année ou moins

□ 2 = Une fois par mois ou moins

□ 3 = Quelques fois par mois

□ 4 = Une fois par semaine

□ 5 = Quelques fois par semaine

□ 6 = Chaque jour

10. Je suis devenu(e) plus insensible envers les gens depuis que je fais ce travail.

□ 0 = Jamais

□ 1 = Quelques fois par année ou moins

□ 2 = Une fois par mois ou moins

□ 3 = Quelques fois par mois

□ 4 = Une fois par semaine

□ 5 = Quelques fois par semaine

□ 6 = Chaque jour

11. J'ai peur que ce travail m'éloigne de mes émotions.

□ 0 = Jamais

□ 1 = Quelques fois par année ou moins

□ 2 = Une fois par mois ou moins

□ 3 = Quelques fois par mois

□ 4 = Une fois par semaine

□ 5 = Quelques fois par semaine

□ 6 = Chaque jour

12. Je me sens très énergique.

□ 0 =Jamais

□ 1 = Quelques fois par année ou moins

□ 2 = Une fois par mois ou moins

□ 3 = Quelques fois par mois

□ 4 = Une fois par semaine

□ 5 = Quelques fois par semaine

□ 6 = Chaque jour

13. Je me sens frustré(e) par mon travail.

□ 0 = Jamais

□ 1 = Quelques fois par année ou moins

□ 2 = Une fois par mois ou moins

□ 3 = Quelques fois par mois

□ 4 = Une fois par semaine

□ 5 = Quelques fois par semaine

□ 6 = Chaque jour

14. Je sens que je travaille trop fort.

□ 0 = Jamais

□ 1 = Quelques fois par année ou moins

□ 2 = Une fois par mois ou moins

□ 3 = Quelques fois par mois

□ 4 = Une fois par semaine

□ 5 = Quelques fois par semaine

□ 6 = Chaque jour

15. Je ne m'inquiète pas vraiment de ce qui arrive à certains patients.

□ 0 = Jamais

□ 1 = Quelques fois par année ou moins

□ 2 = Une fois par mois ou moins

□ 3 = Quelques fois par mois

□ 4 = Une fois par semaine

□ 5 = Quelques fois par semaine

□ 6 = Chaque jour

16. Travailler en contact direct avec les gens met beaucoup trop de tension sur moi.

□ 0 = Jamais

□ 1 = Quelques fois par année ou moins

□ 2 = Une fois par mois ou moins

□ 3 = Quelques fois par mois

□ 4 = Une fois par semaine

□ 5 = Quelques fois par semaine

□ 6 = Chaque jour

17. Je peux facilement créer une atmosphère relaxante avec les patients.

□ 0 = Jamais

□ 1 = Quelques fois par année ou moins

□ 2 = Une fois par mois ou moins

□ 3 = Quelques fois par mois

□ 4 = Une fois par semaine

□ 5 = Quelques fois par semaine

□ 6 = Chaque jour

18. Je me sens vivifié(e) après avoir travaillé intensivement avec les patients.

□ 0 = Jamais

□ 1 = Quelques fois par année ou moins

□ 2 = Une fois par mois ou moins

□ 3 = Quelques fois par mois

□ 4 = Une fois par semaine

□ 5 = Quelques fois par semaine

□ 6 = Chaque jour

19. J'ai accompli plusieurs choses qui en valaient la peine dans mon travail.

□ 0 = Jamais

□ 1 = Quelques fois par année ou moins

□ 2 = Une fois par mois ou moins

□ 3 = Quelques fois par mois

□ 4 = Une fois par semaine

□ 5 = Quelques fois par semaine

□ 6 = Chaque jour

20. Je me sens comme si j'étais au bout du rouleau.

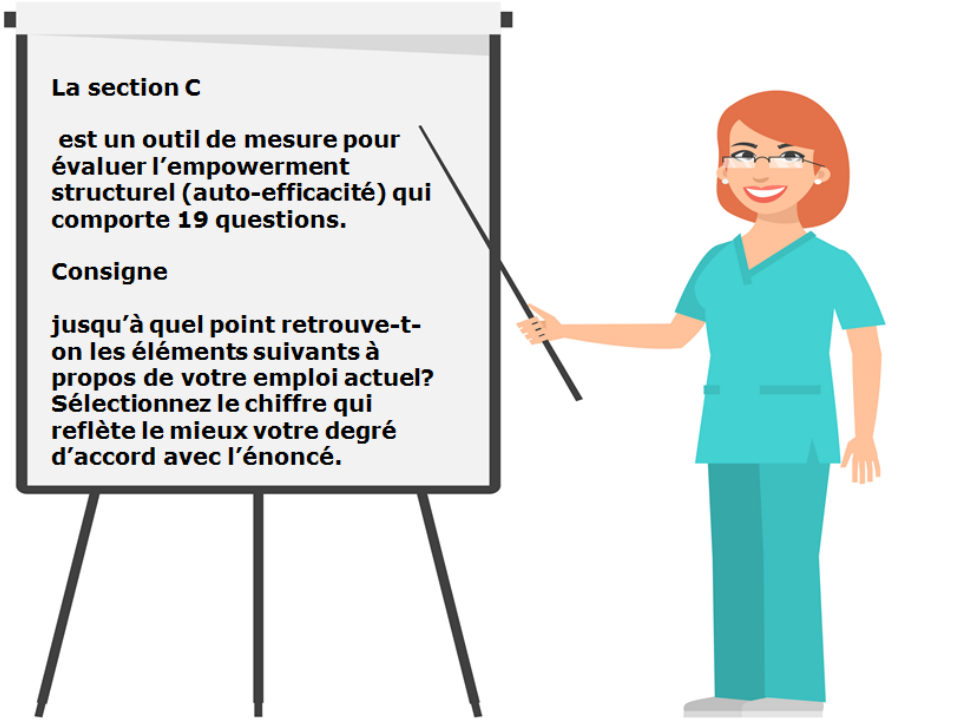
□ 0 = Jamais
□ 1 = Quelques fois par année ou moins
□ 2 = Une fois par mois ou moins
□ 3 = Quelques fois par mois
□ 4 = Une fois par semaine
□ 5 = Quelques fois par semaine
□ 6 = Chaque jour

21. Dans mon travail, je m'occupe des problèmes émotionnels très calmement

□ 0 = Jamais
□ 1 = Quelques fois par année ou moins
□ 2 = Une fois par mois ou moins
□ 3 = Quelques fois par mois
□ 4 = Une fois par semaine
□ 5 = Quelques fois par semaine
□ 6 = Chaque jour

22. Je sens que des patients me blâment pour certains de leurs problèmes

□ 0 = Jamais
□ 1 = Quelques fois par année ou moins
□ 2 = Une fois par mois ou moins
□ 3 = Quelques fois par mois
□ 4 = Une fois par semaine
□ 5 = Quelques fois par semaine
□ 6 = Chaque jour



L'instrument de mesure Condition for Work Effectiveness questionnaire (CWEQ-II) développé par Laschinger & al. (2001) & adapté en français par Laschinger & al. (2005)

22.

Section C : Empowerment structurel

Consignes

Jusqu'à quel point retrouve-t-on les éléments suivants à propos de votre emploi actuel ?

Sélectionnez-le chiffre qui reflète le mieux votre degré d'accord avec l'énoncé.

1. L'occasion de relever des défis.
   - ☐ 1 = Pas du tout
   - ☐ 2
   - ☐ 3 = Un peu
   - ☐ 4
   - ☐ 5 = Beaucoup

2. L'occasion d'acquérir de nouvelles habiletés et de nouvelles connaissances.
   - □ 1 = Pas du tout
   - □ 2
   - □ 3 = Un peu
   - □ 4
   - □ 5 = Beaucoup

3. Des tâches qui utilisent au maximum vos habiletés et vos connaissances.
   - □ 1 = Pas du tout
   - □ 2
   - □ 3 = Un peu
   - □ 4
   - □ 5 = Beaucoup

4. De l'information sur la situation actuelle de l'hôpital.
   - □ 1 = Pas du tout
   - □ 2
   - □ 3 = Un peu
   - □ 4
   - □ 5 = Beaucoup

5. De l'information sur les valeurs de la haute direction.
   - □ 1 = Pas du tout
   - □ 2
   - □ 3 = Un peu
   - □ 4
   - □ 5 = Beaucoup

6. De l'information sur les objectifs de la haute direction.
   - □ 1 = Pas du tout
   - □ 2
   - □ 3 = Un peu
   - □ 4
   - □ 5 = Beaucoup

7. De l'information précise sur ce que vous faites correctement.
   - □ 1 = Pas du tout
   - □ 2
   - □ 3 = Un peu
   - □ 4
   - □ 5 = Beaucoup

8. Des commentaires précis sur ce que vous pourriez améliorer.
   - 1 = Pas du tout
   - 2
   - 3 = Un peu
   - 4
   - 5 = Beaucoup

9. Des conseils stimulants ou des avis en résolution de problème.
   - 1 = Pas du tout
   - 2
   - 3 = Un peu
   - 4
   - 5 = Beaucoup

10. Suffisamment de temps pour s'acquitter des tâches administratives.
    1 = Pas du tout
    2
    3 = Un peu
    4
    5 = Beaucoup

11. Suffisamment de temps pour satisfaire aux exigences de l'emploi.
    - 1 = Pas du tout
    - 2
    - 3 = Un peu
    - 4
    - 5 = Beaucoup

12. Obtention d'aide temporaire au besoin.
    - 1 = Pas du tout
    - 2
    - 3 = Un peu
    - 4
    - 5 = Beaucoup

13. Récompenses reliées à l'innovation au travail.
    - 1 = Pas du tout
    - 2
    - 3 = Un peu
    - 4
    - 5 = Beaucoup

14. Une certaine souplesse d'emploi.
- □ 1 = Pas du tout
- □ 2
- □ 3 = Un peu
- □ 4
- □ 5 = Beaucoup

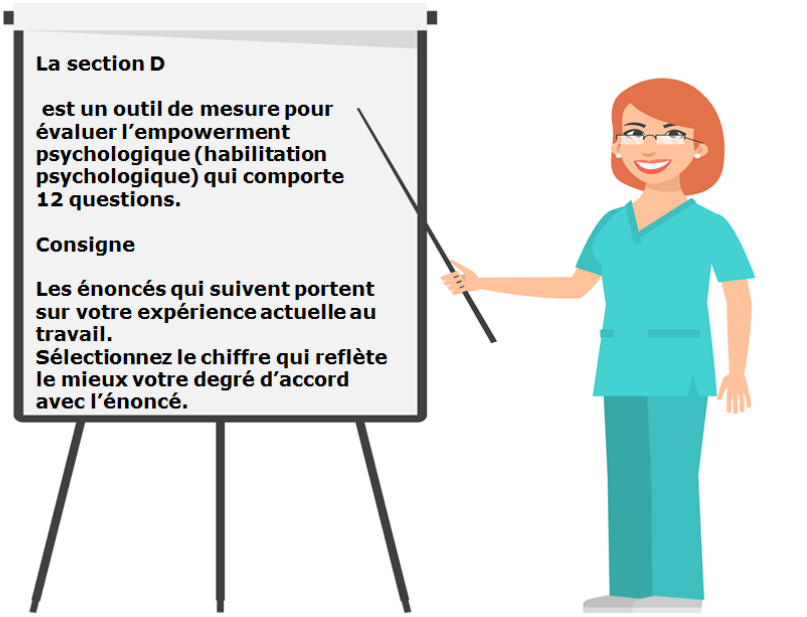
15. Une certaine visibilité dans l'hôpital pour les activités reliées à mon emploi.
- □ 1 = Pas du tout
- □ 2
- □ 3 = Un peu
- □ 4
- □ 5 = Beaucoup

16. Collaboration avec les médecins.
- □ 1 = Pas du tout
- □ 2
- □ 3 = Un peu
- □ 4
- □ 5 = Beaucoup

17. Sollicitée par des pairs pour résoudre des problèmes.
- □ 1 = Pas du tout
- □ 2
- □ 3 = Un peu
- □ 4
- □ 5 = Beaucoup

18. Sollicitée par l'administration pour aider à résoudre des problèmes.
- □ 1 = Pas du tout
- □ 2
- □ 3 = Un peu
- □ 4
- □ 5 = Beaucoup

19. Collaboration avec d'autres professionnels de la santé. Ex.: Physiothérapeutes, ergothérapeutes, diététistes.
- □ 1 = Pas du tout
- □ 2
- □ 3 = Un peu
- □ 4
- □ 5 = Beaucoup



L'instrument de mesure Psychological Empowerment Scale (PES) questionnaire développé par Spreitzer (1995) & adapté en français par Boudrias & al. (2010)

Section D : Empowerment psychologique

CONSIGNE

Les énoncés qui suivent portent sur votre expérience actuelle au travail. Sélectionnez le chiffre qui reflète le mieux votre degré d'accord avec l'énoncé.

1. Le travail que je fais a beaucoup de sens pour moi.
   - ☐ 1 = Pas d'accord
   - ☐ 2 = Un peu d'accord
   - ☐ 3 = Assez d'accord
   - ☐ 4 = Très d'accord
   - ☐ 5 = Tout à fait d'accord

2. Je me sens tout à fait capable de réaliser les résultats attendus dans mon travail.
   - ☐ 1 = Pas d'accord
   - ☐ 2 = Un peu d'accord
   - ☐ 3 = Assez d'accord
   - ☐ 4 = Très d'accord
   - ☐ 5 = Tout à fait d'accord

3. Je peux décider moi-même de la façon d'organiser mon travail.
   □ 1 = Pas d'accord
   □ 2 = Un peu d'accord
   □ 3 = Assez d'accord
   □ 4 = Très d'accord
   □ 5 = Tout à fait d'accord

4. J'ai beaucoup d'influence dans mon groupe de travail.
   □ 1 = Pas d'accord
   □ 2 = Un peu d'accord
   □ 3 = Assez d'accord
   □ 4 = Très d'accord
   □ 5 = Tout à fait d'accord

5. Ce que je réalise dans ce travail est très important pour moi.
   □ 1 = Pas d'accord
   □ 2 = Un peu d'accord
   □ 3 = Assez d'accord
   □ 4 = Très d'accord
   □ 5 = Tout à fait d'accord

6. Je suis sûr(e) de mes compétences pour réaliser de bons résultats au travail.
   □ 1 = Pas d'accord
   □ 2 = Un peu d'accord
   □ 3 = Assez d'accord
   □ 4 = Très d'accord
   □ 5 = Tout à fait d'accord

7. Je suis assez libre et indépendant(e) dans la réalisation de mon travail.
   □ 1 = Pas d'accord
   □ 2 = Un peu d'accord
   □ 3 = Assez d'accord
   □ 4 = Très d'accord
   □ 5 = Tout à fait d'accord

8. Je peux influencer les décisions au sein de mon groupe de travail.
   □ 1 = Pas d'accord
   □ 2 = Un peu d'accord
   □ 3 = Assez d'accord
   □ 4 = Très d'accord
   □ 5 = Tout à fait d'accord

9. Mes activités de travail ont beaucoup d'importance à mes yeux.
   □ 1 = Pas d'accord
   □ 2 = Un peu d'accord
   □ 3 = Assez d'accord
   □ 4 = Très d'accord
   □ 5 = Tout à fait d'accord

10. J'ai toutes les capacités nécessaires pour atteindre un bon niveau de performance dans mon travail.
   □ 1 = Pas d'accord
   □ 2 = Un peu d'accord
   □ 3 = Assez d'accord
   □ 4 = Très d'accord
   □ 5 = Tout à fait d'accord

11. Je peux prendre des décisions concernant mon travail de manière autonome.
   □ 1 = Pas d'accord
   □ 2 = Un peu d'accord
   □ 3 = Assez d'accord
   □ 4 = Très d'accord
   □ 5 = Tout à fait d'accord

12. Je peux influencer l'organisation de mon groupe de travail.
   □ 1 = Pas d'accord
   □ 2 = Un peu d'accord
   □ 3 = Assez d'accord
   □ 4 = Très d'accord
   □ 5 = Tout à fait d'accord

Télécharger le fichier* ci-dessous et faites-le imprimer
Cliquer sur le lien : CertificatFormationContinue.pdf
***Veuilez inscrire votre nom, la date et la durée du sondage**
Pour toute information supplémentaire ou commentaire écrire à
Christina Doré, Inf, MSc Inf, PhD (c) :
christina.dore@unb.ca

ATTENTION APRÈS AVOIR RÉCUPÉRÉ VOTRE CERTIFICAT CLIQUEZ SUR SUIVANT POUR QUE VOTRE SONDAGE SOIT ENREGISTRÉ

SUIVANT

Appendix M

Information and Consent Form Phase 2 (English version)

INVITATION LETTER – FOCUS GROUPS

Dear colleagues,

You are invited to participate in a research study. Before making a decision, it is important that you understand why this study is conducted, what is expected of participants, how the informations will be used and what are the benefits and risks that could result from the study. Please take the time to carefully read the following information (and the information document on the research) and if you are interested in participating in this study, contact the principal investigator Christina Doré. When you will be well informed about the study and that all your questions are answered, if you wish to participate in this study you will be asked to sign the consent form and to bring it at the focus group session.

Purpose of this study

Stress is a problem that is well known and identified within the nursing profession. Nurses working in hemodialysis are exposed to a High level of stress as a result of specific stressors that can have a major impact on their health and the quality of care. Previous research has shown that empowerment would decrease the stress at work and the risk of burnout of nurses. As part of her doctoral these, the principal investigator proposes a first phase which is to assess the risk of burnout and the level of empowerment of hemodialysis nurses and a second phase involving the development of recommendations for the creation of a professional website to promote their empowerment, improve their well-being at work and reduce their burnout.

Your engagement

If you agree to participate in this second phase of research, your participation consists of participating in a focus group. A focus group is a group discussion with 6 to 8 people. In this study, two focus groups will be composed of hemodialysis nurses, members of the nursing educational team specialized in nephrology; Nursing Counselors, nursing practice consultants and nurse pratitioners. These focus groups will be led by the principal investigator Christina Doré. The purpose of these focus groups is to identify type of information/elements necessary for the implementation of a future website in order to promote empowerment, enhance well-being at work and reduce burnout of hemodialysis nurses. Each session will last from 60 to 120 minutes and will be video recorded. They will be transcribed and kept by the research team on a secured USB key (in a locked cupboard for 5 years). Note that you could participate in an additional focus group session aimed to propose how to conceptualize the future website according to the suggestions made by the hemodialysis nurses during the two first focus groups and propose examples of websites/website tools. Subsequently, the principal investigator will write the final recommendations for the development of the website that will be presented, discussed and approved by the advisory team before they are submitted to the Société québécoise de néphrologie. For any additonal information or to manisfest your interest, make sure to communicate by email with the principal investigator Christina Doré: Christina.Dore@unb.ca

INFORMATION AND CONSENT FORM

(PHASE - 2 : FOCUS GROUP SESSIONS)

You are invited to participate in a research project. This document provides information on the conditions for this research project. If there are words or paragraphs that you don't understand, feel free to ask us questions. To participate in this research project, you must read this document and complete the consent section.

