Université de Montréal

Optimisation de la préparation des infirmières œuvrant aux soins intensifs en vue de leur
certification canadienne

par
Geneviève Beaudoin

Département des Sciences de la santé

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Résumé

Les infirmières œuvrant aux soins intensifs doivent constamment s'adapter à des sources de stress multiples, telles l'utilisation des technologies avancées et l'entrée en relation avec des patients et des familles éprouvés. Les problématiques de pénurie et de rétention de la main d'œuvre ainsi que des taux d'absentéisme élevés y sont plus présentes qu'ailleurs (O'Brien-Pallas, Tomblin Murphy, Shamian, Li & Hayes, 2010). Ce contexte particulier peut affecter la santé psychologique des infirmières qui y travaillent. Alors que les instances gouvernementales avancent des solutions axées sur des incitatifs financiers, la littérature soutient que c'est plutôt par la promotion de la formation et le développement des professionnels au sein des organisations que la satisfaction au travail et la santé des professionnelles peut s'améliorer (Kuokkanen et al., 2003; Leblanc & Sylvain, 2011). La certification nationale, en particulier, constituerait une avenue à envisager pour y arriver (Fitzpatrick et al., 2010; Ridge, 2008; Tigert, 2004). Le soutien de l'organisation pour la réalisation de ce mode de validation des connaissances s'avère toutefois primordial pour que la démarche génère des bénéfices au niveau du milieu clinique, des professionnelles et des patients (Byrne, Valentine, & Carter, 2004; Niebuhr & Biel, 2007). Dans le cadre d'un projet de stage de maîtrise, une activité éducationnelle visant la préparation d'infirmières engagées dans le processus de certification en soins intensifs adultes a été développée et mise à l'essai au sein d'une unité de soins. Basée sur le cadre théorique humaniste (Cara, 2013; Girard & Cara, 2011; Watson, 1985/2007), l'activité a permis de fournir un soutien adapté en fonction des besoins des participantes. L'approche par problème a été utilisée pour faciliter l'apprentissage et la mise en contexte des nouveaux savoirs tout en intégrant les principes d'interaction humanistes. Suite à cette intervention, une augmentation de la perception de préparation et de soutien a été rapportée. Les participantes ont senti que l'organisation les soutenait dans leur démarche de formation continue et a optimisé leur engagement et leur persévérance envers la certification.

Mots-clés : Certification nationale, soins intensifs, infirmières, santé psychologique

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Introduction du rapport de stage

La certification canadienne se veut un processus d'apprentissage autodidacte de savoirs spécialisés qui vise le développement de la pensée critique et l'approfondissement de la compréhension des cheminements cliniques rencontrés dans un domaine de soins particulier. Selon la théorie de Spence Laschinger, Finegan et Shamian (2001), cette démarche, lorsqu'elle est soutenue par l'organisation sous forme financière, logistique ou clinique, pourrait générer un empowerment psychologique qui, lui-même, serait lié à des effets positifs sur la satisfaction personnelle et professionnelle, l'autonomie et l'intention de rester en emploi. Conséquemment, pour optimiser la préparation et le soutien associés à cette démarche et ainsi favoriser la santé psychologique des participants, une activité éducative a été développée et mise à l'essai dans l'unité de soins intensifs d'un centre hospitalier montréalais. Réalisée dans le cadre d'un projet de stage de maîtrise, l'intervention s'est échelonnée sur un total de sept mois (610 heures, de septembre 2013 à avril 2014). Le cadre théorique humaniste a été retenu pour guider l'activité et l'approche par problème (APP) a structuré la présentation du contenu théorique. Les objectifs du stage consistaient à fournir le soutien clinique et pédagogique nécessaire à la réussite du processus de certification par les participantes en fonction de leurs besoins individuels et de diminuer le stress perçu durant la période d'apprentissage. Les objectifs d'apprentissage, quant à eux, étaient axés sur l'intégration des connaissances acquises et les compétences développées dans le cadre du programme de maîtrise, le développement du leadership clinique et des aptitudes de collaboration dans un milieu de soins, l'apprentissage de la méthode APP pour structurer des scénarios cliniques et l'adoption de l'approche humaniste lors de la réalisation du stage.

Le document qui suit servira d'abord à situer le lecteur quant au contexte particulier des soins intensifs adultes et son effet potentiel sur la santé psychologique des infirmières qui y œuvrent, ainsi que la pertinence d'une démarche de formation continue comme la certification nationale pour l'améliorer. Présenté sous forme d'article publié en anglais, il permettra d'expliquer le processus de certification dans un domaine spécialisé de la pratique infirmière, de décrire la méthode utilisée pour structurer l'intervention et de rendre compte du déroulement du stage. Ce projet a permis de proposer une intervention novatrice dans un contexte ouvert au changement et à l'amélioration continue des pratiques. Les résultats du stage seront analysés en fonction de la perception du soutien face au processus de certification et des autres bénéfices perçus par les participantes. Les auteures concluront ce document avec des recommandations pour les organisations et des propositions pour des projets à venir.

Optimisation de la préparation des infirmières œuvrant aux soins intensifs en vue de leur certification canadienne

Development and implementation of a learning activity to support nurses undergoing the Canadian certification process in critical care

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Abstract

Nurses working in critical care units face multiple sources of stress such as the use of advanced technologies and the interaction with suffering patients and families. In addition, these environments are, more than ever, dealing with staffing shortage and retention difficulties, as well as high absenteeism levels (O'Brien-Pallas, Tomblin Murphy, Shamian, Li & Hayes, 2010). Thus, this context holds the potential to affect the psychological health of caregivers. While governmental committees directed interventions toward financial incentives and support, literature rather argues that satisfaction and health can be improved by promoting continuous education and professional growth (Kuokkanen, Leino-Kilpi, & Katajisto, 2003; Leblanc & Sylvain, 2011). National certification, particularly, appears to generate those benefits (Fitzpatrick, Campo, Graham, & Lavandero, 2010; Ridge, 2008; Tigert, 2004). However, organizational support as been reported as essential so those effects are perceived by the professionals and eventually the patients and the clinical setting (Byrne, Valentine, & Carter, 2004; Niebuhr & Biel, 2007). In the course of a graduate studies' internship, an educational activity aimed at optimizing the preparation of nurses involved in the certification process was developed and implemented in an intensive care unit. Based on the humanist theory (Cara, 2013; Girard & Cara, 2011; Watson, 1985/2007), the intervention allowed the participants to receive tailored and comprehensive support. Problem-based learning (Barrett & Moore, 2011; Barrows, 2000; Duch, Groh and Allen, 2001) was also used to facilitate learning by contextualizing theoretical content while integrating humanist principles. Following the activity, participants reported feeling more prepared and more supported to achieve the certification process. The article describes how an educational activity could potentially empower nurses and enhance their personal and professional growth.