Project Title

Exploration of Online Strategies Favorable to Promote Empowerment, Enhance Well-Being and Reduce Risk of Burnout of Hemodialysis Nurses

Research Team

Principal investigator: Christina Doré, MScN, Ph.D. candidate, Faculty of interdisciplinary studies at the University of New Brunswick, can be contacted by email at: Christina.Dore@unb.ca

Supervisors: Linda Duffett-Leger, Ph.D., Assistant Professor, Faculty of Nursing, University of Calgary, can be contacted by e-mail at: linda.duffettleger@ucalgary.ca

Mary McKenna, Ph.D., Professor, Faculty of Kinesiology, University of New Brunswick, Acting Assistant Dean, Faculty of interdisciplinary studies, can be contacted by e-mail at:mmckenna@unb.ca

Advisory member: Scott Bateman, Ph.D., Assistant Professor, Faculty of Computer Science, University of New Brunswick

Jonathan Salsberg, PhD, Associate Director of Participatory Research at McGill University (PRAM) – Department of Family Medicine.

Objective of the Project

This study aims to identify the information to include in a future professional website to promote the empowerment, enhance well-being at the work and reduce risk of burnout of hemodialysis nurses working in Quebec and to make recommendations for its development.

Reason and Nature of Participation

As a nurse specialized in hemodialysis, you are invited to participate in this research. If you accept, you will be asked to provide consent for the participation in this research project which consists of one focus group session led by myself, Christina Doré. You will be asked to reflect, discuss and make suggestions on type of information and elements that you would like to see in a professional website in order to promote the empowerment and well-being at work and reduce risk of burnout. With your permission, the session will be video recorded and transcribed. The session will last approximately 60-120 minutes. Note that you could be part of an additional focus group session of 60-120 minutes in order to validate the suggestions made by the two previous focus groups and to select examples of websites or web tools available to meet the specific needs identified for hemodialysis nurses (based on consensus). These recommendations will be compiled and presented by the principal investigator to the Advisory team who will approve them before they are presented to the Société québécoise de néphrologie.

Benefits Associated with Participation

This research aims to advance knowledge about how technology could be used to promote the empowerment, enhance well-being at work and reduce risk of burnout of hemodialysis nurses. By accepting to participate in this research, you may provide us with valuable information that will contribute to make suggestions for the development

of a future website in order to meet the needs of hemodialysis nurses, to promote their empowerment, enhance well-being at work and reduce risk of burnout. As member of the population directly targeted by this research, you may benefit from the project since you will be actively contributing to the recommendations for the creation of a potential website to meet the needs of your community.

Risk Associated with Participation

There is no known direct risk associated with participation in this study.

Right of Withdrawal without Prejudice to Participation

It is understood that your participation in this research project is entirely voluntary and that you remain free, at any time, to terminate your participation without having to justify your decision. However, it is important to understand that is a group exercise and it will be impossible to completely destroy the recordings.

Privacy, Sharing, Surveillance and Publications

The information you give will be available only to other members of the design sessions, me and my research team (Drs. Linda Duffett-Leger, Mary McKenna, Scott Bateman and Jonathan Salsberg). Your name will not appear in the reports. During the research you will be identified by a code (pseudonym or number). All field notes, recordings and transcripts will be kept by the team of researchers in a locked cupboard and destroyed five years after the end of the study. The principal investigator will use the data for research purposes to meet the scientific objectives of the research project described in this information and consent form. The research project data may be

published in scientific journals or shared with others in scientific discussions. No publication or scientific communication will include information that identifies you unless your permission is requested in advance. We ask that you respect the confidentiality of other study participants keeping their identity private and any information they provide during the design sessions.

Research Results

If you wish to be informed of the results of the research and publications that will result, we invite you to contact the principal investigator to make a request by email at: Christina.Dore@unb.ca

Ethical monitoring is the responsibility of the Chair of Ethics Board. This project was revised by the Research Ethics Board of the University of New Brunswick and has the following file number REB 2016-126. The ethics committee will first will approve beforehand any revision and any changes to the information and consent form as well as the research protocol.

You can talk about any ethical concerns regarding your participation in this project with Rendall Drew, Dean of Graduate Studies by contacting him by email: d.rendall@unb.ca or with Dr. Steven Turner, Chairman of the Research Ethics Board of the University of New Brunswick, by communicating through his Secretariat by email at: ethics@unb.ca

N. B. The researchers and partners declare they have no conflict of interest in relation with this research project.

THANK YOU FOR YOUR PRECIOUS COLLABORATION

Appendix N

Information and Consent Form Phase 2 (French version)

LETTRE D'INVITATION – GROUPE DE PAROLE (FOCUS GROUP)

Cher collègues,

Vous êtes invité à participer à une étude de recherche. Avant de prendre une décision, il est important que vous compreniez pourquoi cette étude est réalisée, comment les renseignements vous concernant seront utilisés, en quoi consisterait votre participation ainsi que les avantages et les risques qu'elle pourrait entraîner. Veuillez prendre le temps de lire attentivement les renseignements qui suivent (et le document d'informations à la recherche) et si vous avez un intérêt à participer à cette étude, communiquer avec la chercheure principale Christina Doré. Lorsque vous serez bien renseigné au sujet de l'étude et qu'on aura répondu à toutes vos questions, si vous désirez participer à l'étude on vous demandera de signer le formulaire de consentement et de le présenter lors du groupe «focus».

Raison d'être de l'étude

Le stress est un problème bien connu et identifié au sein de la profession infirmière. Les infirmières travaillant en hémodialyse sont exposées à un niveau de stress élevé résultant de stresseurs spécifiques qui peut avoir un impact majeur sur leur santé et la qualité des soins. Des recherches antérieures ont démontré que l'empowerment diminuerait le stress au travail et le risque d'épuisement professionnel des infirmières. L'investigatrice principale propose, dans le cadre de sa thèse de doctorat, une première phase qui consiste à évaluer le risque d'épuisement professionnel et le niveau

d'empowerment des infirmières en hémodialyse et une deuxième phase qui comporte le développement de recommendations pour la création d'un site internet professionnel visant à promouvoir leur empowerment, améliorer leur bien-être au travail et réduire leur épuisement professionnel.

Votre engagement

Si vous consentez à participer à cette deuxième phase de recherche, votre participation consiste à participer à un groupe « focus ». Un groupe « focus » correspond à une discussion de groupe comprenant entre 6 à 8 personnes. Dans le cadre de cette étude, deux groupes «focus» seront composés d'infirmières en hémodialyse, de membres de l'équipe conseil spécialisée en néphrologie; conseillères en soins, cadres conseil et infirmières praticiennes. Ces groupes « focus » seront animés par l'investigatrice principale Christina Doré. Le but de ces groupes «focus» est d'identifier le type d'information nécessaire pour la mise en œuvre d'un futur site web afin de promouvoir l'empowerment, améliorer le bien-être au travail et réduire l'épuisement professionnel des infirmières en hémodialyse. La séance durera de 60 à 120 minutes et sera vidéo enregistrée. Elle sera transcrite et conservée par l'équipe de recherche sur une clef USB sécurisée (dans une armoire barrée pour 5 ans). À noter, vous pourriez participer à une séance additionnelle de groupe « focus » qui viserait à proposer comment conceptualiser ce futur site web selon les suggestions émissent par les infirmières d'hémodialyse lors des deux premiers groupes « focus » et proposer des exemples de sites web/outils de site web. Par la suite, la chercheure principale rédigera les recommendations finales pour le développment du site web qui seront présentées, discutées et approuvées par l'équipe consultative avant d'être soumises à la Société québécoise de néphrologie. Pour toute information supplémentaire ou manifester votre intérêt, veillez communiquer par courriel avec la chercheure principale Christina Doré: Christina.Dore@unb.ca

INFORMATIONS ET FORMULAIRE DE CONSENTEMENT

(PHASE – 2: SESSION DE GROUPE DE PAROLE /GROUPE FOCUS)

Vous êtes invité(e) à participer à un projet de recherche. Le présent document vous renseigne sur les modalités de ce projet de recherche. S'il y a des mots ou des paragraphes que vous ne comprenez pas, n'hésitez pas à nous poser des questions. Pour participer à ce projet de recherche, vous devez lire attentivement ce document et compléter la partie du consentement.

Titre du projet

Exploration de stratégies en ligne favorables à la promotion de l'empowerment, l'amélioration du bien-être au travail et la réduction du risque d'épuisement professionnel des infirmières d'hémodialyse

Équipe de la recherche

La chercheure principale: Christina Doré, MSc inf, candidate au doctorat, faculté des études interdisciplinaires de l'Université du Nouveau-Brunswick, peut être contactée par courriel à : Christina.Dore@unb.ca

Les directrices: Linda Duffett-Leger, PhD, professeure adjointe, Faculté des sciences infirmières de l'Université de Calgary, peut être contactée par courriel à : linda.duffettleger@ucalgary.ca

Mary McKenna, PhD, professeure, Faculté de kinésiologie de l'Université du Nouveau-Brunswick et adjointe au doyen, faculté des études interdisciplinaires, peut être contactée par courriel à :
mmckenna@unb.ca

Membres aviseur: Scott Bateman, PhD, professeur adjoint, Faculté d'informatique de l'Université du Nouveau- Brunswick

Jonathan Salsberg, PhD, Directeur associé et directeur de la recherche, Centre pour la recherche participative à McGill (PRAM)

Objectif du projet

La présente étude vise à identifier les informations à inclure dans un futur site web professionnel visant à promouvoir l'empowerment, améliorer le bien-être au travail et réduire le risque d'épuisement professionnel des infirmières d'hémodialyse du Québec et faire des recommandations pour son développement.

Raison et nature de la participation

En tant qu'infirmière spécialisée en hémodialyse, vous êtes invitée à participer à cette recherche. Si vous acceptez, on vous demandera de fournir un consentement relatif à la participation au projet de recherche qui consiste à une séance de groupe de parole (groupe de focus) animé par moi-même, Christina Doré. On vous demandera de réfléchir, discuter et faire des suggestions sur des informations et des éléments que vous souhaiteriez le plus voir dans un site web professionnel afin de promouvoir l'empowerment, améliorer le bien-être au travail et réduire le risque d'épuisement professionnel. Avec votre permission, cette séance sera enregistrée sur vidéo et transcrite. La session durera environ 60-120 minutes. À noter que vous pourriez faire partie d'une séance de groupe de parole additionnelle de 60-120 minutes afin de valider les suggestions émises par les deux groupes de parole précédents et sélectionner des exemples de sites web ou des outils web disponibles pour répondre aux besoins spécifiques identifiés pour les infirmières d'hémodialyse (sur une base de consensus). Ces recommandations seront compilées et présentées par la chercheure principale à l'équipe consultative qui les approuvera avant de les présenter à la Société québécoise de néphrologie.

Avantages associés à la participation

Cette recherche vise à l'avancement des connaissances sur la façon dont la technologie pourrait être utilisée pour favoriser l'empowerment, le bien-être au travail et réduire le risque d'épuisement professionnel des infirmières d'hémodialyse. En acceptant de participer à cette recherche, vous pouvez nous fournir de précieuses informations qui contribueront à faire des suggestions pour le développement d'un futur

site web afin de répondre aux besoins des infirmières d'hémodialyse, de promouvoir leur empowerment et leur bien- être au travail et de réduire leur risque d'épuisement professionnel. En tant que membre de la population directement visée par cette recherche, vous pouvez bénéficier des retombées du projet puisque vous allez contribuer activement aux recommandations visant la création d'un potentiel site web pour répondre aux besoins de votre communauté.

Inconvénients associés à la participation

Il n'y a aucun risque direct connu associé à la participation à cette étude.

Droit de retrait sans préjudice de la participation

Il est entendu que votre participation à ce projet de recherche est tout à fait volontaire et que vous restez libre, à tout moment, de mettre fin à votre participation sans avoir à motiver votre décision. Cependant, il est important de comprendre que puisqu'il s'agit d'un exercice de groupe il sera impossible d'effectuer une destruction totale des enregistrements.

Confidentialité, partage, surveillance et publications

Les informations que vous donnez seront disponibles uniquement aux autres membres des séances de conception, moi et mon équipe de recherche (Drs Linda Duffet-Leger, Mary McKenna, Scott Bateman et Jonathan Salsberg). Votre nom n'apparaîtra pas dans les rapports. Au cours de la recherche vous serez identifié par un code (pseudonyme ou numéro). Toutes les notes de terrain, enregistrements et transcriptions seront conservés par l'équipe de chercheurs dans une armoire verrouillée puis détruits cinq ans après la fin de l'étude. La chercheure principale utilisera les données à des fins de recherche dans le but de répondre aux objectifs scientifiques du projet de recherche décrit dans ce formulaire d'information et de consentement. Les données du projet pourront être publiées dans des revues scientifiques ou partagées avec d'autres personnes lors de discussions scientifiques. Aucune publication ou communication scientifique ne comportera de l'information permettant de vous

identifier sauf si votre autorisation est demandée à l'avance. Nous demandons que vous respectiez la confidentialité des autres participants à l'étude en gardant leur identité privée ainsi que toute information qu'ils fournissent aux sessions de conception.

Résultats de la recherche

Si vous désirez être informé des résultats de la recherche et des publications qui en découleront, nous vous invitons à contacter la chercheure principale pour en faire la demande. Contactez-la par courriel à : Christina.Dore@unb.ca

Ce projet a été révisé par le comité d'éthique de la recherche de l'Université du Nouveau-Brunswick et porte le numéro de dossier suivant REB 2016-126. Le comité d'éthique approuvera au préalable toute révision et toute modification apportée au formulaire d'information et de consentement ainsi qu'au protocole de recherche.

Vous pouvez parler de toutes préoccupations d'ordre éthique concernant votre participation à ce projet avec Rendall Drew, doyen des études supérieures en communiquant avec lui par courriel: d.rendall@unb.ca

ou avec Dr Steven Turner, président du Comité d'éthique de la recherche de l'Université du Nouveau-Brunswick, en communiquant avec son secrétariat par courriel à : ethics@unb.ca

N. B. Les chercheures et partenaires déclarent n'avoir aucun conflit d'intérêts en lien avec le présent projet de recherche.

MERCI DE VOTRE PRÉCIEUSE COLLABORATION

Appendix O

Focus Groups Guide and Questions (English version)

First Round

Introduction

Brief presentation on the study concepts: burnout, empowerment (structural an psychological), well-being & significant results obtained from the survey.

Do you have any comments about the results?
Probe: results that did or did not surprise you?

Empowerment, Well-being, and Burnout

Now, I would like to ask you a few questions about empowerment, well-being, and burnout:

1. Have you ever been feeling disempowered at work... and why?
2.What are you currently doing or have done in the past to help support your own well-being at work?
3. What are you currently doing or have done in the past to help you feel more empowered at work?
4. What are you currently doing or have done in the past to help you reduce your risk of burnout due to work?

Website

*If there is a mention about the use of an on-line resource, then follow-up questions: what are the resources, how and where do you use them (at work or away from work), how did you learn about them, benefits from using them, challenges to use them? …

5. If a professional website was designed for hemodialysis nurses that provided you with resources to help with your well-being and empowerment and reduce burnout risk, what would you think of that idea? Probes: reasons why it is a good or poor idea?

*If the answer is that a website is a poor idea, then no point in pursuing this line of questions, except to probe more on the reasons why it is a poor idea and what other strategies might help improve well-being, empowerment, and reduce burnout risk.

*If the answer is that a website is a good idea, then you can continue with the website questions.

A. What information about well-being could be part of the website?
B. What information about empowerment could be part of the website?
C. What information on the website about burnout risk might be helpful to you?
D. What types of activities on the website might support your well-being and empowerment and help reduce burnout risk, such as chat rooms, etc.?
E. When do you think it would be appropriate to use such a website (at work or on your own time)?
F. What do you see as potential benefits of such as website (for you and in general for the HD community)?
G. What do you see as the main barriers or issues (to using it or other)?

Specific on Structural and Psychological Empowerment

A. What type of resources you would like to find on a website to support your continuing education or professional development needs?
B. What would be the type of information (themes/subjects that you think should be covered)?
C. What resources or activities could be available on a website to make you feel more supported?
D. What information or resources would you like to find on a website to help you do your job?
E. What resources could be included on a website to better respond to your patients' needs?
F. What opportunities could a website offer to increase your visibility and creativity?
G. What can be included in a website to increase your autonomy at work and your ability to make clinical decisions and feel competent?

Second Round

Introduction

Brief presentation on the thematic analysis on the first round of focus groups and examples of websites or web tools available to meet the specific needs of hemodialysis nurses. There were few formal questions, however extensive discussion about website development occurred.

1. Who should be involved in analyzing updating the content?
2. Do you feel this website should provide a competency certificate following online self-learning activities?
3. How could this website be promoted?

Appendix P

Focus group Guide and Questions (French version)

First Round (première ronde)

Introduction

Commencer par un bref exposé sur les concepts à l'étude: burnout/empowerment (structurel et psychologique), bien-être & résultats significatifs obtenus lors de l'enquête.

Avez-vous des commentaires sur les résultats?

Probe: Y avait-il des résultats qui vous ont surpris ou d'autres qui ne vous ont pas surpris?

Empowerment, bien-être et épuisement professionnel (burnout)

Maintenant, j'aimerais vous poser quelques questions sur l'empowerment, le bien-être et l'épuisement professionnel (laissez-moi savoir si vous voulez que je revise certains concepts):

L'empowerment est synonyme du pouvoir d'agir et de contrôle sur la pratique

1. Avez-vous déjà ressenti un manque d'empowerment au travail ... et pourquoi?
2. Que faites-vous actuellement ou avez-vous fait dans le passé pour améliorer votre bien-être au travail?
3. Que faite-vous actuellement ou avez fait dans le passé pour améliorer votre votre empowerment au travail?
4. Que faites-vous actuellement ou avez-vous fait dans le passé pour vous aider à réduire votre risque de burnout dû au travail?

Site web

*Si il y a mention de l'utilisation de ressources, les questions de suivi sont: quelles sont les ressources, comment et où vous les utilisées (au travail ou à l'extérieur du travail), comment avez-vous pris connaissance de ces ressources, Les bénéfices et défis à les utiliser?. . .

5. Si un site Web professionnel serait conçu pour les infirmières en hémodialyse qui fournirait des ressources pour améliorer votre bien-être et l'empowerment et réduire le risque d'épuisement professionnel, que pensez-vous de cette idée?

Probes: Quelles sont les raisons qui font en sorte que c'est une bonne ou mauvaise idée?

*Si les réponses sont que c'est une mauvaise idée, alors pas besoin de poursuivre avec cette ligne de questions, sauf pour approfondir plus sur les raisons pouquoi c'est une mauvaise idée et quelles autres stratégies pourraient contribuer à améliorer leur bien-être, leur empowerment et réduire leur risque d'épuisement professionnel.

*Si les réponses sont qu'un site Web est une bonne idée, alors vous pouvez continuer avec les questions du site Web.

A. Quelles informations sur le bien-être pourraient faire partie du site Web?
B. Quelles informations sur l'empowerment pourraient faire partie du site Web?
C. Quelles informations sur le risque de burnout pourraient faire partie du site Web?
D. Quels types d'activités sur le site Web pourraient favoriser votre bien-être et l'empowerment et aider à réduire le risque d'épuisement professionnel, comme des forums de discussion, etc.?
E. Quand pensez-vous qu'il serait approprié d'utiliser un tel site Web (au travail ou à votre propre temps)?
F. Quelles sont les avantages potentiels d'un tel site Web (pour vous et la communauté infirmière en hémodialyse)?
G. Quels seraient les principaux obstacles ou problèmes (reliées à leur utilization ou autres)?

Spécifiques à l'empowerment structurel et psychologique

A. Quels types de ressources aimeriez-vous trouver sur un site Web pour soutenir vos besoins en formation continue et votre développement professionnel?
B. Quel serait le type d'information (thèmes/sujets qui devraient être couverts)?
C. Quelles ressources ou activités sur un site Web vous aideraient à vous sentir plus soutenue?
D. Quelles informations ou ressources sur un site Web vous aideraient à faire votre travail?
E. Quelles ressources sur un site Web pourraient vous aider à mieux répondre aux besoins de vos patients?
F. Y a-t-il des opportunités qu'un site Web pourraient offrir pour augmenter votre visibilité et votre créativité?
G. Que pourrait-on inclure dans un site Web pour augmenter votre autonomie au travail, votre capacité à prendre des décisions cliniques et votre sentiment de compétence?

Second Round (deuxième ronde)

Introduction

Brève présentation sur l'analyse thématique de la première série de groupes de discussion et d'exemples de sites Web ou d'outils Internet disponibles pour répondre aux besoins spécifiques des infirmières en hémodialyse. Il y avait peu de questions formelles, mais une discussion approfondie sur le développement de sites Web s'est produite.

1. Qui devrait participer à l'analyse et la mise à jour du contenu?
2. Pensez-vous que ce site Web devrait fournir un certificat de compétence à la suite d'activités d'auto-apprentissage en ligne?
3. Comment ce site Web pourrait-il être promu?

Appendix Q

Report Submitted to REINQ (English report)

Recommendations for the development of a future professional website for hemodialysis nurses working in Quebec

August, 2017

Presented by Christina Doré, RN, MScN, PhD candidate at the University of New-Brunswick supervised by Drs Duffett-Leger and McKenna

PRESENTATION OF THE PRINCIPAL INVESTIGATOR

I am a PhD candidate at the University of New Brunswick (UNB). I have previously obtained a Master of Science in Nursing - Advance Practice (Specialty: Clinical Nurse Specialist; with all the courses of the Nurse Practioner program in Nephrology). I worked and did internships over the years in various hemodialysis centers, therefore I am familiar with the hemodialysis nursing community and the challenges of the practice. I have spent the last 7 years of my practice as a Nursing Practice Consultant at the Directorate of Nursing of a Montreal Hospital Center. I Chaired and sat on various committees for the nursing and interdisciplinary practices, acted as a consultant for the care teams to optimize care and developed several tools to support the practices.

My doctoral research subject is burnout among hemodialysis nurses because during my 26 years of nursing practice, I witnessed working climates that deteriorated and conflicts generated by colleagues suffering from burnout, but it is their suffering that concerns me the most. In addition, as part of my duties as a Nursing Practice Consultant, I worked closely with hemodialysis nurses on different projects and several of them revealed that they were overworked and near exhaustion and that a change was needed to support them in their practice. Hemodialysis is a stimulating specialty, but also offers challenges that provide a stressful environment where nurses often lack power. My research interests focus on developing practices and creating innovative interventions to change the nurses' work environment to improve the quality of care and promote the empowerment, well-being and health of nurses.

As part of my research, an Advisory Team was engaged and consulted throughout the phase 1 and phase 2 of the study (see annex A: Advisory Team membership and signatures).

LIST OF ACRONYMS

CNA: Canadian Nurses Association; ICT: Information and communication technology; MSSS: Ministère de la santé et des services sociaux; REINQ : Regroupement visant l'excellence de la pratique infirmière en néphrologie au Québec*;* SQN: Société québécoise de néphrologie; WHO: World Health Organization

EXECUTIVE SUMMARY

Nursing is considered to be one of the most stressful professions that predispose employees to burnout. Recently, it was discovered that 30-41% of North American nurses working in hemodialysis are affected by burnout (Flynn & al., 2009; Harwood & al., 2010; Ridley & al., 2009), however the situation is unknown in Quebec. Burnout is a psychological syndrome of emotional exhaustion, depersonalization and reduced perceptions of personal accomplishment (Maslach, 2003). It is a serious problem because it can negatively affect the health and well-being of nurses, the patient outcome and functioning of health organizations. Empowerment is found to be useful in some nursing specialties to reduce the risk of burnout and to improve the well-being and productivity of nurses. Workplace empowerment of nurses is viewed in two ways: structural empowerment corresponds to the presence of organizational structures of empowerment as perceived by the nurses, while psychological empowerment consists of the fundamental personal beliefs of nurses about their work role that make them feel empowered. Although several studies uncovered the benefits of using strategies to empower nurses, the way to achieve it is still not clearly defined. Using a professional website may be helpful to enhance hemodialysis nurse empowerment and reduce their risk of burnout since it was suggested that websites can provide tools for nurses to respond to their health and professional needs. Furthermore, the Canadian Nurses Association (CNA) recommended that nurses participate in the selection, design and implementation of websites to ensure they meet their needs and that they are user-friendly to encourage their usage (CNA, 2006).

Our study was undertaken in two phases. **Phase 1** used an anonymous online survey to assess the risk of burnout and empowerment status of hemodialysis nurses working in Quebec. **Results**: 38% of hemodialysis nurses in Quebec had high levels of emotional exhaustion, the majority peceived their workplace as moderately empowering and also reported feeling moderately empowered at work. Furthermore, the structural and psychological empowerment were significantly related to burnout and therefore should be strenghtened. **Conclusion:** the creation of a professional website should be considered since the hemodialysis nurses wanted to use a website if existed to address their professional and health needs.

Phase 2 adopted a participatory action research approach using a series of focus groups with hemodialysis nurses (intended users) to provide specific recommendations for the development of a future website including the information and elements hemodialysis nurses need to be empowered at work, reduce their risk of burnout and promote their well-being. The recommendations for the proposed website will be presented to the REINQ (Regroupement visant l'excellence de la pratique infirmière en néphrologie au Québec). **Results**: Collaboratively, four main recommendations were formulated:

Recommendation #1 that a website should be developed for the entire hemodialysis nursing community in Quebec and include professional development/continuing education tools and activities, information and resources to facilitate the accomplishment of work tasks, peer social support, netwworking, and wellness at work information and resources.

Recommendation #2 that an executive committee be created to guide the content to be accessible on the website to ensure it is evidence-based and updated periodically (if website designed). This committee should be interdisciplinary to share expertise and knowledge**. Recommendation #3** Develop written ground rules for online discussions and a moderator if a forum is created.

Recommendation #4 The potential web site should be user-friendly and easy to navigate for all nurses and include the following five main tabs: continuing education, practice information, healthy lifestyle, networking and contact information (see final recommendations section).

Main advantages of developing a professional website for hemodialysis nurses: easy access at all times to shared evidence-based and updated information and resources, continuing education that could be standardized accross Quebec and peer social support. **Overall conclusion:** a professional website holds a great promise for the development of nursing practice, the promotion of wellness at work and reduction of the risk of burnout of hemodialysis nurses.

INTRODUCTION

Nurses are the largest group of professionals working in the health system in Canada and over the years they faced multiple organizational changes that lead to an increased workload and work demands, creating high levels of stress (Santé Canada, 2007). Burnout develops as a response to chronic exposure to stress at work (Maslach, 2003). The World Health Organization (WHO) recognizes that burnout is a widespread workplace wellness problem and strongly encourages the development of interventions because of the negative consequences it can have on the employees and organizations (WHO, 2013; 2014).

The empowerment of nurses and workplace wellness are closely related since empowerment is considered to be a positive strategy to support the nursing practice and enhance the nurses' well-being by increasing their job satisfaction and engagement (Laschinger & al., 2001). Hemodialysis nurses are known to practice in a highly technical and stressful work environments. A Canadian study emphasized on the need to better understand the context of care in nephrology and develop positive work environments strategies (Ridley & al., 2009). Currently, there is limited evidence on nursing burnout in

hemodialysis (Flynn & al., 2009) and there is no information on the situation in Quebec. It is therefore crucial to better understand the problem and intervene.

The present report is intented for the REINQ, whose mission is to develop the nephrology and its practice for its members. It starts by briefly providing key information and an overview of literature to demonstrate the relevance of the study, followed by the presentation of phase 1 and phase 2 methodology with a summary of results obtained. The report also include the recommendations for the development of a future professional website for the hemodialysis nurses to enhance their empowerment and well-being and reduce their risk of burnout.

KEY FACTS

Although the province of Quebec faces similar challenges regarding their work environment as the rest of Canada, it has its own unique approach to provision and services. In addition, the province of Quebec has a higher rate of new hemodialysis patients (MSSS, 2015). In 2014, there were 4587 patients receiving hemodialysis treatment in Quebec (MSSS, 2015). Patients are also older in Quebec when compared to other Canadian provinces (nearly a quarter were 75 years of age and older)(MSSS, 2015) resulting in more complex and demanding care.

On March 31st, 2016, there were approximately 800 nurses practicing in hemodialysis (calculations based on statistics provided by the Order of Nurses from Quebec and the Canadian Association of Nephrology Nurses and Technologists). Nurses are overseeing the hemodialysis treatment, assess the patients' condition, teach patients and their families about the disease, treatment and medications and ensure the patient coping with the illness and compliance with the strict therapeutic regimen (Desseix, 2010).

In North America, burnout affects about 30-40% of nurses working in hemodialysis and the proportion may rise due to the constant increase in hemodialysis patients and the care associated (Flynn & al., 2009; Harwood & al., 2010; Ridley & al., 2009).

OVERVIEW OF LITERATURE

Freudenberger (1974) first used the term burnout when referring to carers such as nurses who presented a progressive fatigue with significant negative changes in mood, attitude and personality accompanied by the loss of motivation. Burnout was later defined by Malasch & Jackson (1986) by three main features: emotional exhaustion (feeling fatigue and emotionally drained), depersonalization (feeling indifferent toward patients, work and others) and reduced personal accomplishment (feeling low self-efficacy or incompetent). Burnout results from the individual inability to cope with intense and chronic stress created by too many demands and not enough resources within the workplace (Maslach & al., 2001). Hemodialysis is often described as a highly stressful workplace with excessive work expectations (Harwood & al., 2010). Burnout is a complex problem caused by individual and organizational factors (Maslach, 2003). Presently, limited evidence is available on burnout determinants for hemodialysis nurses (Flynn & al., 2009) and most of these studies took place in work contexts that were significantly different from Quebec (e.g., work responsibilities and tasks) and some results are not generalizable to Quebec nurses (Bohmert & al., 2011; Hayes & Bonnet, 2010).

Burnout can have negative repercussions on personal, social, and organizational aspects (Maslach, 2003). At the organizational level, it can affect the quality of care and patient safety (Poghosyan & al., 2009). More precisely, burnout increases medication errors (Leiter & Laschinger, 2006), increases hospital-acquired infections for patients (Cimiotti & al, 2012) and reduces care satisfaction for hemodialysis patients (Argentero & al., 2008). It can also increase the absenteeism rate and intention to leave the job of hemodialysis nurses (Flynn & al., 2009). At the personal and social levels, burnout can

cause low morale, insomnia, marital and familial problems, alcohol abuse and drug use (Maslach & al., 1997).

Two main approaches are distinguished for burnout interventions. One aims at improving the individual's ability to cope with stress and well-being, while the second aims to create a change related to the functioning of the organization (structures, processes and community) (Maslach & al., 2001). A combined individual and organizational approach seems to have the potential for longer lasting positive effects (Awa & al., 2010) but needs to address specific organizational stressors (Ruotsalainen & al., 2015).

Recently, empowerment has become an important strategy within the workplace of nurses to increase their well-being and reduce their burnout (Laschinger & al., 2001). Since burnout is a psychological response of an individual to intense and chronic job demands in the workplace and low control (Maslach & al., 2001) and empowerment is addressing the individuals in their workplace, it might be an ideal solution (Laschinger & al., 2001). For nurses, empowerment represents gaining power and control over their practice (Page, 2004).

The empowerment of nurses can be divided in two categories: structural empowerment and psychological empowerment. Structural empowerment concerns the structures of the working environment that promote empowerment (Kanter, 1977, 1993; Laschinger & al., 2001) and sharing of real power (Laschinger & Havens, 1996) in order to increase well-being and productivity (Kanter, 1977, 1993; Laschinger & al., 2001). Health organizations are considered empowering to nurses if they have access to these six dimensions: opportunity, information, resources, support, formal and informal power (Laschinger & al., 2001). Psychological empowerment represents the individual characteristics of empowerment. They consist of motivational cognitions (perceptions) that are shaped by the word environment and reflect of the person's determination competence and ability to meet work expectations and provide sense of control over life situations (Spreitzer, 1995). Spreitzer (1995) identified four essential cognitions that an employee must experience to feel empowered at work and they are:

meaning, competence, self-determination and impact. Laschinger & al. (2001) actualized Kanter's theory of structural empowerment and integrated the perspective of Spreitzer's theory of psychological empowerment to provide a global perspective of empowerment in the workplace (Laschinger & al., 2001). In our study, this framework was used firstly to examine the burnout and empowerment of hemodialysis nurses working in Quebec and secondly to identify key information and elements to include in the recommendations for the creation of a future professional website to promote empowerment, health and well-being of hemodialysis nurses.

The underlining principle for turning to information and communication technology (ICT) as a modality to empower hemodialysis nurses and reduce their risk of burnout is that the ICT is starting to be well integrated into nursing practice (CNA, 2006). Research also recently indicated that professional websites are promising avenues to support the nurses' professional practice (e.g., offering continuing education, professional guidelines) and at the individual level it could address their individual needs (e.g., providing social support, health promotion information, assessment tools and exercises) (Jackson & al., 2014). Futhermore, the CNA (2006) developed an E-Nursing strategy to promote the use of ICT and proposed to include the participation of nurses in the design to ensure the website is user-friendly and meets their needs.

THIS STUDY

This study provides the first clear picture of the status of hemodialysis nurses in Quebec about their risk for burnout and empowerment, which is favorable for improving the well-being at work and reducing the risk of burnout. Secondly, it provides recommendations from hemodialysis nurses (intended users) for the development of a future professional website (web-based intervention) for their hemodialysis nursing community in order to promote their empowerment, support their practice, enhance their well-being and reduce their risk of burnout. Furthermore, this intervention is tailored to the needs of hemodialysis nurses to ensure its sustainability. In addition,

recommendations for nurses, decision-makers and managers will be provided following the online survey (via publication). By adressing the burnout problem of these nurses, hemodialysis patient care will benefit indirectly in terms of quality of care and patient safety. This study is very innovative and to our knowledge, there is currently no intervention of this type.

METHODOLOGY

Aim and objectives of study

The purpose of this sequential transformative mixed method study was to achieve the following objectives : 1. assess the risk of burnout in Quebec nurses working in hemodialysis; 2. evaluate the structural and psychological empowerment indicators of hemodialysis nurses; 3. explore the presence of association (s) between burnout and empowerment; and 4. provide recommendations from hemodialysis nurses (intended users) for the future development of a professional website (web-based intervention) to increase their empowerment and reduce their risk of burnout.

PHASE 1

Type	A descriptive correlational design using a self-reported cross-sectional survey. Descriptive self-reported online survey.
Sampling	A convenience sample of 308 hemodialysis nurses was obtained through a list produced by the Quebec Order of nurses with contact information of nurses working in Nephrology and a recruitment poster that was publicized by the hemodialysis centers managers. This method allowed us to meet our research interest, which was to obtain a representative, reliable and current vision of the hemodialysis nurses population working in Quebec. The following inclusion criteria were used: ***Inclusion criteria*** a) Working in an hemodialysis center in Quebec. b) Able to read, understand and answer questionnaires in French.
Method of observation	A self-administered questionnaire via Qualtrics (sophisticated platform for online surveys) was used to anonymously collect data. The questionnaire included four parts. A part on sociodemographic and occupational data and three other parts on the assessment of burnout and empowerment, which included three measurement tools. These tools were selected because they allow the global assessment of the two concepts in the study. In addition, these tools are distinguished by their frequency of use in scientific work as well as their validity and reliability. ***The sections of the questionnaire were as follows:*** **Section A:** Sociodemographic and occupational data **Section B:** (burnout): Maslach burnout Inventory (Maslach & Jackson, 1986) **Section C:** (structural empowerment): Condition for Work Effectiveness (CWEQ-II) (Laschinger & al., 2001) **Section D:** (psychological empowerment): Psychological empowerment scale (EPS) (Spreitzer, 1995)
Statistical analysis	Descriptive and analytical analyses were performed by the candidate in collaboration with a statistician. Data were presented and discussed with the co-supervisors (research committee) for this study project and two members of the advisory team (one hemodialysis nurse and one member of the educational nursing team) to strengthen the analysis. The survey results were then presented to the members of the Advisory Team.

Summary of results	The sample response rate was 39%, which represents a good response rate for this type of study and allowed us to performed statistical analyses and attest that the results are representative of the hemodialysis nursing community in Quebec. The main results demonstrate that more than half (59%) of hemodialysis nurses reported moderate to high levels of burnout. Structural empowerment, psychological empowerment, well-being and satisfaction at work were found to be inversely proportional to greater emotional exhaustion and depersonalization scores and proportional to greater personal accomplishment scores among these nurses. Furthermore, higher scores of structural empowerment and psychological empowerment led to greater satisfaction, engagement and well-being at work. More precisely, the results indicate that hemodialysis nurses reported moderate levels of both structural and psychological empowerment highlighting that there is still room to intervene. Hemodialysis nurses were mostly satisfied with work but more than one-third felt disengaged at work and 30% complained of frequently being up and down in spirits. Importantly, 27% of these nurses intended to leave their position in hemodialysis for another unit and 15% intended to leave the profession. Most of these hemodialysis nurses were inclined to use the Internet to seek information related to their health, to optimize their care, for continuing education and to obtain support.