Key words: National certification, credentialing, critical care, nurses, psychological health

Introduction

Intensive care nurses work in highly stressful environments that can affect their health and their intention to pursue their career in that specialty or consider new professional challenges. To improve staff's retention and health, different strategies such as critical care premiums and flexible schedules have been implemented (Aiken, 2008; Aiken, Clarke, & Sloane, 2002; Girard, 2008). Yet, achievement of personal and professional development, through continuous education, has shown to be a method that further improves work satisfaction and psychological health (Kuokkanen, Leino-Kilpi, & Katajisto, 2003; Leblanc & Sylvain, 2011). Particularly, certification, as a specific knowledge validation process, has been identified as an interesting avenue to generate growth and development that could help professionals to pursue their commitment as caregivers and employees (Fitzpatrick, Campo, Graham, & Lavandero, 2010; Ridge, 2008; Tigert, 2004). When nurses feel prepared and competent to face critical clinical situations, work satisfaction increases and leads to a potentially better retention (Nedd, 2006; Wynd, 2003). Success of this method, though, depends on the availability or provision of organizational support (Byrne, Valentine, & Carter, 2004; Niebuhr & Biel, 2007). In the context of an internship (to complete a graduate studies' program in nursing), an educational activity aimed at supporting and preparing nurses enrolled in the national certification process was developed and implemented in the intensive care unit of a University teaching hospital in Montreal. The humanist theory and the problem-based learning method were used to guide and structure the intervention. The following paragraphs explain the problematic and describe the Humanist theory and pedagogical approach, the Problem-based learning (PBL) used to develop the learning activity. The development and implementation process of the intervention with

nurses undergoing the Canadian certification process in critical care is then summarized. Finally, results are presented and are followed by a discussion and recommendations.

Critical care context

The North-American health system is actually characterized by numerous challenges such as financial restrictions and a human resources shortage (Coomber & Barribal, 2007; FCSII, 2012; Girard, 2008; MSSS, 2010). Nurses working in intensive care units are exposed to several stressors such as acuity and unpredictable clinical situations, dynamic and changing environments, and interactions with families in crisis (Cavalheiro, Moura Junior, & Lopes, 2008; Embriaco, Papazian, Kentish-Barnes, Pochard, & Azoulay, 2007). At the same time, sophisticated technology and critical care knowledge are constantly evolving, requiring health care professionals to continually update their knowledge and skills (Cavalheiro, Moura Jr., & Lopes, 2008). All those elements can generate stress, cause suffering, and lead to burnout (Azoulay & Herridge, 2011; Martins, Santos, Tourinho, Dantas, Gurgel, & Nunes de Lima, 2012; Shimizy, Couto, & Hamann, 2011). Concretely, increasing absenteeism has been observed, as well as staff turnover rates, which now exceed 19% in Canada (O'Brien-Pallas, Tomblin Murphy, Shamian, Li, & Hayes, 2010). Nurses need to find sources of growth and empowerment in order to cope with their work environment (Nedd, 2006; St-Pierre, Alderson, & St-Jean, 2010; Wynd, 2003). The certification in a specialty is a form of continuing education that appears to empower nurses and to facilitate professional growth (Briggs, Brown, Kesten, & Heath, 2006; Cary, 2001; Samedy, Griffin, Capitulo, & Fitzpatrick, 2012; Sechrist, Valentine, & Berlin, 2006; Wade, 2009; Wynd, 2003). The next paragraph describes the certification process.

Certification process

Since 1984, the Canadian Nurses Association (CNA, 2013) has been contributing to promote and acknowledge the nursing profession through a national certification program. The certification, an autodidactic process, allows nurses with a minimum of two years (full time) of clinical experience in a specialty to deepen theoretical knowledge and develop critical thinking abilities over an eight-month period. Each specialty has an exhaustive competencies blueprint to guide nurses. For the critical care certification, objectives associated with knowledge acquisition, comprehension, and integration are proposed for each anatomical system. Study promotes self-learning, but some resources such as a bibliography and study groups (in some geographic areas) are available through the CNA's website. At the end of the learning period, a written exam is required to confirm attainment of objectives determined by the CNA. If the nurse succeeds, up to twenty accredited hours of continuous training can be acknowledged by the regional professional order. In addition, certification was found to be beneficial at different levels: for the nurses, the patients, and the organisation (Annexes 1 and 2). The next section details those benefits.

Benefits reported

Primarily, certification was found to be beneficial for nurses themselves. The completion of the process was found to generate feelings of autonomy, self-accomplishment, confidence, and independence (Wynd, 2003). The same study noted that nurses who felt more prepared to intervene with patients were more satisfied with their work and were inclined to remain in the organization. Also, authors have suggested a strong association between certification and empowerment (Fitzpatrick, Campo, Graham, & Lavandero, 2010; Gaberson, Schroeter, Killen,

& Valentine, 2003; Krapohl, Manojlovich, Redman, & Zhang, 2010; Piazza, Donahue, Dykes, Griffin, & Fitzpatrick, 2006). By facilitating the development of specialized knowledge, nurses were able to attain higher practice standards, gain professional credibility, and experience empowerment. Similarly, the American Association of Critical Care Nurses (AACN, 2003) reported that nurses associated certification with an important source of personal and professional growth. Ultimately, improving personal and professional satisfaction as well as professional growth was found to reverberate on the organization and the patient's quality of care.

Miller and Boyle (2008) highlighted that having certified professionals enhances quality of care and increases staff satisfaction, recruitment, and retention. Fitzpatrick and collaborators (2010) also found that the certification process decreased staff turnover by empowering nurses. Similarly, Need (2006) found that successful completion of the certification process in a specialty increases nurses' commitment toward the organization. With regard to patients' care, Donahue, Piazza, Griffin, Dykes and Fitzpatrick (2008) demonstrated that patient satisfaction levels were positively associated with nurses' perception of empowerment. In addition, Kendall-Gallagher, Aiken, Sloane and Cimiotti (2011) established that the proportion of certified nurses in a clinical setting was linked to reduced mortality and morbidity rates.

To optimize the benefits obtained by the certification process, it is of utmost importance that nurses undergoing the certification process in a speciality are supported by the organization. In fact, Stromborg, Niebuhr, Prevost, Fabrey, Muenzen, Spence, Towers and Valentine (2005) associated the lack of support with a great barrier to psychological empowerment and the successful completion of the certification process. Byrne, Valentine and Carter (2004) also reported that the lack of institutional support limits the willingness of nurses to engage in the

certification process. Yet, Spence Laschingers' Nursing Worklife Model (Annex 3), developed from Kanter's structural empowerment theory (1993), states that the availability of organizational factors such as opportunity, information, and resources is essential to generate psychological empowerment. Since authors have demonstrated that the certification process can lead to empowerment (Fitzpatrick et al., 2010; Gaberson, Schroeter, Killen, & Valentine, 2003; Krapohl, Manojlovich, Redman, & Zhang, 2010; Piazza, Donahue, Dykes, Griffin, & Fitzpatrick, 2006), providing structural and clinical support is primordial so it can emerge and generate positive impacts on the organisation, the professionals, and the patients.

Considering these facts, the authors developed an educational activity within a clinical setting to support nurses that were engaged in the Canadian Adult Critical Care certification in 2013-2014. The goal was to help nurses structure their learning and facilitate the integration of theoretical knowledge in clinical situations. The ultimate purpose of the activity intended to reduce psychological stress and improve perception of support and commitment coming from the organization. The development and implementation processes of this activity are presented in the next paragraphs.

Theoretical Framework

The humanist model

The Humanist model as defined by Watson (1985, 2005) and the model of Girard and Cara (2011, Annex 4), which embed the *caring* theory's concepts, were used as a theoretical framework to develop and implement this project. The model provided a moral and interactional structure. It uses and defines the four concepts of the nursing theory: person, environment (or life and work context), health (or well-being), and care. The care in a context of education represents the authentic and transformative relation that is created by the educator with a student

and allows both people to call upon their potential to generate space and momentum for mutual and individual learning. Also, in this model, each person has a complex holistic construct of mind, body, soul, and experience. The reality and the perception of truth are subjective and influence each person's choices and beliefs. The perspective implies a non-paternalistic approach that acknowledges the fact that every individual has the potential to achieve their goals (Leninger and Watson, 1990). Caring, or the transpersonal process stemming from humanism, aims at specific interactions: empowerment, growth, and hope. Each individual has a potential to develop his abilities and his competencies. The role of an educator is to help that person become aware of his potential and grow from and by it. According to the concept of hope, or faith-hope as described by Watson (1985), it is the responsibility of the nurse-educator to generate and maintain a sense of well-being by exploring and optimizing the use of beliefs that are meaningful to the individual. In an educational process, the "teacher" and the adult learner mutually evolve through their relationship. Their interaction should be based on respect, openness, and potential.   The Humanism theory's concepts, as extrapolated by Shultz (2009, p.30), define the educator "as a facilitator of learning rather than an all-knowing authority who conveys information". As an educator, it is never about inculcating, but more about giving the tools to help each student to be aware of and develop his potential, and then apply it to new learning experiences.

Finfgeld-Connett (2007) proposed a perspective to apply the caring interactional process in an educational context. While representing the principles and values of humanism well, the author clarified three important concepts embedded in caring interactions: (1) expert nursing, (2) interpersonal sensitivity, and (3) intimate relationships. Consequently, these attributes were used to guide the development and implementation of the interventions with the nurses enrolled in the

certification process in critical care. Thus, the expert nursing attribute was used by recognizing critical care and certification process knowledge, and expertise of the resource people involved in this project. It was also applied to guide the co-development of the learning activity, which included clinical scenarios, presentations and clinical discussions. Thus, it ensured relevance and validity of the content to the participants. Also, for the interpersonal sensitivity attribute, the first author explored each participant's beliefs, values, and objectives in order to adapt the educational interventions and provide appropriate support. An environment promoting knowledge sharing, discussion, and expression of emotions was maintained throughout the internship period, which led to a better understanding of each participant's needs and helped provide better support. Finally, combining the first two attributes allowed the creation of authentic and solid relationships with the nurses enrolled in the certification process. Integrating the concepts proposed by Finfgeld-Connett (2007) throughout the development and implementation of this project enabled the educator to "be with" the participants and provide a constant support tailored to their needs.

This framework was chosen because it proposed an innovative perspective on learning and was aligned with the authors' beliefs. Traditional lecturing methods were not meeting the andragogic specification of the targeted population: nurses undergoing the Canadian Critical Care certification process. The Humanist theoretical concepts used to structure, develop, and implement the interventions allow to better meet nurses' specific needs by creating an environment promoting expression of emotions, sharing of knowledge, and, thus, generating optimal support and empowerment. Also, Humanism and caring concepts, in an educational context, focus on the development of critical thinking, which is a central objective of the certification process. In order to propose an educational activity that will optimize nurses

support while preparing for the Canadian Certification in Critical Care, the problem-based learning pedagogical approach helped to complement the Humanist model.

Problem-based learning

The PBL method was first introduced in 1969 by the University of McMaster. This conception favours learning through problems that can challenge the thinking process of learners. As per Duch, Groh and Allen (2001, p.6), "complex, real-world problems are used to motivate students to identify and research the concepts and principles they need to know to work through those problems". In a context where adults need to learn and understand how theoretical content applies to clinical context, the utilization of realistic clinical scenarios can lead to meaningful learning experiences, enhance critical thinking skills, and facilitate self-directed learning.

In a nursing context, the PBL approach implies the creation of clinical scenarios that address specific objectives determined by the educator. Each scenario is developed according to three or more measurable learning objectives (Barrett & Moore, 2011). Then, learners are invited to form a group to discuss the situation and determine key clinical data and nursing priority interventions. Learning is mostly self-directed and autonomous. Professionals can share, validate, or confirm their knowledge while being accompanied by the educator (Barrows, 2000). It allows the use and combination of different experiences and knowledge levels to generate global growth and development. As supported by the humanist theory, the "teacher" acts as a facilitator and does not direct the learning process. He does, though, create and develop case scenarios according to educational objectives while considering learners' ideas and needs.

The facilitator acts as a flexible structure that allows individual and community learning (Barrows, 2000; Savin-Baden, 2003).

Research on the PBL method has shown that the teaching approach is beneficial for adult learners and for contexts implying complex knowledge and analysis. Alcázar and Fitzgerald (2005) revealed in an experimental study that students learning with PBL method were developing higher thinking skills like analysis and synthesis ($r = 0.00$, $p < 0,05$). Colliver (2000), in a literature review, associated the method with a better knowledge acquisition compared to non-PBL students and an improvement in clinical skills and perception of satisfaction toward learning. Khaki, Tubbs, Zarrintan, Khamnei, Shoja, Sadeghi, & Ahmadi (2007) also discovered that PBL increased satisfaction level of learners. PBL was also found to improve metacognitive skills, elaboration strategies, intrinsic motivation, and critical thinking (Weshah, 2012; Sungur & Tekkaya, 2006). Following a literature review, Hmelo-Silver (2004) revealed that improvement with reflection and self-directed skills, as well as knowledge construction and structure, were beneficial results of PBL. Even though those studies mostly addressed medical students from outside of Canada, at least one meta-analysis confirmed the effects reported above for the nursing profession. PBL also appears to be effective in supporting clinical problem solving, long term retention of material, skill development, and critical thinking (Shin & Kim, 2013). Thus, literature supports that PBL is a relevant method to generate learning and critical thinking for nurses and healthcare professionals.