PHASE 2

Type	A participatory action research approach using focus groups.
Sampling	A maximum variation purposeful sampling was used to create two focus groups of a total of seven relevant social actors (criteria are defined below). In addition, a subset group of three voluntary participants from the two previous groups was formed. **Inclusion criteria** a) a mixture of novices nurses (seniority of less than five years), experienced nurses (seniority of more than 16 years) and members of the nursing educational team (nursing counselors, Nursing Practice Consultants or Nurse Practioners) or nurses with educational responsibilities b) working in different types of French and English HD facilities (MUHC/CHUM; affiliated hospital; satellite) in the Montreal region c) ability to speak, read and write in French d) engaged in or would like to make positive changes in their workplace.
Method of observation	**First round focus groups** : Two focus groups sessions of 120 minutes each were conducted in February 2017. The principal investigator (PI) began both sessions with a short presentation on the study background and concepts and relevant survey results. The sessions were facilitated by the PI with pre-determined questions in order to identify the types of information and elements (based on structural and psychological empowerment dimensions, well-being, work stress and burnout, professional website) to include in a professional website aimed to enhance empowerment and well-being and reduce risk of burnout of hemodialysis nurses but the discussions were free-flowing. Data saturation was achieved (redundancy of information and no new information emerging). The sessions were video-recorded and took place in a collaborative room at the University of Montreal Health Library.
Analysis	The PI carried out the coding of the video-recording and the thematic analysis. The PI discussed the thematic analysis with her research committee and two members of the advisory team (one hemodialysis nurse/one nursing educational team member) to strengthen the analysis, interpretation and conclusion (member checking). The PI then presented and discussed the results obtained from the focus groups sessions with the Advisory Team.

Summary of results	The participants were able to identify key information and elements to include in the recommendations for the development of a future website for hemodialysis nurses. In addition, rich verbatim quotes were obtained from participants that allow a better understanding of their experience and propose local changes in order to improve the workplaces in terms of quality of care and wellness at work. The results highlight the wish of hemodialysis nurses to have a more participative role in the decision-making that affects their practice and patient care and having managers that are more visible and supportive.
Method of observation	***Second round of focus groups :*** One focus group session of 120 minutes was conducted in March 2017. One week prior to the session, the PI sent (through a secured email) a summary of the thematic analysis on the first round of focus groups to participants. The PI began the session with a short presentation of the thematic analysis for validation of the information and followed with examples of websites or web tools available to meet the specific needs of hemodialysis RNs (member checking).The session was facilitated by the principal investigator (PI), and the discussion was free free-flowing in order to further define and organize the information and elements to suggest in the recommendations to be presented to the REINQ. The session was video-recorded and took place in a collaborative room at the University of Montreal Health Library.
Analysis	Following the session, the PI compiled the results and wrote the report with the final recommendations for the development of a professional website (including information and elements to include) for hemodialysis nurses working in Quebec based on the suggestions of the focus groups participants, survey results and literature review. The analysis and interpretation of data obtained from the focus group were carried out by the PI and discussed with the research committee and two members of the Advisory team (one hemodialysis nurse/ one educational team member) to ensure that the recommendations developed reflect the specific needs of the hemodialysis nurses (member checking).The PI then presented the results to the Advisory Team for feedback before drafting the final report.
Final action	**The PI met with the Advisory Team to present and discuss the final report and obtain signatures before sending the report with final recommendations to the REINQ (Consensus was achieved).**

FINAL RECOMMENDATIONS

All focus group participants agreed to propose the following recommendations

Recommendation #1	To develop a professional website targeting the professional needs of the hemodialysis nurses community in Quebec. **Rationale and benefits (perceived by the participants):** • Provide easy access to resources relevant to nurses and be available at any time • Promote standardization of care across Quebec • Promote sharing of expertise • Provide opportunities for professional development and continuing education (perform these activities at convenient times • Promote clinical innovation • Provide peers support needed and information to optimize wellness and reduce job stress and burnout • Facilitate communication between RNs who work varied schedules Overall provide a general sense of empowerment at work
Recommendation #2	To create an executive committee to overview and update the content of the Website. This committee should be composed of: two hemodialysis nurses, one nursing practice consultant, one nurse practioner, one nursing counselor, two nursing managers, one member of the executive of the REINQ, one physician (member of the SQN), one dietician, one pharmacist. The members should meet at least once every two months and the membership should be renewed yearly. The committee should designate two members as site managers. ***Rationale and benefits (perceived by participants):*** Ensure the content is evidenced-based and updated
Recommendation #3	Develop written ground rules for online discussions and have a moderator (for any forums that are created). The committee should designate a member or someone external. ***Rational and benefits (perceived by participants):*** Ensure that discussions are professional and courteous

Recommendation#4	The potential professional website should be user-friendly and easy to navigate to all nurses and comprise the following five main tabs: ✓ Continuing education: documentation (e.g., vascular access, nutrition for patients, comorbidity in hemodialysis, diabetes and heart failure, etc.) and online continuing education (e.g., video, case studies, live or past web conference, seminar, symposium and web tools for patients, online reading club, research and publications, bulletin board event to announce learning activities). ✓ Information for the practice (e.g., news and clinical innovation, glossary, best practice including policies and procedure, guidelines, collective prescriptions, nursing rules, health and safety, infection control, vaccination and resources for nurses and patients) with a forum for discussion. ✓ Healthy lifestyle habits (e.g., information on improving nutrition, exercise, relaxation and sleep, reducing stress and strategies to adapt, promoting a better work-life balance as well as self-assessment tools and links to employee and family assistance programs and other resources). ✓ Networking (e.g., social activities, training activities, general announcement board and fundraising activities). ✓ Contact information (e.g., emails, phone numbers of managers and clinical support teams). Each tab would have their own subtabs and specific information and element (they are listed in annex B with links to websites to use as a guide for the design).

CONCLUSION

The results of the survey suggest that some hemodialysis nurses working in Quebec are at high risk of burnout. Providing them with empowering tools (opportunity, information, resources, support, formal and informal power) to update their knowledge and competence, help them work efficiently and autonomously, better cope with work stress and promote their wellness at work, this could be promising. Using a professional website would be an ideal solution because all nurses would be able to have easy access, at any time to the same information and resources that is evidence-based and updated which is valuable for nurses who work shifts. The website could also create a community of practice to share experiences and support each other. Overall, we think that creating a professional website for hemodialysis nurses would be a tremendous innovation for a specialized practice that sets high quality standards that require constant updates to maintain competencies. While the focus group participants made excellent progress in making suggestions for a website. Future steps should be to further develop the content information to include in the website and monitor the impact of the website.

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Annex A: Advisory Team membership and signatures

Advisory Team Members Titles	Affiliations	Signatures
Johanne Gawryluk Nurse Manager	Jewish General hospital of Montreal	
Julie Ouellette Nurse Manager	Sacré-Coeur de Montréal	
Roch Beauchemin Nurse Practioner	McGill University Health Center (MUCH)	
Elisa Gélinas-Phaneuf Nursing Practice Consultant	Centre Hospitalier de l'Université de Montréal (CHUM)	
Marisa Raimondo Nurse clinician	St Mary's Hospital Center	
Stéphanie Salvetat Ribeiro Nurse clinician	Hôpital Charles Le Moyne	
Dr Robert Charbonneau Nephrologist, President	Montréal, Association des néphrologues du Québéc	
Christina Doré, MScN, PhD (cand) Nurse, Study Principal Investigator	Montréal-Laval, University on New Brunswick	

Annex B : *Drafted categories for a future professional website for hemodialysis nurses in Quebec*

Five main tabs

Continuing education	*Information for the practice*	*Healthy lifestyle habits*	*Networking*	*Contact*

Main tab: Continuing education with subtabs and type of information /elements

Continuing education	Subtab (1)	Subtab(2)	Subtab(3)
	Documentation		
		Vascular Access **Information**: general information and principles	
		Nutrition for patients **Information**: general information and principles	
		Diabetes and heart failure **Information**: general information and principles	
		Comorbidity in hemodialysis	
			By topics **Information:** general information and principles

			Information ***Information:*** to promote healthy communication between nurses-nurses, nurses-patients, nurses-other professional
			Exercises **Information**: to promote healthy communication and address conflicts ***Element***: exercise on communication
	Online continuing Education		
		Video ***Element:*** video with quiz	
		Case study ***Element:*** video or case	
		Narrative ***Element:*** video or case	
		Role play ***Element:*** case or exercise	
		Interdisciplinary	
			Web conference or skype (live or to come) ***Element:*** links
			Web conference/seminar/symposium (past) ***Element:*** recorded past Web conference/seminar/symposium
			Patient web tools ***Element:*** video
		Reading Club	
			Articles ***Element:*** Articles selected made available with questions to complete
			Forum ***Element:*** *d*iscussion *every 2 month nurses read an article and discuss*

		Research and publication	
			Research in nephrology ***Element:*** these (or link)
			Publication ***Element:*** articles
		Bulletin Board event **Information:** conference and symposium	
		Continuing Education certificate ***Element****:* certificate template to download	

Site to refer for ideas to design video with quiz, case study, narrative and role play

Good Practice Guide : https://www.cmpa-acpm.ca/serve/gfri/index.html

Main tab: Information on the practice with subtabs and type of information /elements

Information on the practice	***Subtab (1)***	***Subtab(2)***	***Subtab(3)***
	News / clinical innovation ***Information:*** *news and clinical innovation*		
	Glossary ***Information:*** *terms used in HD*		
	Best practices		
		Forum ***Element:*** **Forum for discussion**	
		KDOQI ***Information***: Link to KDOQI site	

		Policies and procedures	
			By topics ***Information***: policies and procedures by hemodialysis facilities
		Protocols and clinical guidelines	
			By topics ***Information***: protocols and guidelines by hemodialysis facilities
		Collective Prescriptions/Nursing Rules	
			By topics ***Information***: protocols and guidelines by hemodialysis facilities
		Health and safety risk management	
			By topics ***Information***: documentation presented by hemodialysis facilities
		Infection control	
			By topics ***Information***: documentation presented by hemodialysis facilities
		Vaccination	
			Calendar and doses ***Information:*** e.g., specific to hemodialysis patients
	Resources nurses/patients		
		Nurses orientation in hemodialysis ***Information***: e.g., general information	
		Hemodialysis blood normal values ***Information:*** e.g., general and blood tests guidelines	

		Vascular access ***Information:*** e.g., general, *assessment, use and complications*	
		Medication ***Information:*** e.g., specific to patients in hemodialysis	
		Compliance to treatment ***Information:*** e.g., consequences to noncompliance to treatment	
		Nutrition ***Information:*** e.g., information and pamphlet to give to hemodialysis patients	
		Comorbidity ***Information:*** e.g., specific to patients in hemodialysis	
		Dialysis modalities ***Information:*** e.g., general knowledge and treatment choice	
		Transplantation ***Information:*** e.g., preparation for transplant, tests and exams	
		Complications of hemodialysis ***Information:*** e.g., specific to patients in hemodialysis	
		Emergency kit for patient in hemodialysis ***Information:*** e.g., specific information to give to hemodialysis patients	
		Traveling HD patients ***Information:*** e.g., specific information to give to hemodialysis patients	
		Online resources for hemodialysis patients ***Information:*** e.g., posters and pamphlets	
		Information on hemodialysis machine ***Information:*** e.g., general knowledge and principles	
		Useful links ***Elements:*** e.g., list of useful Website links (see annex C)	

Site to refer for ideas to design a forum of discussion:

https://groups.able2know.org/nurse-forum/

Main tab: Healthy lifestyle habits with subtabs and type of information /elements

Healthy lifestyles habits	**Subtab (1)**	**Subtab(2)**	**Subtab(3)**
	Nutrition **Information**: E.g., *general and tips for healthy snack when missing meals at work*		
	Exercise/relaxation **Information**: e.g., guide with recommendations and mindful exercises		
	Strategies to improve sleep **Information**: e.g., guide with recommendations		
	Management of stress		
		General information: ***Information:*** *e.g.* information and recommendations	
		Self-knowledge ***Information****:* Information guide with recommendations	
		Effective adaptation strategies ***Information****:* Information guide with recommendations	
		Time management and work-family balance ***Information****:* Information guide with recommendations	

		Assessment/Resources	
			Resources ***Information****:* Website link to employee and family assistance programs and to the Quebec Order of psychologists
			Tool ***Elements****:* stress, burnout, anxiety, depression and suicide scales as well as measuring tools for work attitude
		Bullying and violence at work ***Information****:* guide to recognize and recommendation to address	

Main tab: Networking with substabs and type of information /elements

Networking	**Subtab (1)**	**Subtab (2)**	**Subtab(3)**
	Social Activities ***Information***: e.g., hiking		
	Training Activities ***Information***: e.g., brunch and learn every two months		
	Training Activities ***Information:*** e.g., meeting for discussion on specific topics (ethical issues) or reflexive workshops		
	General announcement board ***Information****:* e.g., looking for someone to share a room at a conference		
	Fundraising activities ***Information****:* e.g., Kidney Foundation of Canada walk		

Main tab : Contact with substabs and type of information /elements

Contact	***Subtab (1)***	***Subtab(2)***	***Subtab(3)***
	Managers		
		Information ***Information:*** Names, emails and phone numbers	
	Clinical Support		
		Information ***Information***: Names, emails and phone numbers	

Annex D: List of useful links to include in a future website for hemodialysis nurses

General Information Sites

Institut canadien d'information sur la santé (ICIS)
https://www.cihi.ca/fr

Ministère de la santé et des services sociaux du Québec
http://www.msss.gouv.qc.ca

Protocole immunisation Québec
http://publications.msss.gouv.qc.ca/msss/fichiers/piq/piq_complet.pdf

Centers for Diseases Control and prevention
https://www.cdc.gov

Sites professionnels utiles pour les infirmières

Regroupement visant l'excellence de la pratique infirmière en néphrologie au Québec
http://reinq.org

Canadian Society of Nephrology
www.csnscn.ca

American Nephrology Nurses Association
www.annanurse.org

Association Francaise de Infimiers (res) de Dialyse, Transplantation et Néphrologie
www.afidtn.com

Association Canadienne d'Accès Vaculaire
http://www.cvaa.info

Meilleures pratiques

Fondation canadienne du rein
https://www.kidney.ca/page.aspx?pid=785

K/DOQI Guidelines
http://www2.kidney.org/professionals/KDOQI/guidelines_bp/

Dialysis Outcomes and Practice Patterns Study (DOPPS)
www.dopps.org

Nursing Best Practice Guidelines, Registered Nurses Association of Ontario
http://rnao.ca/bpg/language?tid=257

Systematic Reviews, International
www.cochrane.org

Nephrology Now
www.nephrologynow.com

Renal Web
www.renalweb.com

Continuing Education

Advanced Renal Education Program
www.advancedrenaleducation.com

Ressources for patients

Kidney School Fondation candienne du rein
https://www.kidney.ca/ressources

Kidney School
www.kidneyschool.org

Kidney Dialysis Information Center
www.kidneydialysis.org.uk

Kidney Patient Guide
www.kidneypatientguide.org.uk

Life Options
www.lifeoptions.org

National Kidney Disease Education Program
www.nkdep.nih.gov

Appendix R

Report Submitted to REINQ (French report)

Recommandations pour le développement d'un futur site professionnel pour les infirmières d'hémodialyse travaillant au Québec

Août 2017

Présentées par Christina Doré, inf, MSc inf, candidate au doctorat à l'Université du Nouveau-Brunswick supervisée par les Drs Duffett-Leger et McKenna

PRÉSENTATION DE LA CHERCHEUSE PRINCIPALE

Je suis candidate au doctorat de l'Université du Nouveau-Brunswick. Auparavant, j'ai obtenu une maîtrise en sciences infirmières - pratique avancée (spécialité: infirmière clinicienne spécialisée, avec tous les cours du programme infirmière praticienne en néphrologie). J'ai travaillé et fait des stages au fil des ans dans divers centres d'hémodialyse, donc je suis familière avec la communauté infirmière en hémodialyse et les défis de la pratique. J'ai passé les 7 dernières années de ma pratique comme Cadre-conseil à la direction des soins infirmiers d'un centre hospitalier de Montréal. J'ai présidé et siégé sur divers comités pour les pratiques de soins infirmiers et interdisciplinaires et j'ai agi comme consultante pour les équipes soignantes afin d'optimiser les soins et développé plusieurs outils pour soutenir les pratiques.

Mon sujet de recherche pour le doctorat est l'épuisement professionnel chez les infirmières en hémodialyse parce que pendant mes 26 années de pratique infirmière, j'ai été témoin de climats de travail qui se sont détériorés et de conflits générés par des collègues souffrant d'épuisement professionnel, mais c'est leur souffrance qui me préoccupe le plus. Par ailleurs, dans le cadre de mes fonctions de Cadre-Conseil en soins infs, j'ai travaillé en étroite collaboration avec des infirmières sur divers projets et plusieurs d'entre elles ont révélé qu'elles étaient surmenées et presque épuisées et qu'un changement était nécessaire pour les soutenir dans la pratique. L'hémodialyse est une spécialité stimulante, mais elle offre également des défis qui produisent un environnement stressant, où les infirmières manquent souvent de pouvoir. Mes intérêts de recherche portent sur le développement des pratiques et la création d'interventions novatrices pour changer l'environnement de travail des infirmières afin d'améliorer la qualité des soins et promouvoir l'empowerment, le bien-être et la santé des infirmières. Dans le cadre de mon étude, un comité aviseur a été engagé et consulté tout au long de la phase 1 et phase 2 de l'étude (voir l'annexe A: membres et signatures du comité aviseur).

LISTE DES ACRONYMES

CNA: Canadian Nurses Association; TIC: Technologie de l'information et communication; MSSS: Ministère de la santé et des services sociaux; REINQ : Regroupement visant l'excellence de la pratique infirmière en néphrologie au Québec*;* SQN: Société québécoise de néphrologie; WHO: World Health Organization

SOMMAIRE EXÉCUTIF

La profession infirmière est considérée comme l'une des professions les plus stressantes qui prédisposent les employés à l'épuisement professionnel. Récemment, il a été découvert que 30 à 41% des infirmières en Amérique du Nord travaillant en hémodialyse sont affectées par l'épuisement professionnel (Flynn & al., 2009; Harwood & al., 2010; Ridley & al., 2009), mais la situation est inconnue au Québec. L'épuisement professionnel est un syndrome psychologique d'épuisement émotionnel, de dépersonnalisation et de perception réduite de l'accomplissement personnel (Maslach, 2003). C'est un problème grave, car il peut affecter négativement la santé et le bien-être des infirmières ainsi que les résultats des patients et le fonctionnement des organismes de santé. L'empowerment est jugé utile dans certaines spécialités infirmières pour réduire le risque d'épuisement professionnel et améliorer le bien-être et la productivité des infirmières. L'empowerment au travail des infirmières est considérée de deux façons: l'empowerment structurel correspondant à la présence de structures organisationnelles d'empowerment telles que perçues par les infirmières, alors que l'empowerment psychologique consiste en la croyance personnelle fondamentale des infirmières dans leur rôle au travail leur permettant de se sentir habilitées « empowered ». Bien que plusieurs études aient découvert les avantages d'utiliser des stratégies pour habiliter les infirmières, la façon de l'atteindre n'est pas encore clairement définie. L'utilisation d'un site Web professionnel pourrait être utile pour améliorer l'empowerment des infirmières en hémodialyse et réduire leur risque d'épuisement, car il a été suggéré que les sites Web peuvent fournir des outils aux infirmières pour répondre à leurs besoins de santé et professionnels. En outre, l'Association des infirmières et infirmiers du Canada (AIIC) a recommandé que les infirmières participent à la sélection, à la conception et à la mise en œuvre des sites Web afin de s'assurer qu'ils répondent à leurs besoins et qu'ils soient conviviaux pour encourager leur utilisation (CNA, 2006).