The learning process to obtain a Canadian certification in a specialty implies the attainment of specific learning objectives relevant to the clinical practice in that specialty. These learning objectives are established by the Canadian Nursing Association (CNA). As an example, for the certification in critical care, learning objectives target knowledge such as physiology,

laboratory and diagnostic tests, and pathological conditions related to each anatomical system. The goal for the learners is to establish links between different elements of a variety of clinical situations and identify nursing priorities, as well as patients and families' needs, for a variety of clinical situations. Consequently, an in-depth understanding of all the concepts and the links between them is essential for nurses undergoing the certification process.

The educational method of PBL was a particularly relevant educational method for the present project. First, PBL fitted with the Humanist philosophy. In addition, PBL is easily adaptable to different type of learners. It facilitates exchanges between participants and educators, which makes this educational approach pertinent in guiding and supporting nurses undergoing a certification process in a specialty such as critical care. Also, in this project, the targeted population was a heterogeneous group of critical care nurses who had different professional experience, level of education, beliefs, and needs. Thus, PBL was an optimal approach to address andragogic specifications and particularities of the targeted population. In addition, this approach facilitated the integration of complex scientific knowledge linked to clinical experience. The implementation process of the learning activity is described in the next section.

Methodology

The following paragraph describes how the targeted population was identified and how their needs were assessed. The co-development, planning, and implementation phases of the learning activity are then presented (Annex 5). Finally, the different learning activities (weekly study groups and two preparation days) are summarized.

Participants needs assessment and communication strategies

The development and implementation of this project was done over seven months (620 hours). As the certification is an exam-based credential, nurses who chose to get involved in this process had to register with the CNA organisation during the fall 2013. In November 2013, a first contact was made with each participant enrolled in the certification process in critical care. The goal was to explain the project, the humanist approach principles, and application in practice and to acquire knowledge about each participant's goals and objectives. A small qualitative questionnaire was distributed to each participant to obtain demographic data about his or her professional experience and level of education. As well, it helped to understand what motivated them to enroll in the certification process and identify their educational needs. In total, six nurses participated in this project. One person, though, had to withdraw for personal reasons.

Nurses involved in the certification process had ICU clinical experience ranging between four and eleven years. They chose to enroll in the certification process to achieve a personal and professional challenge, enhance their clinical knowledge, and further develop their critical thinking. Participants identified that they needed motivational support and coaching. From a learning needs point of view, they reported having more difficulties with the neurology, cardiovascular, and pulmonary systems. As participants worked on different shifts and had multiple responsibilities outside the project, an issue about communication and support was raised. It was decided that communication could be facilitated by the use of text messaging and social media by all members of the group. In addition, to ensure that all participants receive important information and have access to the first author during the entire process, a private internet forum was created. The forum allowed relevant and interesting theoretical content such as physiologic systems reviews and preparation questions to be conveyed in a permanent and

easily accessible way.. Nurses could submit questions and concerns, and ask for some clarification or validate their understanding of theoretical knowledge by either mode of communication. Replies, answers, and comments were visible to the others, thus optimizing information sharing. Following this first step, the co-development phase started.

Co-development of the educational activity

This phase started right after the initial contact and continued throughout the entire project. In traditional settings, the educator would have developed theoretical content, using his perception and experience to determine what to present. The authors chose to have a more collaborative approach. Therefore, they used the humanist model and applied the recommendations made by Finfgled-Connett (2008) to build the learning activities. The educational activities were developed based on the participants' needs and supported by learning objectives proposed for the critical care certification by the CNA (2010). Between September 2013 and the end of January 2014, 41 clinical scenarios were developed using the problem-based learning method, allowing a thorough revision of each physiologic system and more than 40 clinical conditions encountered in critical care (Annexes 6, 7). Each scenario was built according to three measurable objectives. Participants were encouraged to make in depth links between the different aspects of the clinical situation and identify priorities and interventions. The goal was to create realistic complex scenarios in order to facilitate knowledge sharing and enhance critical thinking of nurses enrolled in the certification process. To ensure validation and relevance of the method, input was frequently obtained from the clinical resources (the three certified nurses in critical care who were involved in the project) and the participants. This approach promoted knowledge and experience sharing as a source of information and participation in the structure and content building of the theoretical content to be presented,

which resulted in empowerment. Clinical resources and participants were able to suggest meaningful clinical situations and theoretical content to be covered and had a significant impact on the co-development of the educational activity.

Preparation days

The clinical setting in which the intervention took place granted two pay days to the nurses enrolled in the certification process to better prepare for the exam. As empowerment of participants was a central concept of this project, nurses were asked to determine which systems would be reviewed on which day. Thus, the first day, in February 2014, was dedicated to shocks as well as the gastro-intestinal, renal, and hemato-immunologic systems. The second day, which took place in March 2014, allowed the group to review the cardiovascular, pulmonary, and neurologic systems. Theoretical content was revised using complex clinical scenarios, which were presented with PowerPoint© slides. Explanations were provided throughout the scenarios. Participants were encouraged to propose hypotheses, determine priorities, and explain the rationale behind the interventions. Each scenario was enriched by a group discussion, which allowed participants to validate their understanding. Finally, even though only two days of preparation were offered to review all the objectives of the CNA (2010) in critical care, most of the content was addressed.

Study group

Following each preparation day, presentations were made available to the participants via the internet forum and additional "capsules" were created to answer specific questions that were brought forward during the preparation days or posted on the social media (email, forum, text messages). Since the participants considered that meeting only twice during the study process was not enough, they chose to meet for four to six hours weekly between January and April

2014. The first author was able to attend seven of these meetings. Her role was mainly to prepare content and "quiz" questions to review with the nurses and oversee the functioning of the group. The first 45 to 60 minutes of each meeting was dedicated to answering questions and assessing each participant's progress. Thus, these meetings were an excellent opportunity to follow up on each person and create relationships. The study group meetings also allowed the creation of a mutual sharing and learning environment.

Results

During the last preparation day, a small questionnaire was distributed to the participants to obtain feedback on the different pedagogical activities and the impact on their learning. The evaluation was qualitative and provided a good overview of the unwinding of the experience and the utility of the interventions. Overall, the decision of the participants and clinical resources was unanimous regarding the relevance of the approach and the method used during the educational interventions. Compared to traditional teaching methods, they mentioned that the project allowed interactive and collaborative learning. In addition, it allowed them to obtain support tailored to their needs. Three comments were consistently reported by the participants:

- "We ignored we didn't know". The participants, even though they had been working for several years in the intensive care unit, realized that a lot could still be learned. They also acknowledged that, in practice, they did not always take the time to make links between clinical symptoms, tests results, and observations. Undergoing the certification process allowed them to translate theoretical content to clinical situations. Participants reported that they felt more prepared now to face complex and challenging clinical situations and provide optimal care to the patients.

- "Study group meetings allowed us to share knowledge, experience and articulate our understanding of theory and clinical situations". The social and interactive aspects of the educational activity have been reported as a primordial component of their satisfaction regarding the certification process. The participants were able to encourage and challenge each other, which lead to a more in-depth learning.

- "The clinical scenarios turned out to be a pleasant discovery for us. They made it much easier to make links between data and to further develop our critical thinking skills". The participants reported that they felt they were integrating theoretical content with clinical scenarios instead of just trying to memorize it. They recall clinical experience to understand and remember theoretical content.

The only area for improvement reported by the participants was that two days of preparation were insufficient to review every subject they wished to look over. They thought that these two days were slightly overbooked and that a third day would have allowed more time for questions and discussion. However, the weekly study groups, as per each participant's feedback, helped to cover additional content or physiopathological concepts that were less understood or too quickly explained during the preparation days.

Discussion

Implementation process

The preparation and successful implementation of this innovative project involved many actors at an organizational level (an ICU nurse coordinator), a clinical level (three certified nurses in critical care), and a human resources level (an ICU administrative technician). Weiner, Amick and Lee (2008) stressed the importance that "collective and coordinated behaviour

change by many organizational members is often critical for the organizational change effort to produce tangible benefits". Thus, communication and coordination were essential to ensure that the organization, and also the stakeholders, would be willing to support the project. Consequently, the potential benefits of nurses' certification (Beaudoin, St-Louis, Alderson, 2013; Wade, 2009), theoretical framework, and educational interventions were presented in order to obtain the stakeholders' support. Overall, the intensive care unit manager was very receptive toward the innovative aspects of the project. To ensure that all six participants and two of the clinical resources be liberated to participate in the two preparation days, it was of utmost importance to clearly communicate with the ICU administrative technician in order to plan and coordinate the preparation days. In addition, each participant had to request time off to participate in the study groups. Once again, the ICU leadership facilitated this.

Facilitating factors and challenges associated with the implementation of the interventions

Facilitating aspects of this project were mostly the support provided by the ICU leadership and the fact that the organization promotes and encourages nurses to enroll in the certification process. In addition, the ICU leadership recognizes the benefits of the current project. The fact that the educator (the first author) was part of the staff also made the promotion of the project and the recruitment of participants easier. However, it could have also created bias as the ICU nurses' perception of the first author may have influenced their decision to enroll in the certification process. The educator had to adopt a new role in her working environment and build her credibility to generate a favourable response from the stakeholders in the intensive care unit. Leadership and good collaboration skills were essential in this project. Finally, the presence and the availability of clinical resources, and particularly the third author, who had experience as a clinical nurse specialist in critical care, allowed the development of theoretically

accurate and clinically relevant scenarios and educational interventions. The focus of the project was to provide support and learning experiences that would lead to an optimal preparation for the national certification in critical care. Having an "expert" in the adult intensive care allowed a constant validation of information and enhanced the learning experience of the first author, who was completing a graduate studies' program in nursing sciences.

Concerning the challenges encountered during the project, they were mostly minimal and temporary. Logistic planning of the nurses' attendance regarding preparation days was certainly a good challenge for the educator, who had to work and communicate with different stakeholders and provide support to participants during these days. Also, the fact that the study group sessions were held outside the institution made it more challenging for some participants to attend. Additional support and follow-up were offered to participants who were not able to attend a study group session. In addition, all theoretical content reviewed during the study group sessions was posted on the internet forum.

The humanist theory and the PBL approach, which were used during this project, certainly represented a challenge for the first author, who had to learn how to apply the concepts in a clinical setting. Humanism requires openness, flexibility, and empathy (Watson, 1985). The first author was able to understand how to "be with" the participants rather than "do for". Throughout the project, she was able to provide structural and clinical resources to the nurses enrolled in the certification process, thus optimizing the mutual emergence of empowerment and the feeling of being supported and motivated through the experience. The PBL method, once understood, proved to be relevant according to the internship's objectives. Even though literature has raised concerns about the overall efficiency and validity of the method (Colliver, 2000; Strobel & Barneveld, 2009) in this clinical project's context, it was particularly relevant

and generated meaningful learning experiences. Also, since the certification examination structure is based on clinical scenarios, PBL revealed itself as an obvious choice. Creating clinical scenarios required an enormous amount of time and effort, but it allowed theoretical content to be integrated in contextualized nursing situations. Overall, clinical resources and participants reported that the process led to a positive learning experience, optimal support, and empowerment.

<div align="center">Recommendations</div>

The educational intervention should be tested in different geographical areas, as well as in different clinical settings, to evaluate its applicability and its relevancy. The study groups, which are easy to implement and structure, could most probably be used in other contexts. Also, to pursue the development of psychological empowerment, the nurses who successfully completed the certification process could become mentors for nurses undergoing the certification process. They could get involved in teaching activities to ensure the continuity of the project. Even though the certification process involves an autodidactic deepening of knowledge, the presence of a specifically competent guide or educator will remain essential to prevent disorganization or confusion. By having a guide and adding more preparation days to the project, even more positive effects from the educational interventions can be observed such as increased levels of support and resources perceived by the participants, which have also been suggested by Spence Laschinger and colleagues' model (2001).

The author would also recommend that future research formally assess nurses' needs with regard to the preparation for the certification process, thus enabling evaluation of the efficiency and the relevance of the educational intervention. Also, nurses' perception of support and empowerment in diverse settings offering educational activities to support nurses undergoing the

certification process in a specialty should also be compared. These results could help managers justify investing in activities to support their staff involved in the certification process.

Authors hope that this project encourages other clinical settings to invest and engage themselves in supporting continuous education in order to provide high-quality care to patients and families. Even though it is the learners' responsibility to make the effort to successfully complete the certification process in a specialty, it is of utmost importance that organizations and mangers support their nurses. Ultimately, nurses could feel more empowered, which could possibly improve their psychological health, their intention to stay in their position, and the quality of care they provide. Nurses, patients, families, and the organization could benefit from it.

Conclusion

The internship's main goal was to support and prepare nurses throughout their certification process in order to optimize their preparation and success. This objective was completely reached considering the results that emerged (from the study group and the preparation days) after the activities. The idea behind the intervention was that investing in the human capital could lead to better performing professionals who can deliver care according to the higher standards. Also, by believing in the possibilities that are embedded in each person (whether he or she is a nurse or not), the whole community benefits from his or her development and her growth. The professional is potentially more inclined to stay within the organization. An educational intervention supported by the humanist model allows each individual to use his full potential to generate permanent and positive changes and growth.