Notre étude a été réalisée en deux phases. **La phase 1** a utilisé un sondage en ligne anonyme pour évaluer le risque d'épuisement professionnel et l'empowerment des infirmières d'hémodialyse travaillant au Québec. **Les résultats:** 38% des infirmières travaillant en hémodialyse au Québec ont rapporté des niveaux élevés d'épuisement émotionnel. La majorité des infirmières percevaient leur milieu de travail comme modérément habilitant et révélaient se sentir modérément habilitées au travail. En outre, l'empowerment structurel et psychologique étaient significativement liés à l'épuisement, donc devrait être renforcé. **Conclusion**: la création d'un site Web professionnel devrait être envisagée car les infirmières en hémodialyse voulaient utiliser un site Web s'il existait pour répondre à leurs besoins professionnels et de santé. **La phase 2** a adopté une approche participative en utilisant une série de groupes de discussion avec des infirmières en hémodialyse (utilisatrices ciblées) afin de fournir des recommandations spécifiques pour le développement d'un futur site Web comprenant l'information et les éléments requis visant à promouvoir l'empowerment et le bien-être des infirmières en hémodialyse et réduire leur risque d'épuisement professionnel. Les recommandations pour le site web seront présentées au REINQ (Regroupement visant l'excellence de la pratique infirmière en néphrologie au Québec). **Les résultats:** quatre recommandations principales ont été formulées collaborativement:

Recommandation #1 - Un site Web devrait être développé pour l'ensemble de la communauté infirmière en hémodialyse du Québec et comprendre des outils et activités éducatives pour le développement professionnel/formation continue, des informations et des ressources pour faciliter l'accomplissement des tâches professionnelles, le soutien social par les pairs, le réseautage ainsi que des informations et ressources sur le bien-être au travail.

Recommandation #2 - Un comité exécutif devrait être créé pour avoir une vue d'ensemble du contenu accessible sur le site Web afin de s'assurer qu'il soit fondé sur des données probantes et qu'il soit mis à jour périodiquement (si le site Web est développé). Ce comité devrait être interdisciplinaire pour partager l'expertise et les connaissances.

Recommandation #3 – Développer des règles de base écrites pour les discussions en ligne et un modérateur pour tout forum qui serait créé.

Recommandation #4 le site web potentiel devrait être convivial et facile à naviguer pour toutes les infirmières et comprendre les cinq principaux onglets suivants: formation continue, information pour la pratique, saines habitudes de vie, réseautage et les coordonnées (voir la section des recommandations finales). **Les principaux avantages de la création d'un site Web professionnel pour les infirmières en hémodialyse sont**: un accès facile et en tout temps à l'information et aux ressources mises en commun basées sur des preuves et à de la formation continue qui pourrait être standardisée à l'ensemble du Québec et le soutien social par les pairs. **Conclusion générale**: un site Web professionnel est très prometteur pour le développement de la pratique infirmière, la promotion du bien-être au travail et la réduction du risque d'épuisement professionnel des infirmières en hémodialyse.

INTRODUCTION

Les infirmières représentent le plus grand groupe de professionnels œuvrant dans le système de santé au Canada et, au fil des ans, elles ont été confrontées à de multiples changements organisationnels qui ont entraîné une augmentation de leur charge de travail et de leurs exigences de travail créant des niveaux de stress élevés (Santé Canada, 2007). L'épuisement professionnel se développe en réponse à une exposition chronique du stress au travail (Maslach, 2003). L'Organisation mondiale de la santé reconnaît que l'épuisement est un problème généralisé qui affecte le bien-être au travail et encourage fortement le développement d'interventions en raison des conséquences négatives qu'il peut avoir sur les employés et les organisations (WHO, 2013; 2014).

L'empowerment des infirmières et le bien-être en milieu de travail sont étroitement liés puisque l'empowerment est considéré comme une stratégie positive pour soutenir la pratique infirmière et améliorer le bien-être des infirmières en augmentant leur satisfaction et leur engagement dans leur travail (Laschinger & al., 2001). Les infirmières d'hémodialyse sont connues pour pratiquer dans un milieu de travail très technique et

stressant. Une étude canadienne a mis l'accent sur la nécessité de mieux comprendre le contexte des soins en néphrologie et d'élaborer des stratégies positives pour l'environnement de travail (Ridley & al., 2009). Actuellement, il y a peu de données probantes sur l'épuisement professionnel des infirmières en hémodialyse (Flynn & al., 2009) et il n'y a aucune information sur la situation au Québec. Il est donc crucial de mieux comprendre le problème et d'intervenir.

Le présent rapport est destiné pour le REINQ, dont la mission est de développer la néphrologie et sa pratique pour ses membres. Le rapport commence par fournir des renseignements clés et un aperçu de la littérature pour démontrer la pertinence de l'étude, suivie de la présentation de la méthodologie de la phase 1 et de la phase 2 avec un résumé des résultats obtenus. Le rapport comprend également les recommandations pour le développement d'un futur site Web professionnel pour les infirmières en hémodialyse afin d'améliorer leur empowerment et leur bien-être et de réduire leur risque d'épuisement professionnel.

FAITS SAILLANTS

Bien que la province de Québec soit confrontée à des défis semblables concernant les environnements de travail comme le reste du Canada, elle a une approche unique à l'égard de la prestation des soins et services de santé. De plus, la province de Québec a un taux plus élevé de nouveaux patients en hémodialyse (MSSS, 2015). En 2014, 4587 patients recevaient un traitement d'hémodialyse au Québec (MSSS, 2015). Les patients sont également plus âgés au Québec comparativement à d'autres provinces canadiennes (près d'un quart étaient âgés de 75 ans et plus) (MSSS, 2015), ce qui entraîne des soins plus complexes et exigeants.

Le 31 mars 2016, environ 800 infirmières pratiquaient en hémodialyse (calcul basé sur les statistiques fournies par l'Ordre des infirmières du Québec et l'Association canadienne des infirmières et des technologues en néphrologie). Les infirmières sont responsables de l'administration du traitement d'hémodialyse et évaluent la condition des patients, elles procèdent à l'enseignement aux patients et à leurs familles au sujet de

la maladie, du traitement et des médicaments et assurent l'adaptation du patient à sa maladie ainsi que la compliance au régime thérapeutique strict (desseix, 2010).

En Amérique du Nord, l'épuisement professionnel affecte environ 30-40% des infirmières qui travaillent en hémodialyse et la proportion peut augmenter en raison de l'augmentation constante des patients d'hémodialyse et des soins associés (Flynn & al., 2009;) Harwood & al., 2010; (Ridley & al., 2009).

VUE D'ENSEMBLE DE LA LITÉRATURE

Freudenberg (1970) a d'abord utilisé le terme épuisement professionnel « burnout » lorsqu'il se référait à des soignants tels que les infirmières qui présentaient une fatigue progressive avec des changements négatifs importants dans l'humeur, l'attitude et la personnalité, avec une perte de motivation. L'épuisement professionnel a ensuite été défini par Malasch & Jackson (1986) par trois caractéristiques principales: l'épuisement émotionnel (sensation de fatigue intense), la dépersonnalisation (sentiment d'indifférence envers les patients, le travail et les autres) et une réduction de l'accomplissement personnel (sentiment de faible auto-efficacité ou incompétence). L'épuisement professionnel résulte de l'incapacité individuelle de faire face au stress intense et chronique créé par trop de demandes et pas assez de ressources au travail (Maslach et al., 2001). L'hémodialyse est souvent décrit comme un milieu de travail très stressant avec des attentes de travail excessives (Harwood & al., 2010). L'épuisement professionnel est un problème complexe causé par des facteurs individuels et organisationnels (Maslach, 2003). Présentement, très peu de données sont disponibles sur les déterminants de l'épuisement professionnel chez les infirmières en hémodialyse (Flynn et al., 2009) et la plupart des études ont eu lieu dans des contextes de travail nettement différents du Québec (par exemple, en termes de responsabilités professionnelles et les tâches) et certains résultats ne sont pas généralisables aux infirmières du Québec (Bohmert & al., 2011; Hayes & Bonnet, 2010).

L'épuisement professionnel peut avoir des répercussions négatives sur les aspects personnels, sociaux et organisationnels (Maslach, 2003). Au niveau

organisationnel, il peut affecter la qualité des soins et la sécurité des patients (Poghosyan & al., 2009). Plus précisément, l'épuisement professionnel augmente les erreurs de médicament (Leiter & Laschniger, 2006), augmente les infections acquises dans les hôpitaux pour les patients (Cimiotti & al, 2012) et réduit la satisfaction des patients hémodialysés en lien avec les soins reçus (Argentero et al., 2008). Il peut également augmenter le taux d'absentéisme et l'intention de quitter le travail des infirmières en hémodialyse (Flynn et al., 2009). Au niveau personnel et social, l'épuisement professionnel peut causer une baisse de moral, l'insomnie, des problèmes conjugaux et familiaux, l'abus d'alcool et l'usage de drogues (Maslach & al., 1997).

Deux approches principales sont distinguées pour les interventions en matière d'épuisement professionnel. L'une vise à améliorer la capacité des individus à faire face au stress et augmenter le bien-être, la seconde vise l'organisation afin de créer un changement lié à son fonctionnement (structures, processus et communauté) (Maslach et al., 2001). Une approche individuelle et organisationnelle combinée semble avoir le potentiel pour des effets positifs durables (Awa et al., 2010) mais doit cibler des facteurs de stress organisationnels spécifiques (Ruotsalainen & al., 2015).

Récemment, l'empowerment est devenu une stratégie importante dans le milieu de travail des infirmières pour accroître leur bien-être et réduire leur épuisement professionnel (Laschinger & al., 2001). Étant donné que l'épuisement professionnel est une réponse psychologique d'un individu à des exigences professionnelles intenses et chroniques dans le milieu de travail et à un faible contrôle (Maslach et al., 2001) et que l'empowerment adresse les individus dans leur milieu de travail, cela pourrait être une solution idéale (Laschinger & al ., 2001). Pour les infirmières, l'empowerment représente le pouvoir et le contrôle sur leur pratique (Page, 2004).

L'empowerment des infirmières peut être divisé en deux catégories: l'empowerment structurel et l'empowerment psychologique. L'empowerment structurel concerne les structures du milieu de travail qui favorisent l'empowerment (Kanter, 1977, 1993; Laschinger & al., 2001) et le partage du pouvoir réel (Laschinger & Havens, 1996) afin d'accroître le bien-être et la productivité (Kanter , 1977, 1993; Laschinger & al., 2001). Les organisations de santé sont considérées comme habilitantes pour les infirmières si elles ont accès à ces six dimensions: opportunité,

information, ressources, soutien, pouvoir formel et informel (Laschinger & al., 2001). L'empowerment psychologique représente les caractéristiques individuelles d'empowerment. Elles consistent en des cognitions motivantes (perceptions) qui sont façonnées par l'environnement de travail et se reflètent sur la détermination, la compétence et la capacité de la personne à répondre aux attentes du travail et à assurer un contrôle sur les situations de la vie (Spreitzer, 1995). Spreitzer (1995) a identifié quatre cognitions essentielles auxquelles un employé doit expérimenter au travail afin de se sentir habilité et elles sont: le sens, la compétence, l'autodétermination et l'impact. Laschinger & al. (2001) a actualisé la théorie de Kanter sur l'empowerment structurel et a intégré la perspective de la théorie de Spreitzer sur l'empowerment psychologique pour fournir une perspective globale de l'empowerment dans le milieu de travail (Laschinger & al., 2001). Dans notre étude, ce cadre a d'abord été utilisé pour examiner l'épuisement professionnel et l'empowerment des infirmières en hémodialyse travaillant au Québec et ensuite pour identifier les informations clés et les éléments à inclure dans les recommandations pour la création d'un futur site professionnel visant à promouvoir l'empowerment, la santé et le bien- être des infirmières en hémodialyse.

Le principe de base pour faire appel aux technologies de l'information et de la communication (TIC) en tant que modalité pour habiliter les infirmières en hémodialyse et réduire leur risque d'épuisement professionnel est que les TICs commencent à être bien intégrées à la pratique infirmière (CNA, 2006). De plus, la recherche a récemment indiqué que les sites Web professionnels sont des avenues prometteuses pour soutenir la pratique professionnelle des infirmières (par exemple, offrir une formation continue, des lignes directrices professionnelles) et au niveau individuel, ils pourraient répondre à leurs besoins individuels (par exemple, fournir un soutien social, des informations favorisant la santé, des outils d'évaluation et des exercices) (Jackson & al., 2014). De plus, l'AIIC (2006) a développé des stratégies visant à promouvoir l'utilisation des TIC et a proposé d'inclure la participation des infirmières dans la conception afin de s'assurer que le site Web soit convivial et qu'il réponde à leurs besoins.

CETTE ÉTUDE

Cette étude fournit la première image claire du statut des infirmières travaillant en hémodialyse au Québec au sujet de leur risque d'épuisement professionnel ainsi que leur empowerment qui favorise l'amélioration du bien-être au travail et réduit le risque d'épuisement professionnel. Deuxièmement, il fournit des recommandations venant d'infirmières en hémodialyse (utilisatrices ciblées) pour le développement d'un futur site Web professionnel (intervention sur le Web) pour leur communauté infirmière en hémodialyse afin de promouvoir leur empowerment, soutenir leur pratique, améliorer leur bien-être et réduire leur risque d'épuisement professionnel. De plus, cette intervention est adaptée aux besoins des infirmières en hémodialyse pour assurer sa durabilité. De plus, des recommandations seront fournies pour les infirmières, les décideurs et les gestionnaires suite à l'enquête en ligne (par voie de publication). En abordant le problème de l'épuisement professionnel de ces infirmières, les soins aux patients hémodialysés en bénéficieront indirectement en terme de qualité des soins et de sécurité des patients. Cette étude est très novatrice et à notre connaissance, il n'existe actuellement aucune intervention de ce type.

MÉTHODOLOGIE

Le but et objectifs de l'étude

Le but de cette étude transformative séquentielle utilisant une méthodologie mixte était d'atteindre les objectifs suivants: 1. évaluer le risque d'épuisement professionnel chez les infirmières québécoises qui travaillent en hémodialyse; 2. évaluer les indicateurs d'empowerment structurel et psychologique des infirmières en hémodialyse; 3. explorer la présence d'association (s) entre l'épuisement et l'empowerment; et 4. fournir des recommandations venant d'infirmières en hémodialyse (utilisatrices ciblées) pour le développement futur d'un site Web professionnel (intervention sur le Web) pour accroître l'empowerment et réduire le risque d'épuisement de leur communauté infirmière.

PHASE 1

Type	Un devis transversal descriptif corrélationnel sous forme d'enquête (sondage autoadministré).
Échantillon	Un échantillon de convenance de 308 infirmières d'hémodialyse a été obtenu à l'aide d'une liste produite par l'Ordre des infirmières du Québec avec les coordonnées des infirmières travaillant en néphrologie et une affiche de recrutement publicisée par les gestionnaires dans les centres d'hémodialyse. Cette méthode nous a permis de répondre à nos intérêts de recherche, qui visaient à obtenir une vision représentative, fiable et actuelle de la population infirmière d'hémodialyse travaillant au Québec. ***Les critères d'inclusion suivants ont été utilisés:*** a) Travailler dans un centre d'hémodialyse du Québec. b) Être capable de lire, comprendre et répondre à des questionnaires en français.
Méthode d'observation	Un questionnaire autoadministré via Qualtrics (plate-forme sophistiquée pour les enquêtes en ligne) a été utilisé pour collecter anonymement des données. Le questionnaire comprenait quatre parties. Une partie sur les données sociodémographiques et professionnelles et trois autres parties sur l'évaluation de l'épuisement professionnel et de l'empowerment, qui comprenait trois outils de mesure. Ces outils ont été sélectionnés car ils permettent l'évaluation globale des deux concepts de l'étude. De plus, ces outils se distinguent par leur fréquence d'utilisation dans le travail scientifique ainsi que leur validité et leur fiabilité. ***Les sections du questionnaire étaient les suivantes:*** ***Section A*** *:* Renseignements sociodémographiques/professionnels ***Section B*** *:* Mesure de l'épuisement professionnel: Maslach Burnout Inventory (Maslach & Jackson, 1986) ***Section C*** *:* Mesure de l'empowerment structurel: *Condition for Work Effectiveness* (CWEQ-II) (Laschinger, 2001) ***Section D*** *:* Mesure de l'empowerment psychologique: *Psychological empowerment scale* (EPS) (Spreitzer, 1995)
Analyses statistiques	Des analyses descriptives et analytiques ont été effectuées par la chercheure principale en collaboration avec un statisticien. Les données ont été présentées et discutées avec les co-superviseurs (comité de recherche) pour ce projet d'étude et deux membres du comité aviseur (une infirmière en hémodialyse et un membre de l'équipe éducative en soins infirmiers) pour renforcer l'analyse. Les résultats du sondage ont ensuite été présentés aux membres du comité aviseur.
Sommaire des résultats	Le taux de réponse à l'échantillon était de 39%, ce qui représente un bon taux de réponse pour ce type d'étude et qui nous a permis d'effectuer les analyses statistiques et atteste que les résultats sont représentatifs de la communauté infirmière en hémodialyse au Québec. Les résultats principaux tires du sondage démontrent que

	plus de la moitié (59%) des infirmières en hémodialyse ont déclaré des niveaux d'épuisement modéré à élevé. L'empowerment structurel, l'empowerment psychologique, le bien-être et la satisfaction au travail se sont avérés inversement proportionnels à des scores élevés d'épuisement émotionnel et de dépersonnalisation et proportionnels à des scores élevés d'accomplissement personnel chez ces infirmières. De plus, des scores plus élevés d'empowerment structurel et d'empowerment psychologique ont conduit à une plus grande satisfaction et un plus grand engagement au travail ainsi qu'un niveau de bien-être plus élevé. Plus précisément, les résultats indiquent que les infirmières en hémodialyse ont signalé des niveaux modérés d'empowerment structurel et psychologique, soulignant qu'il a encore de la place pour intervenir. Les infirmières en hémodialyse étaient surtout satisfaites au travail, mais plus d'un tiers se sentaient désengagées au travail et 30% se plaignaient d'avoir beaucoup de hauts et de bas. Il est important de noter que 27% de ces infirmières avaient l'intention de quitter leur poste en hémodialyse pour un autre secteur de soins et 15% avaient l'intention de quitter la profession. La plupart de ces infirmières d'hémodialyse étaient enclines à utiliser Internet pour chercher des informations concernant leur santé, pour optimiser leurs soins, pour poursuivre leurs études et obtenir un soutien.