Quebec's new provincial Minister of Health, Dr. Barrette, has recently expressed the necessity to acknowledge the specialized nurses even more since he considers them as key-actors in improvement of care and services (Gaudreau, 2010). This orientation supposes that the trial and implementation of interventions such as the one described above would be relevant in the actual context. It seems that the authors believe that investing in the potential of the nurses and the development of their specific knowledge could improve not only their health and their dedication toward their organizations, but also the quality of the care and services offered to the population. A large amount of work is still required to promote this type of continuing education, but as performance and quality continue to dominate healthcare debates, national certification will eventually impose itself as a valid option to answer the system's needs.

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Conclusion du rapport de stage

Le stage, basé sur la théorie de l'empowerment psychologique de Spence Laschinger et al. (2001), avait pour but de soutenir et d'optimiser la préparation d'infirmières œuvrant aux soins intensifs qui étaient engagées dans le processus de certification nationale de leur spécialité. L'étudiante considère que cet objectif a été pleinement atteint selon les résultats perçus par elle-même (progression de l'apprentissage des infirmières, déroulement de l'intervention) ainsi que les participantes (satisfaction personnelle et professionnelle, perception de la pertinence de l'intervention pour favoriser l'empowerment). Le fait d'offrir un grand nombre d'outils et de méthodes de soutien a permis de cibler les besoins particuliers de chaque participante et de les accompagner durant toute la durée du processus de certification.

Par rapport aux objectifs d'apprentissage, ils étaient axés sur la compréhension et la mise en pratique du rôle d'experte-conseil dans un contexte clinique. Ils incluaient aussi le développement des aptitudes de leadership et de collaboration interprofessionnelle. Finalement, l'étudiante souhaitait intégrer et appliquer l'approche humaniste et la méthode d'apprentissage par problème. Globalement, le stage a servi à mettre en pratique l'approche humaniste dans un contexte concret, soit une unité de soins intensifs adultes. L'étudiante a pu comprendre comment se vit le « être avec » et comment cela peut s'inscrire dans une démarche éducationnelle. Le projet, qui s'est déroulé sur une longue période, a été divisé en plusieurs étapes : la prise de contact avec les infirmières-participantes, le co-développement du contenu théorique et la mise à l'essai de l'intervention éducative. À chaque étape, l'étudiante a du collaborer avec différents professionnels (gestionnaires, ressources cliniques, infirmières) et a dû faire preuve de leadership, de persévérance et d'assiduité pour la mener à bien. Ce projet a permis à l'étudiante

d'apprendre non seulement sur le rôle d'experte-conseil, mais également sur elle-même (personnalité, entrée en relation avec les autres, etc.). L'expérience, qui visait à intégrer les connaissances acquises lors du parcours à la maîtrise, s'est également révélée être une grande source de questionnement et d'apprentissage tant sur le plan personnel que professionnel (capacité à gérer un grand projet, à créer des liens avec les acteurs-clés, à soutenir de façon constante et personnalisée les participantes).

Plusieurs projets de diffusion des activités réalisées durant le stage sont en cours ou ont eu lieu durant le parcours de l'étudiante (publication d'articles dans des revues scientifiques et la présentation du projet lors de séminaires et de conférences). L'étudiante espère que ceux-ci lui permettront de poursuivre ses apprentissages et de la mener plus loin dans son parcours professionnel. Le soutien exceptionnel offert durant le parcours à la maîtrise par les deux directrices a certainement permis à ce projet de constituer un véritable succès dans le milieu clinique et une expérience totalement enrichissante pour l'étudiante.

Annex 1: Benefits associated with the certification process

Fostering professional development and improving the psychological health of nurses through the North American certification process in critical care

Introduction

In the current socio-economic context, intensive care settings are facing new challenges in terms of resources in addition to the existing challenges such as staff shortage and budgetary limitations [1-9]. In the literature, several authors have highlighted that the organizational and environmental characteristics of these units have an impact on the psychological and physical health of nurses [9-16]. These stressors result in high absenteeism and job dissatisfaction [8, 17]. In addition, intensive care settings have difficulty in recruiting and retaining nurses [11]. A study done by Fitzpatrick, Campo, and Lavandero Graham [18] revealed that among the 6,589 intensive care nurses in the United States involved in the study, 41% of nurses intended to leave their jobs over the following twelve months. During the last decade, researchers have attempted to discover possible interventions to address these issues of retention and work satisfaction. One of the solutions identified by both Kuokkanen, Leino-Kilpi and Katajisto; and Leblanc and Sylvain [6, 19] is continuous education as a source of personal and professional development. Educational activities tailored to nurses' needs, and made available by the organization, promote acquisition of new knowledge, further professional autonomy, and provide a sense of control over nursing practice [20]. Empowerment is the psychological term used in the literature to describe enhancement of professional autonomy and control over professional practice [20-23]. This form of professional development, to be defined in more depth in this article, has the potential to reduce stress and increase professional satisfaction [19, 20, 24, 25]. More specifically, the certification process in a nursing specialty is emerging as a key approach to enhancing empowerment [6, 18, 26- 29]. Furthermore, a link can be established between continuous education and the psychological health of nurses. Both managers and clinicians should consider the potential of the certification effects to justify the development of projects related to this professional activity. Consequently, the work environment of current and future professionals can be significantly improved.

This literature review aims, first, to report the benefits of the certification process at various levels for healthcare organizations, and second, identify the benefits of this process on the psychological health of nurses. In order to clearly explain the problematic of nurses' mental health and the certification process as a solution to improve it, the following sections of this article will describe the ICU work environment, the concepts of North American nursing certification, and empowerment. In this article, the

term ICU refers to critical care units, which include adult and pediatric intensive care units, emergency department and perioperative units.

Nursing work in intensive care units: Current status

In intensive care settings, significant levels of stress and burnout, as well as a higher incidence of symptoms associated with Post Traumatic Stress Disorder (PTSD), have been reported among professionals working in these clinical settings in comparison to other care units [10, 13, 15, 16, 30, 31]. The critical care environment is well-known for its fast pace [9, 11, 32], the complexity of clinical situations encountered [9, 11-13, 32], and the challenges health care professionals face when trying to establish a therapeutic relationship with a family in crisis [9, 33]. The stressors nursing staffs have to cope with on a daily basis can explain high absenteeism rate and staff turnover [34]. Some nurses are able to adapt to critical care and are up to the challenges [11]. However, for other nurses, the adaptation is more difficult and can contribute to reducing their commitment and work satisfaction [11]. The stressful environment where nurses work is likely to affect the professionals as well as the patients, and therefore, the entire organization [35]. To prevent the negative consequences of stress, the authors recommend that nurses find, in their work, sources of personal and professional growth [6, 36]. In addition, when resources to facilitate professional growth are available and accessible in the health care setting, positive feelings and attitudes emerge. Empowerment needs to be clearly defined in the context of organizational health in order to understand its implications on nurses and their psychological health. The following section aims to explain this concept.

Empowerment and its potential contribution to mental health of nurses

According to Kuokkanen et al. [6], empowerment can be defined as a perception of growth and personal development whose evolution is affected by the values and motivations of the individual. These authors have shown that a strong positive relationship exists among job satisfaction, commitment, level of professional activity and empowerment. Cho, Spence Laschinger and Wong [37] also observed this correlation. As stated by these researchers, initiatives and programs that foster empowerment in an organization create a better quality of life at work, which reduces the level of burnout among professionals. Based on this study, a work environment that promotes workers' health can foster an increased level of commitment from the nurses. However, it is important to mention that the correlational study designs used to guide these researches may have introduced some bias. Furthermore, such studies do not allow the establishment of causal links. Therefore, the results obtained should be considered as an interpretation of the variables studied. The increased level of satisfaction of nurses might not be a direct result of empowerment. Other factors could have contributed to the nurses' satisfaction. However, researches lead by Kuokkanen et al. [6] and Cho, Spence Laschinger and Wong [37] also support the

hypothesis that empowerment increases nurses' satisfaction. Upenieks [38] and Leblanc and Sylvain [19] emphasize that in bringing a person to grow on a personal and professional level, autonomy increases, as well as factors inherent to the person, the relationships with others, and the organization. This reflects on the activities that would have the potential to contribute to developing and strengthening empowerment of nurses. According to the literature [9, 18, 39], it seems that national certification is an interesting option.

Certification process: a description

Since 1984, the Canadian Association of Nurses allows nurses with a minimum of two years of clinical experience in a specialty to develop and demonstrate their knowledge in one of nineteen specialties offered [40]. Participants are invited to study in a specialty according to objectives provided by the association and pass a written exam after an average of eight months of study. Renewable every five years, this approach is an attestation of competence and quality that is valued by employers [41]. At the political level, the ex-President of the Order of Nurses of Quebec (ONQ), Gyslaine Desrosiers [2], stated, in 2005, that the ONQ recognized that nurses must develop their knowledge and skills to face the growing complexity of clinical situations and new professional challenges. To meet these challenges, the OIIQ considers that the recognition of specialties is necessary. It seems that the certification process can help promote specialization [42]. Studies have shown that the certification process is beneficial on various levels [20, 31, 42-44]. The following paragraphs describe how and which aspects of the certification process can be helpful to nurses. Although U.S. and Canadian certifications are different, they share similarities in terms of processes, bringing the authors of this article to consider results of studies done in the United States, which are presented in the following section.

Method of literature review

This critical review of literature was undertaken during graduate studies and was part of a mandatory assignment. It was decided that a critical review, rather than a systematic review or a meta-analysis, would be more suitable due to time restrictions and academic expectations. The purpose was to explore, in the nursing discipline, the different aspects of certification. To search for relevant literature, databases CINAHL, Medline (PubMed), Proquest, PsychINFO and EMBASE (Ovid) were used. The Catalog Atrium of University of Montreal, which includes articles, books and institutional documentaries of this university, has been consulted to enrich this literature review. In order to complete this critical literature review, the websites of Statistics Canada, the International Committee of Nurses (ICN), the Association of Nurses (CNA), and the Ministry of Health and Social Services (MSSS) were also consulted. Finally, the research modules Web of Science and Google Scholar allowed access to documents that have not been identified by the databases named above. The keyword used, individually or as a combination, to search for the various sources were the following: "Nurses, Occupational Health and Mental Health, Critical Care or Intensive Care, stress, empowerment and certification (Credentialing)."

The bibliographies of the articles retrieved were also consulted and other pertinent articles were found. A total of 105 articles were selected based on the following inclusion criteria: (1) writing language – French or English, (2) key words "certification", "nurse", "effect" or "impact" in the title or the abstract, and (3) available under electronic or paper version. To ensure an exhaustive exploration of the subject, a publication period between 2001 and 2013 was chosen. Exclusion criteria were: (1) writing language other than French or English, (2) geographical location other than Canada or United States, and (3) specialties other than critical care (emergency, intensive care, perioperative). Articles were to be North American in order to allow a comparison between the targeted nurses' population. No quality review was done during this period due to time and context restrictions. This yielded a number of interesting articles published in the last decade. At the end of this research, 45 papers were excluded because they didn't meet inclusion criteria.

Of the 60 remaining articles, six were statistical reports, twelve discussed stressors and psychological issues in critical care, eighteen explored the various effects of empowerment on mental health, seventeen focused on the impact of national certification in a nursing specialty on the person, the professional and the organization, and seven qualitative articles referred to some concepts of empowerment theoretical framework. Regarding the combination of the concepts of certification (empowerment and psychological health), no writing has gathered nor established a link among these three concepts up until now. It appears, therefore, that the topic addressed by this literature review is still underdeveloped.

Theoretical framework

The framework used to classify and analyze the literature is the theory of Kanter [45], as revised and updated by Heather K. Spence Laschinger (Ph.D. in nursing sciences) [23]. According to Kanter [45], the structure of the working environment and the perception to access formal and informal sources of power are directly correlated to attitudes and employees' behaviors in organizations. The environment must provide opportunities for growth, flexibility, and the opportunity to increase knowledge and develop clinical skills. Then, it must make available human and material resources, as well as information such as expertise and support in the form of mentoring or tutoring. Finally, for empowerment to be achieved, professionals must perceive that he or she has formal power to obtain a job offering flexibility, visibility, and creativity. In addition, the work environment must also offer informal power, which is the possibility to build relationships with peers and other members of the organization. As stated by Spence Laschinger, Finegan, Shamian and Wilk [46, 47], when structural elements are present and accessible, workers are able to develop psychological empowerment. The following figure illustrates the theory of Kanter [45] according to Spence Laschinger's conceptualization [23]. It allows visualization of the relationship between the concepts.
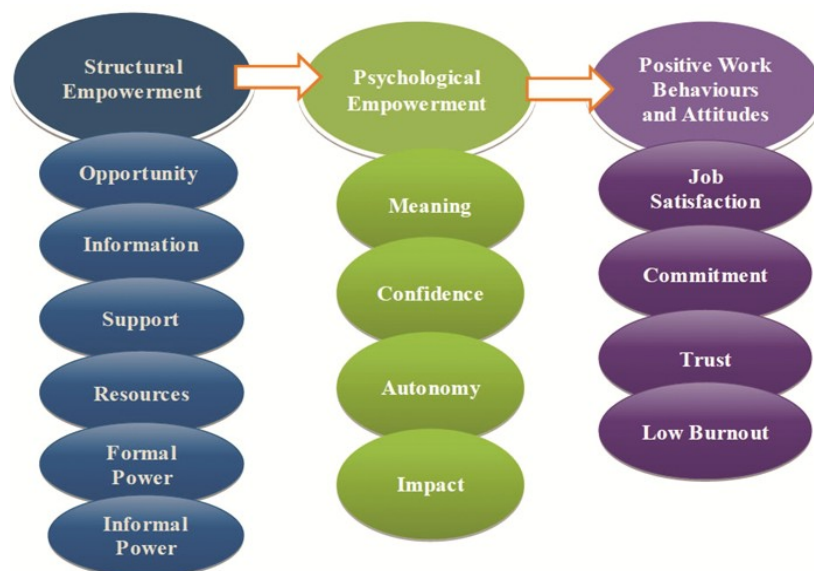
Figure 1. Theoretical representation of the theory of Kanter [45] by Spence Laschinger *et al.* [23].