PHASE 2

Type	Une approche participative à l'aide de groupes « focus » (discussion de groupe).
Échantillon	Un échantillonnage par choix raisonné à variation maximale a été utilisé pour créer deux groupes de discussion d'un total de sept actrices sociales pertinentes (les critères sont définis ci-dessous). De plus, un sous-groupe de trois participantes volontaires des deux groupes précédents a été formé. **Critères d'inclusion** a) un mélange d'infirmières novices (ancienneté de moins de 5 ans), d'infirmières expérimentées (ancienneté de plus de 16 ans) et des membres de l'équipe éducative en soins infirmiers (conseillères en soins ou cadres conseil ou infirmières praticiennes) ou des infirmières avec des fonctions de soutien éducatif b) travailler en hémodialyse dans différents types d'établissements francophones et anglophones (CHUM/MUCH; hôpitaux affiliés; satellite) de la région de Montréal c) capable de lire, comprendre et parler français d) engagées ou souhaitant apporter des changements positifs dans leur milieu de travail.
Méthode d'observation	***Première ronde de groupes de discussion :*** Deux séances de groupes de discussion de 120 minutes ont été menées en février 2017. La chercheure principale a commencé les deux sessions avec une courte présentation sur le contexte et les concepts de l'étude et les résultats pertinents du sondage. Les séances ont été facilitées par la chercheure principale avec des questions prédéterminées afin d'identifier le type d'information et les éléments (basés sur les dimensions structurelles et psychologiques, le bien-être, le stress au travail et l'épuisement professionnel, site web professionnel) à inclure dans un futur site Web professionnel visant à améliorer l'empowerment et le bien-être et réduire le risque d'épuisement professionnel des infirmières en hémodialyse, cependant, les discussions ont été fluides. La saturation des données a été atteinte (redondance de l'information et aucune nouvelle information émergente). Les séances ont été enregistrées par vidéo et ont lieu dans une salle collaborative à la Bibliothèque de la santé de l'Université de Montréal.
Analyses	La chercheure principale a procédé au codage de l'enregistrement vidéo et à l'analyse thématique. La chercheure principale a discuté de l'analyse thématique avec son comité de recherche et deux membres du comité aviseur (une infirmière en hémodialyse / une infirmière membre de l'équipe éducative en soins infirmiers) pour renforcer l'analyse, l'interprétation et la conclusion (vérification par les membres). L'investigatrice principale a ensuite présenté et discuté des résultats obtenus lors des séances de groupes de discussion avec le comité aviseur.

Sommaire des résultats	Les participantes ont identifié les informations clés et les éléments à inclure dans les recommandations pour le développement d'un futur site Web pour les infirmières en hémodialyse. De plus, des verbatims riches en contenu ont été obtenus des participantes permettant de mieux comprendre leur expérience et proposer des changements au niveau local afin d'améliorer les milieux de travail en termes de qualité de soins et de bien-être au travail. Les résultats soulignent que les infirmières en hémodialyse souhaitent avoir un rôle plus participatif dans la prise de décision qui affectent leur pratique et les soins aux patients et elles aimeraient avoir des gestionnaires plus visibles et plus supportantes.
Méthode d'observation	***Deuxième ronde de groupes de discussion :*** une session de groupe de discussion de 120 minutes a été menée en mars 2017. Une semaine avant la session, la chercheure principale a envoyé (par courrier électronique sécurisé) aux participantes un résumé de l'analyse thématique concernant la première ronde de groupes de discussion. La chercheure principale a débuté la session avec une courte présentation de l'analyse thématique pour obtenir la validation de l'information et elle a poursuivi avec la présentation d'exemples de sites Web ou d'outils Web disponibles pour répondre aux besoins spécifiques des infirmières en hémodialyse (vérification par les membres). La session a été facilitée par la chercheure principale, et la discussion a été fluide afin de mieux définir et organiser l'information et les éléments à suggérer dans les recommandations à présenter au REINQ. La session a été enregistrée par vidéo et s'est déroulée dans une salle collaborative à la Bibliothèque de la santé de l'Université de Montréal.
Analyse	Après la session, la chercheure principale a compilé les résultats et a rédigé le rapport avec les recommandations finales pour le développement d'un site Web professionnel (y compris des informations et des éléments à inclure) pour les infirmières en hémodialyse travaillant au Québec en fonction des suggestions des participantes aux groupes de discussion, les résultats du sondage et la revue de la littérature. L'analyse et l'interprétation des données obtenues auprès du groupe de discussion ont été réalisées par la chercheure principale et discutées avec le comité de recherche et deux membres du comité aviseur (une infirmière en hemodialyse / une infirmière membre de l'équipe éducative en soins infirmiers) afin de s'assurer que les recommandations développées soient représentatives des besoins spécifiques des infirmières en hémodialyse (vérification par les membres). La chercheure principale a ensuite présenté les résultats au comité aviseur pour obtenir des commentaires avant de rédiger le rapport final.

Action finale	**La chercheure principale a rencontré les membres du comité aviseur pour présenter et discuter du rapport final et obtenir leurs signatures avant d'envoyer le rapport avec des recommandations finales au REIN (le consensus a été atteint).**

RECOMMANDATIONS FINALE

Toutes les participantes aux groupes de discussion ont convenu de proposer les recommandations suivantes

Recommandation #1	Développer un site Web professionnel ciblant les besoins professionnels de la communauté des infirmières en hémodialyse au Québec. **Rationnel et avantages (tel que perçus par les participants):** ✓ Permettret un accès facile aux ressources pertinentes pour les infirmières qui seraient disponibles en tout temps ✓ Promouvoir la standardisation des soins à travers le Québec ✓ Promouvoir le partage des expertises ✓ Offrir des occasions de perfectionnement professionnel et de formation continue (effectuer ces activités au moment opportun) ✓ Promouvoir l'innovation clinique ✓ Fournir du soutien aux pairs et l'information pour optimiser le bien-être et réduire le stress et l'épuisement professionnel ✓ Faciliter la communication entre les infirmières qui ont des horaires de travail variés. Dans l'ensemble, le site Web fournirait un sentiment général d'empowerment au travail.
Recommandation #2	Créer un comité exécutif pour avoir une vue d'ensemble du contenu accessible sur le site Web afin de s'assurer qu'il soit fondé sur des données probantes et qu'il soit mis à jour périodiquement. Ce comité devrait être composé de: deux infirmières en hémodialyse, d'une Cadre conseil en soins infirmiers, d'une infirmière praticienne, d'une conseillère en soins infirmiers, de deux infirmières gestionnaires, d'un member exécutif REINQ, d'un médecin (membre SQN), d'une diététicienne, d'un pharmacien. Les membres devraient se réunir au moins une fois tous les deux mois et l'adhésion des membres devrait être renouvelée chaque année. Le comité devrait désigner deux membres en tant que gestionnaires du site Web. **Rationnel et avantages (tel que perçus par les participants):** • S'assurer que le contenu est basé sur des preuves et mis à jour
Recommandation #3	Élaborer des règles de base écrites pour les discussions en ligne et avoir un modérateur (pout tous les forums qui sont créés). Le comité devrait désigner un membre ou une personne externe. **Rationnel et avantages (tel que perçus par les participants):** • S'assurer que les discussions soient professionnelles et courtoises

Recommandation #4	Le site web potentiel devrait être convivial et facile à naviguer pour toutes les infirmières et comprendre les cinq principaux onglets suivants: ✓ Formation continue: documentation (ex., accès vasculaires, nutrition pour les patients, comorbidités en hémodialyse, diabète et insuffisance cardiaque, etc) et formation continue en ligne (ex., vidéo études de cas, conférences, séminaires et symposium en ligne (en direct ou télé-accessible), des outils web pour les patients, club de lecture en ligne, recherche et publications, babillard évènements; activités éducatives) ✓ Information pour la pratique (nouvelles et innovations cliniques, glossaire, meilleures pratiques incluant des politiques et procédures, guides de pratique, ordonnances collectives, règles de soins, gestion des risques pour la santé et sécurité santé, le contrôle des infections, la vaccination et des ressources pour les infirmières et les patients) avec un forum de discussion ✓ Saines habitudes de vie (ex., information pour améliorer l'alimentation, l'exercice, la relaxation et le sommeil, la gestion du stress et des stratégies d'adaptation, la promotion d'un équilibre travail-vie et des outils d'auto-évaluation et des liens vers des programmes d'assistance aux employés et familles et autres) ✓ Réseautage (ex., activités sociales, activités de formation, babillard d'annonces et activités de levés de fonds) ✓ Contact (ex., courriels et numéros de téléphone des gestionnaires et équipes de soutien Clinique) Chaque onglet aurait leurs propres sous onglets avec des informations et des éléments spécifiques (ils sont énumérés en annexe B avec des liens vers des sites Web à utiliser comme un guide pour la conception).

CONCLUSION

Les résultats de l'enquête suggèrent qu'un nombre significatif d'infirmières en hémodialyse travaillant au Québec sont à risque élevé d'épuisement professionnel. En leur fournissant des outils favorisant l'empowerment (donnant accès à des opportunités, l'information, les ressources, le soutien, le pouvoir formel et informel) permettant de mettre à jour leurs connaissances et leurs compétences, de travailler efficacement et de façon autonome, de mieux gérer leur stress au travail et de promouvoir leur bien-être au travail ceci serait prometteur. L'utilisation d'un site Web professionnel serait une solution idéale parce que toutes les infirmières pourraient avoir accès facilement et en tout temps à la même information et des ressources qui sont fondées sur des preuves et misent à jour ceci serait très utile pour les infirmières qui ont un horaire de travail variable. Le site Web pourrait également créer une communauté de pratique pour partager leurs expériences et fournir un soutien par les pairs. Globalement, nous pensons que la création d'un site Web professionnel pour les infirmières d'hémodialyse serait une innovation énorme pour leur pratique spécialisée qui exige des normes de haute qualité qui nécessitent une actualisation constante des compétences. Bien que les participants au groupe de discussion aient fait d'excellents progrès en proposant des suggestions pour un site Web. Les étapes futures devraient être de développer davantage le contenu de l'information à inclure dans le site Web et de surveiller l'impact du site.

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Annexe A: Membres et signatures du comité aviseur

Membre du comité aviseur Titre	Affiliations	Signatures
Johanne Gawryluk Gestionnaire	Hôpital général juifs de Montréal	
Julie Ouellette Gestionnaire	Sacré-Coeur de Montréal	
Roch Beauchemin Infirmier praticien	Centre universitaire de santé McGill (CUSM)	
Elisa Gélinas-Phaneuf Infirmière Cadre Conseil	Centre Hospitalier de l'Université de Montréal (CHUM)	
Marisa Raimondo Infirmière cliniciennne	Centre hospitalier de St Mary	
Stéphanie Salvetat Ribeiro Infirmire clinicienne	Hôpital Charles Le Moyne	
Dr Robert Charbonneau Néphrologue, Président	Montréal, Association des néphrologues du Québec	
Christina Doré, MScN, PhD (cand) Infirmière, chercheuse principale pour le projet	Montréal-Laval, Université du Nouveau Brunswick	

Annexe B : *Ébauche des catégories pour un futur site professionnel pour les infirmières en hémodialyse au Québec*

Cinq onglets principaux

Formation continue	***Information pour la pratique***	***Saines habitudes de vie***	***Réseautage***	***Contact***

Onglet principal: ***Formation continue*** *avec ses* ***sous-onglets*** *et type information/éléments*

Formation continue	***Sous-onglet (1)***	***Sous-onglet (2)***	***Sous-onglet (3)***
	Documentation		
		Accès vasculaires **Information**: information générale et principes	
		Nutrition pour les patients **Information**: information générale et principes	
		Diabète et insuffisance cardiaque **Information**: information générale et principes	
		Comorbidités en hémodialyse	
			Par thème ***Information:*** information générale et principes
		Communication efficace et harmonieuse	
			Information ***Information:*** pour promouvoir une communication saine entre infirmière-infirmière, infirmière-patient, infirmière-autre professionnel
			Exercices **Information**: pour promouvoir une communication saine et gérer les conflits ***Element***: exercices de communication
	Formation continue en ligne		
		Video ***Élément:*** vidéo avec quiz	
		Étude de cas ***Élément:*** vidéo ou cas	
		Exercice de narration ***Élément:*** vidéo ou cas	
		Jeu de rôle ***Élément:*** cas or exercice	
		Interdisciplinaire	
			Conférences Web ou skype (en direct ou à venir) ***Élément:*** liens

			Conférences Web/seminaires/symposiums (télé-accessible) ***Élément:*** Conférence Web/séminaire/symposium passés enregistrés
			Outils Web pour les patients ***Element:*** vidéo
		Club de lecture	
			Articles ***Élément:*** *Articles sélectionnés disponibles avec des questions à compléter*
			Forum ***Élément:*** *d*iscussion *Tous les 2 mois, les infirmières lisent un même article et discutent*
		Recherche et publications	
			Recherche en néphrologie ***Élément:*** thèses (ou lien)
			Publication ***Élément:*** articles
		Babillard- évènements **Information:** conférence et symposium	
		Certificat de formation continue ***Élément:*** certificat (modèle) à télécharger	

Site à se référer pour le développement de vidéo avec des quiz, études de cas, excercice narratif

Guide de meilleures pratiques : https://www.cmpa-acpm.ca/serve/gfri/index.html

Onglet principale: ***Information pour la pratique*** *avec* ***ses sous-onglets*** *et type information /elements*

Information pour la pratique	***Sous-onglet (1)***	***Sous-onglet (2)***	***Sous-onglet (3)***
	Nouvelles et innovations cliniques ***Information:*** *nouvelles et innovations cliniques*		
	Glossaire ***Information:*** *termes utilisés en HD*		
	Meilleures pratiques		
		Forum ***Élément:*** **Forum de discussion**	
		KDOQI ***Information***: Lien vers le site KDOQI	
		Politiques et procédures	
			Par sujet ***Information***: politiques et procédures par centre d'HD
		Protocoles et guides de pratique clinique	
			Par sujet ***Information***: protocoles et guides par centre d'HD
		Ordonnances collectives/règles de soins	
			Par sujet ***Information***: Ordonnances collectives et règles de soins par centre d'HD
		Gestion des risques pour la santé et sécurité	
			Par sujet ***Information***: documentation présentée par centre d'HD
		Contrôle des infections	
			Par sujet ***Information***: documentation présentée par centre d'HD

		Vaccination	
			Calendrier et doses ***Information:*** ex., spécifique aux patients en HD
	Ressources Infirmières/patients		
		Orientation des infirmières en hémodialyse ***Information***: ex, information générale	
		Valeurs sanguines normale en hémodialyse ***Information:*** ex, information générale et les guides de pratique pour les prises de sang	
		Accès vasculaire ***Information:*** ex., évaluation générale, *guides scientifiques sur l'utilisation, complications*	
		Médicaments ***Information:*** ex., information spécifique pour les patients en HD	
		Compliance au traitement ***Information:*** ex., conséquences à la non-compliance au traitement	
		Nutrition ***Information:*** ex., information et dépliants à donner aux patients en HD	
		Comorbidités en hémodialyse ***Information:*** ex., information spécifique aux patients en HD	
		Modalités de dialyses ***Information:*** ex., connaissance générale et traitement (choix)	
		Transplantation ***Information:*** ex., préparation pour la transplantation, tests et examens	
		Complications en hémodialyse ***Information:*** ex., spécifique pour les patients en HD	
		Trousse d'urgence pour les patients en hémodialyse ***Information:*** ex., information spécifique à donner aux patients en HD	
		Patients voyageurs ***Information:*** ex., information spécifique à donner aux patients en HD	
		Ressources en ligne pour les patients en hémodialyse ***Information:*** ex., posters et dépliants	

		Information sur la machine d'hémodialyse ***Information:*** ex., connaissance générale et principes	
		Liens ***Élément:*** ex., liste de sites Web utiles (voir annexe C)	

Site de référence pour le design de forum de discussion:

https://groups.able2know.org/nurse-forum/

Onglet principal : ***Saines habitudes de vie*** *avec* ***sous-onglets*** *et type information /éléments*

Saines habitudes de vie	***Sous-onglet (1)***	***Sous-onglet (2)***	***Sous-onglet (3)***
	Nutrition **Information**: Ex., information *générale et conseils (ex., collations quand manque les repas au travail)*		
	Exercice/relaxation **Information**: ex., guide avec recommandations et exercices		
	Stratégies facilitant le sommeil **Information**: ex., guide avec recommandations		
	Gestion du stress		
		Information générale: ***Information:*** *ex.* information et recommandations	
		Connaissance de soi ***Information****:* guide avec recommandations	
		Stratégies d'adaptation efficaces ***Information****:* guide avec recommendations	
		Gestion du temps et priorités et équilibre travail-famille ***Information****:* guide avec recommandations	

		Évaluation / ressources	
			Resources ***Information***: lien Web: programmes assistance aux employés et à la famille et l'ordre des psychologues du Québec
			Outils ***Éléments****:* Échelles de mesure: stress, burnout, anxiété, dépression et suicide, et des outils de mesure pour une bonne attitude au travail
		Intimidation et violence au travail ***Information****:* guide pour reconnaître et addresser	

Onglet principale: **Réseautage avec ses sous-onglets et** type of information /éléments

Réseautage	***Sous-onglet (1)***	***Sous-onglet (2)***	***Sous-onglet (3)***
	Activités sociales ***Information***: ex., randonnée		
	Activités de formation ***Information***: ex., brunch et apprentissage tous les deux mois (thème)		
	Activités de formation ***Information:*** *ex.,* rencontres pour discussion sur des sujets specifiques (ex., situations éthiques) ou atelier de pensée réflexive		
	Babillard - annonces générales ***Information****:* ex., partage chambre congrès		
	Activités de financement ***Information****:* ex., marche pour la fondation canadienne du rein		

Onglet principal : ***Contact*** *avec ses* ***sous-onglets*** *et type information /éléments*

Contact	***Sous-onglet (1)***	***Sous-onglet (2)***	***Sous-onglet (3)***
	Gestionnaire		
		Information ***Information:*** Noms, emails et numéro de téléphone	
	Équipe de soutien clinique		
		Information ***Information***: Noms, emails et numéro de téléphone	

Annexe C: Liste des liens utilisés à inclure dans un futur site web pour les infirmières en hémodialyse

Sites généraux

Institut canadien d'information sur la santé (ICIS)
https://www.cihi.ca/fr

Ministère de la santé et des services sociaux du Québec
http://www.msss.gouv.qc.ca

Protocole immunisation Québec
http://publications.msss.gouv.qc.ca/msss/fichiers/piq/piq_complet.pdf

Centers for Diseases Control and prevention
https://www.cdc.gov

Sites professionnels utiles pour les infirmières

Regroupement visant l'excellence de la pratique infirmière en néphrologie au Québec
http://reinq.org

Canadian Society of Nephrology
www.csnscn.ca

American Nephrology Nurses Association
www.annanurse.org

Association francaise de Infimiers (res) de Dialyse, Transplantation et Néphrologie
www.afidtn.com

Association canadienne d'Accès Vaculaire
http://www.cvaa.info

Meilleures pratiques

Fondation canadienne du rein
https://www.kidney.ca/page.aspx?pid=785

K/DOQI Guidelines
http://www2.kidney.org/professionals/KDOQI/guidelines_bp/

Dialysis Outcomes and Practice Patterns Study (DOPPS)
www.dopps.org

Nursing Best Practice Guidelines, Registered Nurses Association of Ontario
http://rnao.ca/bpg/language?tid=257

Systematic Reviews, International
www.cochrane.org

Nephrology Now
www.nephrologynow.com

Renal Web
www.renalweb.com

Formation continue

Advanced Renal Education Program
www.advancedrenaleducation.com

Ressources pour les patients

Kidney School Fondation canadienne du rein
https://www.kidney.ca/ressources

Kidney School
www.kidneyschool.org

Kidney Dialysis Information Center
www.kidneydialysis.org.uk

Kidney Patient Guide
www.kidneypatientguide.org.uk

Life Options
www.lifeoptions.org

National Kidney Disease Education Program
www.nkdep.nih.gov

Appendix S

Additional Results Obtained Phase 1 and Phase 2 and Complementary Information

In terms of sociodemographic and professional factors influencing burnout of HD RNs, no statistically significant associations were found between the three burnout subscales and gender, education background, the type of renal unit, and the RN-to-patient ratio in our sample. Participants who were uncoupled had higher scores of depersonalization ($p = 0.0244$) and lower scores of personal accomplishment ($p = 0.0260$). Furthermore, participants who had at least one child had higher scores of EE ($p= 0.0103$) and depersonalization ($p = 0.0090$). Higher scores of personal accomplishment were found among participants who worked full time personal accomplishment ($p = 0.0280$) and those who worked more than 16 years personal accomplishment ($p = 0.0516$).

Table 1a. Association Between Sociodemographic/Occupational Characteristics of HD RNs and Burnout scales

	Burnout [a]		
Characteristics	Emotional Exhaustion (EE)	Depersonalization (DP)	Personal Accomplishment (PA)
Gender (n=297)			
- Female	22.0 (14.0-30.0)	4.5 (2.0-8.0)	37.0 (32.0-41.0)
- Male	18.0 (7.0-27.0)	4.0 (1.0-11.0)	36.0 (32.0-42.0)
p-value[b]	0.1130	0.6711	0.8186
Marital Status (n=299)			
- Single/separated/ divorced/widowed	24.0 (13.0-34.0)	6.0 (3.0-10.0)	35.0 (30.0-40.0)
- Married/common law	21.0 (13.0-29.0)	3.0 (2.0-8.0)	37.0 (33.0-42.0)
- p-value[b]	0.3603	**0.0244**	**0.0260**
Children			
-Yes	26.0 (17.0-33.0)	6.0 (3.0-9.5)	36.0 (31.0-40.0)
- No	20.0 (11.5-29.5)	3.0 (1.0-8.0)	37.0 (32.0-42.0)
p-value[b]	**0.0103**	**0.0090**	0.0840
Education Background (n=301)			
- College diploma in nursing	21.0 (13.0-32.0)	5.0 (2.0-9.5)	37.0 (32.0-41.0)
- Baccalaureat /certificate (1-2)/ Master	23.0 (13.0-29.5)	4.0 (2.0-8.0)	37.0 (33.0-41.0)
p-value[b]	0.6451	0.3176	0.7959
Work Status (n=296)			
- Full time	23.5 (14.0-31.0)	4.0 (2.0-8.0)	37.0 (33.0-42.0)
- Part time p-value[b]	20.5 (13.0-30.0) 0.2528	5.0 (2.0-9.0) 0.4530	36.0 (30.0-40.0) **0.0280**
Type of Renal Unit (n=296)			
- University hospital center	26.0 (15.0-30.0)	4.0 (2.0-10.0)	39.0 (33.0-42.0)
- Affiliated hospital	21.0 (12.0-30.0)	5.0 (2.0-8.0)	37.0 (32.0-41.0)
- Satellite	22.5 (13.0-29.5)	3.0 (2.0-7.0)	36.0 (32.0-39.0)
p-value[b]	0.7411	0.6222	0.1951
RN-to-patient Ratio (n=297)			
1:2	20.5 (12.0-30.0)	3.0 (2.0-10.5)	36.0 (28.5-41.5)
1:3	20.5 (13.0-29.0)	4.0 (2.0-8.0)	37.0 (32.0-41.0)
1:4	24.0 (14.0-34.0)	6.0 (3.0-10.0)	36.0 (33.0-39.0)
1:5	23.0 (13.0-28.0)	3.0 (1.0-11.0)	36.0 (32.0-40.0)
p-value[b]	0.4360	0.2567	0.9318
Age (years) (n=295)			
20-30	20.0 (15.0-26.0)	6.0 (3.0-9.0)	36.0 (31.0-40.0)
31-40	24.0 (14.0-30.5)	4.0 (2.0-8.0)	37.0 (34.0-40.0)
41-50	19.0 (10.0-32.0)	4.0 (1.0-8.0)	36.0 (31.0-41.0)
51-60	21.0 (11.0-33.0)	4.0 (1.0-8.0)	38.0 (34.0-42.0)
+ 61	16.0 (9.0-27.0)	1.5 (0.0-6.0)	40.5 (38.0-42.0)
p-value[b]	0.3714	0.2590	0.2009
Seniority in HD (years) (n=297)			
- Less than 6 years	21.0 (12.0-29.0)	4.0 (2.0-8.0)	36.5 (32.0-40.0)
- 6-16 years	24.0 (14.0-34.0)	5.0 (2.0-9.0)	37.0 (32.0-41.0)
- More than 16 years	21.0 (14.0-30.0)	5.0 (2.0-9.0)	39.5 (35.0-43.0)
- p-value[b]	0.2604	0.9597	**0.0516**

[a] Data are presented as median and interquartile range (Q1-Q3).
b Comparisons of two groups were done using Wilcoxon Mann-Whitney test and comparisons of more than 2 groups were done using Kruskal-Wallis test.

Table 1b. Associations Between Levels Scales of Burnout and Sociodemographic/Occupational Characterisctics

Characteristics	Low EE (≤ 18)		High EE (≥ 27)		P[a]
	Number	Percentage	Number	Percentage	
Age (years) (n=206) 20-30 31-40 41-50 51-60 + 61	 20 29 30 23 4	 18.9 27.4 28.3 21.7 3.8	 12 35 24 22 2	 12.6 36.8 25.3 23.2 2.1	0.5195
Seniority in HD (years)(n=205) Less than 5 years 6-15 More than 16 years	 45 42 19	 42.5 39.6 17.9	 34 49 16	 34.3 49.5 16.2	0.3516
Education background (n=207) - College diploma in Nursing - Baccalaureat / certificate (1-2) / Master	 55 52	 51.4 48.6	 53 47	 53.0 47.0	0.8181
Characteristics	Low DP (≤ 5)		High DP (≥ 10)		P[a]
	Number	Percentage	Number	Percentage	
Age (years) (n=210) 20-30 31-40 41-50 51-60 + 61	 24 47 44 35 4	 15.6 30.5 28.6 22.7 2.6	 10 17 15 14 0	 17.9 30.4 26.8 25.0 0.0	0.8986
Seniority in HD (years)(n=213) Less than 5 years 6-15 More than 16 years	 62 66 25	 40.5 43.1 16.3	 20 29 11	 33.3 48.3 18.3	0.6247
Education background (n=215) - College diploma in Nursing - Baccalaureat / certificate (1-2) / Master	 82 73	 52.9 47.1	 37 23	 61.67 38.3	0.2463
Characteristics	Low Risk with PA Scores (≥ 40)		High Risk with PA Scores (≤ 33)		P[a]
	Number	Percentage	Number	Percentage	
Age (years) (n=167) 20-30 31-40 41-50 51-60 + 61	 14 21 27 21 3	 16.3 24.4 31.4 24.4 3.5	 21 20 26 14 0	 25.9 24.7 32.1 17.3 0.0	0.2503
Seniority in HD (years)(n=170) Less than 5 years 6-15 More than 16 years	 33 34 21	 37.5 38.6 23.9	 37 37 8	 45.1 45.1 9.8	**0.0503**
Education background (n=172) - College diploma in Nursing - Baccalaureat / certificate (1-2) / Master	 47 41	 53.4 46.6	 48 36	 57.1 42.9	0.6225

[a] Chi-Square or Fisher's exact test.
*Cutt-offs RNs in the North American classification: EE: low (≤ 18), moderate (19-26), high (≥ 27); DP : low (≤ 5), moderate (6-9), high (≥ 10); l PA : low ((≥ 40), moderate (39-34), high (≤ 33)

When the HD RNs participants were compared between low and high risks of burnout, RNs with more seniority in HD had higher scores of personal accomplishment ($p = 0.0503$).

Table 1c. Associations Between Levels Scales of Burnout and Sociodemographic/Occupational Characteristics

Characteristics	Low/Moderate EE (≤ 26)		High EE (≥ 27)		P[a]
	Number	Percentage	Number	Percentage	
Age (years) (n=257)					
20-30	37	22.8	12	12.6	0.2602
31-40	45	27.8	35	36.8	
41-50	43	26.5	24	25.3	
51-60	33	20.4	22	23.2	
+ 61	4	2.5	2	2.1	
Seniority in HD (years)(n=261)					
Less than 5 years	75	46.3	34	34.3	0.1392
6-15	62	38.3	49	49.5	
More than 16 years	25	15.4	16	16.2	
Education background (n=263)					
- College diploma in Nursing	86	52.8	53	53.0	0.9699
- Baccalaureat / certificate (1-2)/ Master	77	47.2	47	47.0	
Characteristics	Low/Moderate DP (≤ 9)		High DP (≥ 10)		P[a]
	Number	Percentage	Number	Percentage	
Age (years) (n=272)					
20-30	40	18.5	10	17.9	0.8620
31-40	67	31.0	17	30.4	
41-50	58	26.9	15	26.8	
51-60	45	20.8	14	25.0	
+ 61	6	2.8	0	0.0	
Seniority in HD (years)(n=275)					
Less than 5 years	92	42.8	20	33.3	0.4193
6-15	89	41.4	29	48.3	
More than 16 years	34	15.8	11	18.3	
Education background (n=277)					
- College diploma in Nursing	111	51.1	37	61.7	0.1484
- Baccalaureat / certificate (1-2)/ Master	106	48.9	23	38.3	
Characteristics	Low/Moderate Risk with PA Scores (≥ 34)		High Risk with PA Scores (≤ 33)		P[a]
	Number	Percentage	Number	Percentage	
Age (years) (n=260)					
20-30	28	15.6	21	25.9	**0.0357**
31-40	61	34.1	20	24.7	
41-50	41	22.9	26	32.1	
51-60	43	24.0	14	17.3	
+ 61	6	3.4	0	0.0	
Seniority in HD (years)(n=263)					
Less than 5 years	73	40.3	37	45.1	0.1799
6-15	74	40.9	37	45.1	
More than 16 years	34	18.8	8	9.8	
Education background (n=265)					
- College diploma in Nursing	90	49.7	48	57.1	0.2606
- Baccalaureat / certificate (1-2)/ Master	91	50.3	36	42.9	

[a] Chi-Square or Fisher's exact test.

*Cutt-offs RNs in the North American classification: EE : low (≤ 18), moderate (19-26) , high (≥ 27); DP : low (≤ 5), moderate (6-9) , high (≥ 10); PA : low ((≥ 40), moderate (9-34), high (≤ 33)

When the HD RNs participants were compared between low and high risks of burnout, RNs with more seniority in HD had higher scores of personal accomplishment ($p = 0.0503$).

Table 2a. Presentation of Thematic Analysis Results from the Focus Groups Participants

Categories SE Dimensions Thematic Analysis	Proposed Changes at the Organizational Level	Benefits of Having a Professional Website for HD RNs
Opportunity	*« Regular access to continuing education at work makes it possible to regain engagement and a sense of purpose in the work. We feel re-energized.» (RN-3);* *« Bi-annual meetings for continuing education with interdisciplinary team members would be helpful to update practices.» (RN-6);* *« It is often the same people who attend the continuing education activities ... not really staff RNs. Access should be given to all.» (RN-4)*	*« An online journal club, where everyone reads the same article and log-in at a specific time to discuss the article would be great to share knowledge.» (RN-2);* *« An online journal club would encourage us to do our continuing education because we cannot always go to trainings and conferences.» (RN-5);* *« We could share continuing education on common themes such as: heart failure, diabetes.» (RN-2);* *« Training on nutrition, vascular access…the resources should be interdisciplinary.» (RN-3);* *«Nurse Practioners, physicians, psychologists, and nutritionists could contribute to the website.» (RN-1/RN-6);* *« Interactive online courses with readings and questions of deepening.» (RN-3);* *« Online trainings ..skype..videos..seminars / PPT with quizzes to verify Knowledge.» (RN-1/RN-5/RN-6/RN-7);* *« Sharing: articles, seminars and courses on clinical innovations provided by RNs and physicians.» (RN-3 /RN-6);* *« A tab with thesis and scientific articles related to HD.» (RN-3);* *« The continuing education activities could be announced on the Website bulletin board.» (RN-6);*

		« Voluntary discussion group on complex cases or ethical issues would be relevant and advertised on the Website.» (RN-2); *« Conferences could be announced on the website bulletin board.» (RN-5);* *« Accounting for time for continuing education would be interesting.» (RN-4)*
Information	*«There is an overload of information on bulletin boards and we have a hard time finding the relevant and newest information. There is a need for a better internal communication system.» (RN-4);* *« It would be very convenient to have at work an intranet page dedicated for dialysis.» (RN-2);* *« Team information meetings allow us to discuss, share our constraints ... but changes must be made afterwards, if not, it is useless.» (RN-3);* *« Team information meetings are useful ... but most of the time they get cancel, so it ends up being every 2-3 months which is not enough.» (RN-4);* *« Team information meetings promote exchanges and enhance empowerment ... the best decisions are those taken as groups.» (RN-6);* *« Have formal team meetings where all RNs could talk about ways of doing things and discuss about difficult situations experienced at work and especially to offer support to colleagues ... It's a way of coping with situations.» (R-5)*	*«A website would facilitate the networking for nursing educational teams to standardize practice - because they all do their own literature review and the literature is limited.» (RN-4);* *« Sharing tools for patient education, practice guides, policies and procedures...» (RN-3/RN-5/RN-6/RN-7);* *« HD related Policies and procedures, protocols and clinical guidelines, rules of care; collective prescriptions ...» (RN-3);* *« Welcoming booklet; patients training /teaching, pamphlets.» (RN-2/RN-5);* *« Vascular access.» (RN-2);* *« Have a tab with link to K/DOQI.» (RN-3);* *« Teaching guides for patients… tips/reminders for health and safety at work (at the work environment level).» (RN-6);* *« General information for orientation of new RNs, (normal blood values in HD), therapeutic follow-up, research articles.» (RN-7)* *« We could discuss our problems, share our ways of doing things, exchange ideas on innovative solutions.» (RN-2);* *« Access to the website from home and at work from the intranet page.» (RN-2);* *« A bulletin board with a directory including the coordinates of the nursing counselors/nursing clinical instructors …would be helpful...» (RN-4)*
Support	*« We perceive that managers know that our efforts are important but they do not talk about it, they are greedy of compliments and recognition of our actions » (RN-3);*	*« A website could provide access to information on effective communication between professionals and with patients.» (RN-6);* *« To have a forum discussion or chat to to support our peers.» (RN-1/RN-2/RN-3/RN-4/RN-5/RN-6/RN-7);*

	« Have support meetings to talk about our good deeds and give recognition.» (RN-1); *« Meetings at work to verbalize and de-dramatize situations ... because sometimes things are amplified by the person and speaking about it will help.» (RN-6);* *« We need to change the perceptions, thoughts and ways of doing of RNs. It is by encouraging team meetings to discuss, think as groups, guide RNs to carry out a self-reflection on themselves ... as a RN it is to be a role model, to reverse the negative behaviours of colleagues with positive reinforcement.» (RN-6);* *« It would be nice to have formal support meetings with a neutral facilitator who guides the meetings so that they do not just serve to give our complaints to the managers.» (RN-3);* *« Need to have managers and assistant head RNs who are open to change and have an approachability..» (RN-6);* *«I am a novice RN ... I had very good support from my preceptor ... that's what makes the difference. It is really helpful to have RNs who are open to answer questions .. for other novice RNs where preceptorship was less organized, it was more difficult ... It is also a question of personality, some RNs are more skilled to support novices in their learning ... Being poorly oriented means that novices leave for another specialty because they find the experience in HD too difficult ... we must have a close relationship with the preceptor, a sustained and nonjudgmental approach.» (RN-7);* *« There are RNs who are very rigid and rough with the new RNs ... they can make them cry. These RNs are harmful*	*« There should be a moderator(s).» (RN-1)* *« Not giving names.» (RN-5/RN-2);* *«Rules of good conduct should be developed…no bullying.» (RN-5);* *« Bulletin board: get togethers to talk about dialysis (ex, outings and brunches).» (RN-3/RN-5/RN-6/RN-7);* *« Exercices on problems solving and conflicts management between professionals.»* *(RN-5);* *« Tools to help us support our colleages.» (RN-7)*

	and they should be met by the manager.» (RN-6); *« It would be a good idea to talk about the stress experienced... Exhausting situations at coffee breaks or doing social activities..» (RN-6)*	
Resources	*« Sometimes you start work and the careplan of a patient is disorganized with many objectives to reach and the other RN who takes over will not be able to achieve them. It's frustrating because you know you will arrive the next day and it will be the same.»(RN-1); «Team stability in patients plays a decisive role in the empowerment of RNs.» (RN-3);* *«We set ourselves objectives to achieve a goal, but the work environment sometimes makes it impossible to achieve ... There is no stability ... we want to give high quality care, and we give our maximum ... After a while, we are unsatisfied ... frustrated ... We just do clinical care and the management of patients.» (RN-3)* *«Many RNs are on sick leave, burnout, work-related accidents and others ... Which requires voluntary or forced overtime... We make the efforts, because we want that care continue to be given. However, the patients and care are getting heavier, with patients having cognitive and mental health problems.» (RN-2)*	*« A website could give tips on time management.» (RN-6)*
Formal Power	*« Have a Clinical Quality of Care Committee with clear guidelines and objectives - We would like to participate to make changes to improve the care.» (RN-4);* *« A board in the HD to write proposals to develop the practices: staff RNs work on a protocol supported by a nursing counselor and the manager.» (RN-6);* *« It's good to get involve in continuing education, our nurse practioners, Nursing Practice Consultant, nursing clinical instructors, nursing councelors are working on protocols, but it would*	----------

	be nice for RNs to be involved too ... those who are interested.» (RN-3); *« We should have the opportunity to participate in the development of protocols and practice guides.» (RN-2);* *«It's hard to want to be creative and develop projects because it's becoming increasingly rare for nurses to get to work positively ... the speech is often negative.» (RN-1)*	
Informal Power	*« Other professionals in our team also face difficult situations - it would be nice to invite them sometimes to our meetings to share their experience.» (RN-1); « We should work to improve communication both among RNs and with other professionals.» (RN-3); « Outings to do group activities would be good.» (RN-7)*	*« a website could be used for announcements of conferences, social events, fundraising or other events.» (RN-7); « We could do networking.» (RN-2)* *« A tab for social activities; hicking/biking etc.» (RN-6/RN-7); « Links to professional associations and useful sites.» (RN-2/RN-5/RN-6/RN-7)*

Table 2b. Presentation of Thematic Analysis Results from the Focus Groups Participants

Categories PE Dimensions Thematic Analysis	Proposed Changes at the Organizational Level	Benefits of Having a Professional Website for HD RNs
Meaning	*«In order to increase the meaning in the work, we need qualified people in empowerment to support managers and nursing counselors in identifying empowering strategies for employees.» (RN-3)*	----------
Competence	*« I like the idea of team meetings and talking about a complex case and do a debriefing - where each RN gives her opinion on how she would have proceeded.» (RN-2)*	*« Contributing to the website would improve our sense of competence.» (RN-2)*
Self-determination	*« Having training to help patients become autonomous in their care and empowered with their illness - will necessarily help us with our professional autonomy and empowerment as a RN.»(RN-3);*	*« With the website, we would have easier access to collective prescriptions, rules of care, policies and procedures that will make us more autonomous in our practice.» (RN-2);*
Impact	*«It is surprising how much RNs are interested in participating when they are asked - if there is no attempt to solicit them, than they disengage from work.» (RN-3);* *« HD is very structured... sometimes, we have no control ... the employer has a large part in the working conditions. There are things to improve in terms of respect between employees and the valorization of employees by employer ... it is unfortunate ... sometimes we do not feel valued at work ... this brings many questionning in our practice. What is our role ... our value ... our contribution..» (RN-5)*	*« With a website, we would think about proposing innovations for the practice.» (RN-3)*

Table 2c. Presentation of Thematic Analysis Results from the Focus Groups Participants

Emerging Themes Thematic Coding	Feeling Burnout Among HD RNs	HD RNs Personal Strategies for Reducing Work Stress/Risk of Burnout and Enhancing Well-being
	« Last time I was obliged to work overtime, I was more tired, I felt less patient with my colleagues and the patients. I said things I regretted and felt guilty.» (RN-2); *« We feel like just letting ourselves be carried by the wave, we do not take initiatives or make any more efforts. We focus only on our work tasks, we are reluctant to change.» (RN-1);* *«We see colleagues who are exhausted but we do not talk about it ... no one talks about helping us ... we accept that the work of nurses is hard on the human and physical aspects ...burnout is normalized.» (RN-5)* ***Proposed Changes at the Organizational Level*** *«We do not have workplace wellness conception - RNs are not asked how they are doing – it should be considered.» (RN-3)*	*« Talk about work situations and issues with colleagues in HD, take part in group activities at work on lunch break, do yoga and see friends.» (RN-7);* *«Talk with colleagues and friends.» (RN-1 /RN-2/RN3/RN-4/RN-5);* *«Do sport.» (RN-2/RN-3/RN-5)* ***Proposed Changes at the Organizational Level*** *« Outings to do group activities with colleagues would be good to reduce stress and solidify the RNs team.» (RN-7)* ***Benefits of Having a Professional Website for HD RNs*** *« A website would be a good idea to have self-assessment and resources to promote healthy lifestyle, exercises to self-reflect.» (RN-6)*

Appendix T Summary of the PI Self-reflective Journal, Audit Trail and Diffusion Plan to study

In this study, the PI was also the facilitator of the focus groups. According to Gillis and Jackson (2002) a researcher who undertakes a PAR project needs to be knowledgeable about the community and sensitive to the participants' issues. The term facilitator refers to a person who fulfills a variety of roles in groups, such as a leader, mediator, content matter expert, and instructor (Schwarz, 2002). Argyris and Schön (1999) and Schwarz (2002) indicated that a facilitator must have deep reflective skills and capable of creating a supportive environment for mutual learning. The PI is an RN trained as a Clinical Nurse Specialist/Nurse Practitioner in nephrology. She worked and completed internships over the years in various HD centers and is very familiar with the HD nursing community and the challenges of this specialized practice. For the last seven years she has been working at the Directorate of Nursing of a Montreal hospital as a Nursing Practice Consultant where, as part of her clinical and administrative mandates, she regularly acted as the president and facilitator of working groups of RNs (clinicians/nursing educational team members/managers) to analyse and optimize care and work processes, develop their practice or disseminate educational programs using participatory principles. Importantly, in this research, the PI had no power of authority over staff or conflict of interest that could have influenced the PAR process (i.e. unsuccessful collaboration of participants or creating conflicts between the researcher and practioners) and results. Before undertaking the study she self-reflected on her mobilizing potential and her philosophical orientation.

The PI believes that feminist standpoint theory is aligned with her personal and professional values and it is also appropriate for her research project. Firstly, the purpose of her research project is to gain perspective on a discipline that is mainly composed of women but it is more profound than this. These feminist standpoint theory is a social theory that is inherently critical and strongly calls for transformation (Guba & Lincoln, 1994, 2005). Although feminist standpoint theories differ widely, they all derive inspiration from Hegel's (1967) theory on the master-slave relationship and Marx's (1919) exploitation of the relationship between the worker and the boss. The feminists thought that women were in the same submissive posture as the slaves and the workers in industries. Historically, RNs and physicians also had a dominated-dominating working relationship (Risjord, 2010). The standpoint concept was later expanded to include disparities among social class, culture, ethnicity and sexuality (Brooks, 2007; Harding, 2006). Central to this theory is the belief that reality and truth are best perceived from the standpoint of the oppressed (epistemological position). So in this sense, the feminist researcher is co-constructing the comprehension of the phenomena by giving voice to oppressed people (Brooks, 2007; Harding, 2006). Important notions are associated with the feminist discourse such as an awareness process, a collective identity and a critical perspective that converge on taking a position leading to empowerment and emancipation as well as a transformation of the environment to improve working or living conditions to achieve well-being (Guba & Lincoln, 1994, 2005; Harding, 2006).

From readings on feminist standpoint theory, the researcher relates to Harding's (1991, 1993, 2006) perspective. For Harding, a reality exists (possibly several) that is

independent of the thought. The epistemology and the methods of research tend to answer questions of a social nature in order to intervene and transform the system. In this context, several realities are possible but one answer will be defined on the basis of consensus. Harding (1991, 1993) presented the strong objectivity concept where her epistemology strategy is focused on starting the investigation from a women's experience (knowledge object) and her capacities to reflect on a situation. In doing so, the results are more complete, rigorous and representative of the social reality. The researcher who seeks to promote a social change must form a partnership and consider the voices of all women and then create a form of critical consciousness. However, the group must agree on a reality and on a social change to achieve (Harding, 2006; Guba & Lincoln, 1994, 2005; Kidd & Kral, 2005). Feminist research is a collaborative process honoring the lived experience, knowledge and competencies of all participants (women or oppressed people). This process gives the participants a voice to transform reality and uses participatory research strategies to achieve results (Mark, 1996; McTaggart, 1991). Furthermore, PAR and interdisciplinary research may be seen as closely related because they both rely on dynamic communication processes and intellectual exchanges across disciplines and use various methods and tools to resolve a complex problem of research or practice (Hebert, Brandt, Armstead, Adams & Steck, 2009; O'Rourke, Crowley, Eigenbrode & Wulfhorst, 2014).

The feminist standpoint theory is central throughout this research project. First, the use of Laschinger et al's (2001) conceptual framework to guide this research draws on Kanter's (1977, 1993) and Spreitzer's (1995) perspectives to explain the RNs' situation (structural empowerment, psychological empowerment and burnout) and to

facilitate the creation of an intervention to promote their empowerment that will enhance well-being and health and reduce burnout. Kanter developed her theory during her ethnographic work in the 1960's, based on Marx's concepts. The goal was to understand the working conditions of women in industries. She was interested in structures in the working environment that promote productivity while promoting the well-being of employees (work satisfaction and decreased burnout). There is also an interdisciplinary contribution by this research because it aims at holistically understanding a complex problem in a specific work context which is the HD, and it integrates various disciplines' perspectives and assessment tools; nursing, psychology and management (workplace health promotion and wellness) (McKenna, 2015). In **phase 1** of this study, we are giving a voice to HD RNs through the survey to describe their views on their professional life, empowerment and well-being at work, and burnout issues. In **phase 2**, we adopt a PAR approach, where the HD RNs selected for the focus groups explored, voiced their opinions, and came to a consensus to co-contruct the recommendations for the development of a future professional website to transform the worklife of their community: enhance their empowerment and well-being and reduce their risk of burnout.

Self-reflection on Phase 1

In phase 1, as the PI of this study, I initially communicated with most HD managers in the province of Quebec to present the purpose, objectives and expectations of this research. I followed-up with telephone and emails to HD managers, assistant head RNs' and educational team members to optimize the RNs response to the survey and visited 13 HD centers in the Montreal area. Knowing the HD nursing community, I

was expecting that RNs and managers would be enthusiastic about this project because research in HD is very limited and the topic is aiming at supporting the RNs' practice, their health and well-being. Most professionals with whom I communicated with were positive about this research project, and they encouraged me and offered their help. In addition, I received personal emails from RNs who were contacted from the OIIQ contact list to participate in the survey (i.e. survey participants and former HD RNs) and HD managers in Quebec thanking me for undertaking this research because of its importance. Some RNs shared personal anecdotes to demonstrate the intensity of their work and the need to address the burnout issue and their well-being at work. One RN reported *« I commend you for choosing this topic and for your attention to us, RNs in HD. Your survey is timely because we spent a very difficult time last summer…I very much hope that your results will be considered and will have an influence for the improvement of our work, which has become quantitative and non-qualitative».* A former HD RN contacted me because she felt it was important to know that there is a significant number of HD RNs who cannot sustain the highly stressful environment and work demands and so they leave HD for other nursing specialties or leave the profession (as she did). She wrote, *« …Many people need this kind of questionnaire ... You know, in a team if you believe that everyone has potential and you see a champion inside each individual… well, you are going to have a team of champions who will work with all their heart and their professional conscience because they know that they are appreciated.... After 10 years as a RN in HD, I resigned because I had no more enjoyment working with the nursing team and I did not feel I was emancipating myself in my work… on the contrary, if I had continued to work in HD, I would have become*

sick ». An interdisciplinary team member commented on the evolving situation in HD and said: *«* Relationships within the team used to be more pleasant…we used to be a closer group of professionals caring for everyone within the team…now, this is getting lost… working in HD has become a job and RNs are under stress…we need to recapture the team spirit *».* *Yet,* some HD managers mentioned that burnout is not an issue in HD, one manager stated « *Why are you interested in burnout among HD RNs?...Everything is going well in HD there is no burnout problem here* », I later found out that a significant number of RNs working in this HD center were on disability leave related to burnout. Furthermore, some HD RNs emailed me following the survey to volunteer to be part of the focus groups because they thought this study was important and wanted to participate in making positive changes for their practice. These revelations reiterate the importance of this research, and that burnout is a significant issue for HD RNs in Quebec that needs to be addressed. From a personal standpoint, I saw first hand how HD RNs are under pressure at work when I visited the HD centers to present my research project. In addition, Quebec is presently undergoing major healthcare restructurating that include budgetary and staff cuts, and since I am a clinical nursing manager, I also thought about the manager's position. Some managers may not feel adequately equiped to face the new contextual realities. Informing HD managers and decision-makers about the burnout issue among HD RNs and providing useful ways to address it is therefore imperative.

Self-reflection on Phase 2

In phase 2, the focus groups were conducted in a collaborative room at the University of Montreal Health Library and a snack was served.at the Montreal Health

Library and a snack was served. In response to the PI questions, the HD RNs reported being comfortable being video-recorded and that the atmosphere was friendly but professional. They mentioned that the PowerPoint presentation was helpful in understanding the study and the survey results (Appendix O and P present the focus groups questions in English and French). In regard to the focus groups activity itself, I was encouraged to see how the HD RNs participants were engaged and concerned about effectively communicating their thoughts about their work experience, stress, burnout and well-being so that I would understand their situation. They were searching intently for ways to positively change their workplace. They also cleary voiced their impression on the value of having a professional website to support the nursing practice, health and well-being at work of their entire HD nursing community. They worked collaboratively to provide key information and elements to develop the recommendations for a website. There was no conflit of opinion, everyone was respectful, taking the time to listen to what everyone had to say and contributing their thoughts. I felt the sessions were filled with rich content and emotions and that I was just an instrument that permitted these RNs to self-reflect. They discussed freely about their situation and were able to thoroughly answer the predetermined questions. Since I was once part of the HD nursing community, I understood and related to everything that was said. There was a great amount of trust within the focus groups which allowed me to adequately guide them and enrich the discusion. Before the focus groups, I reflected on my role and it was very important to me that I gave them voice in order to fully appreciate their lived experience. At the mid session of the second focus group of the first round, saturation of

data was achieved because there was no new information emerging (redundancy of information) but I continued until the end of the session to make sure.

In terms of scheduling, in advance of the sessions, I let the potential HD RNs participants choose the appropriate time to conduct the focus groups and by consensus, they selected Sundays because it was their day off work. However, a couple days prior to the focus groups or on the day of the activity, I received cancellations because of sickness, no babysitters or family engagements. I had invested a lot of energy in finding the participants and I was worried that the focus groups would be less productive. To my surprise, it was quite the opposite. The small focus group allowed participants to be more intimate, and to confide and everyone was able to express themselves. It turned out to be a profitable experience for everyone. Following the focus group sessions, the PI sent an email to participants asking them if they would be willing to share their experience about the process. Three HD RNs wrote back and reported on their experience demonstrating the value of a PAR approach to better understanding their work experience and to discuss a difficult issue such as burnout in addition to working collaboratively on finding solutions. The RNs stated: *« I appreciated my experience in participating in the focus groups. This allowed me to find out about the nursing realities in other HD facilities and it made me realize that we live the same work situations despite our different types of facilities - this shared experience taught me a lot.» (RN-1). « It was empowering to discuss with other RNs in our specialty without judgment or pressure - to share our positive and negative experiences, to recognize the challenges and difficulties that are common to all - small focus groups facilitate communication and everyone could confide, propose solutions - we really felt the researcher's interest*

in helping us, we felt confident and well guided to allow us to self-reflect and express our opinion to create a clinical innovation.» (RN-2). « I thoroughly enjoyed my experience - the small focus groups allowed us to feel the trust among each other to discuss difficult topics related to our worklife - I felt energized to be able to express my thoughts and opinions for the benefit of creating positive changes for the practice.» (RN-4).

Futhermore, with PAR, an advisory team is crucial for project development and implementation. The Avisory Team for this research was selected by the reputation method (people known to be engaged or would like to make a positive change in their workplace) and consisted of: two HD Head RNs, two members of the nephrology nursing educational team (one NPC=Nursing Practice Consultant and one NP=Nurse Practioner) and two HD RNs and one physician stakeholder from the Société québécoise de néphrologie. The Advisory Team was active thoughout this study. I was grateful to collaborate with these professionals who each had their unique vision about HD care and brought their contribution to this project by providing support in identifying potential participants for the focus groups, providing feedback on data analysis, and additional information and elements to include in the recommendations for the website as well suggestions as further research topics. I was pleased with their support, availability and engagement even though their work schedules were hectic. To keep track of her research, the PI used a self-reflective journal (Table 9 presents present the audit trail of this reseach).

Table 3. Research Audit Trail

Research Activities										
	October	November	December	January	February	March	April	May	June	May/ December
Approval of Protocol UNB	✓ **October 20th**									
Approval of Protocol OIIQ	**October 31st**									
Phase 1: Survey		**Nov 9th – Dec 12th emails (invitation and three reminder/thank you) Nov 9th - 18th - 24th- 29th**								
Article # 1 Written and Sumitted		✓	✓	✓		**March 7th**				
Phase 1: Data Analysis				✓	✓					
Article # 2 Written and Submitted					✓	✓	✓			**Aug 2th**
Phase 2: Focus Groups					**First round Feb 19th – Feb 26th**	**Second round March 12th**				
Phase 2: Data Analysis					✓	✓				
Report Written						✓	✓	✓		
Final Approval of Report and Recommendations by Advisory Team									**June 6th**	
Report and Recommendations Sent to REINQ										**Aug 2th**
Article #3 Written and Submitted							✓	✓		**Aug 2th**
Writing of Thesis							✓	✓	✓	✓

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CURRICULUM VITAE

CANDIDATE'S FULL NAME: Christina Doré

EDUCATION

2018	PhD in Interdisciplinary Studies University of New Brunswick Fredericton, NB
2006	Master in Science of Nursing Université de Montré Montreal, Qc
1995	Certificate in Critical Care McGill University
1994	Bachelor in Science of Nursing Université de Montréal Montreal, Qc
1991	College degree in Nursing CEGEP Saint-Laurent Montreal, Qc

PUBLICATIONS

Doré, C. (2017). L'estime de soi : analyse de concept. *Recherche en soins infirmiers, 129*(2), 18-26. doi:10.3917/rsi.129.0018

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Doré, C. & McKenna, M. (2018, pre-print). The logic of interdisciplinary research in health and understanding the pivotal role of nursing in interdisciplinary studies. Manuscript submitted for publication to the Research and Theory for Nursing Practice journal.

CONFERENCE PRESENTATION

Poster presentation at the Annual Symposium on Quality & Research at SMHC on the fall management program (prevention and post-fall surveillance) (winter-2013).