Spence Laschinger and colleagues [46] demonstrated that the characteristics of an organization, as described above, favoring the emergence of feelings of autonomy, have an impact on work environment as well as on the organization, and enhance control over practice. According to their results, decreased burnout and increased confidence in leadership are also observed. Consequently, job satisfaction and commitment towards the organization are increased. Ultimately, the quality of care to patients is improved [46]. In other words, when the policies and interventions are put in place in a work environment focused on the professional development and support of the employees, psychological health, satisfaction, and employee growth can be enriched. In addition, the organization becomes more productive. The literature review looked at the associations between the concepts of empowerment and certification. The findings were classified according to the concepts described in Spence Laschinger 's [23] figure 1: organizational structure, psychological empowerment, and positive attitudes and behaviors at work (following certification process). The results of the literature analysis are presented below and highlight that nurses' mental health can be improved by the participation in a national certification program. The contribution of the certification process to psychological empowerment of nurses working in intensive care units

Certification as part of the organizational structure of empowerment

In 2003, the American Association of Critical Care Nurses (AACN) [43] highlighted, through a literature review presented as an editorial, that certification was a major source of personal growth and job satisfaction. Nedd [21] and Spence Laschinger, Leiter, and Gilin Day [48] found that, following quantitative descriptive correlational design studies, the presence of structures of empowerment positively influence job satisfaction and increase the desire of nurses to remain in the organization. More

specifically, Wynd [49] showed, through a quantitative study conducted using a correlational design with 1,850 nurses in Ohio, that the specialty certification was related to a higher level of professionalism. In addition, this study also proposed that attitudes of autonomy, confidence, and independence were particularly developed among certified nurses. Nurses said they were better prepared to intervene with critically ill patients. According to this researcher, the clinical care settings would benefit from supporting the certification process as it can increase their credibility, as well as facilitate attraction and retention of human resources [49]. However, the conclusions reported from those correlations should be considered as potentially right, but also influenced by other factors or circumstances. Certification could be beneficial for organizations in different ways, but studies could not prove causal links due to their non-experimental structures.

The emergence of psychological empowerment through national certification

Piazza, Donahue, Dykes, Griffin and Fitzpatrick [22] underlined, through a quantitative comparative study design, that the perception of the empowerment of nurses certified in a specialty was significantly higher than those who did not complete this process of knowledge validation. This result was corroborated by a quantitative correlational study led by Fitzpatrick *et al.* [18] with 6,589 American nurses working in intensive care. Samedy, Griffin, Capitulo and Fitzpatrick [50] also obtained similar results in a quantitative descriptive study conducted with perinatal nurses. In all three studies, certified nurses who completed the certification process reported an increase in their formal and informal power, as well as, an easier access to information. These results are consistent with Laschinger's model [47], which used Kanter's theory [45]. Krapohl, Manojlovich Redman and Zhang [51] also confirmed, with their correlational descriptive study conducted among 450 American nurses, that there is a positive and significant link between the certification process and the perception of empowerment.

Meanwhile, Gaberson, Schroeter, Killen and Valentine [28], found in a study conducted with 2,750 American Nurses certified in perioperative care (using a quantitative descriptive study design), that more than 90% of the participants reported personal and professional growth as well as a sense of accomplishment, an increase in specialized knowledge, and the achievement of higher practice standards following the certification process. Furthermore, they felt more professionally committed and better prepared to face clinical challenges, and experienced an enhancement of their professional credibility. This study was part of the first phase of a major research initiated by Byrne, Valentine and Carter [52] investigating the value associated with the certification. In the second phase, Sechrist, Valentine and Berlin [53] conducted a quantitative study to compare groups of nurses working in perioperative according to their professional title or certification status. The perception of value of certification tool (PVCT), developed by the Board of Certification in perioperative nursing (CBPN) in 2004, was mailed to the entire targeted population in the form of a survey. The average response rate was 55.5%. The results

obtained were very similar to those of Gaberson *et al.* [28]. However, Sechrist *et al.* [53] were able to exclude the age and experience as influencing factors. Grief [54] and Niebuhr and Biel [55] were also able to identify, following a quantitative exploratory study designed with "11,000 nurses representing 36 different nursing certification credentials" [54], that the same intrinsic benefits were associated with the certification process. These authors interpreted the results from a national survey conducted in 2004 by the American Board of Nursing Specialties (ABNS). Increased autonomy, personal satisfaction, and self-confidence among nurses of all specialties are the factors that largely emerged from this study. The authors also discerned, on an extrinsic level, a perception of a form of recognition by the employer and the patients, as well as an increase in market value of the nurse. These intrinsic and extrinsic benefits have also been reported by Briggs and al. [42] in an editorial discussing the results of a survey looking at the certification process from the perspective of managers of critical care units, members of the NCAA, in 2004. Thus, the literature has revealed the potentially significant contribution of the certification process in terms of the personal and professional development of nurses.

The benefits of empowerment following the national certification process

For the organization

Miller and Boyle [56] mentioned, in an editorial describing the results of surveys and databases of U.S. agencies, that the contribution of nurses certified in a specialty goes well beyond the promotional aspect for the hospital. These professionals are a source of support and reference in their clinical settings. They help achieve high quality standards and promote the certification of other colleagues. Moreover, Fitzpatrick *et al.* [18] have demonstrated that the desire of nurses to leave their position was significantly lower among certified nurses. Additionally, the observation was particularly pronounced among critical care nurses. Furthermore, a study conducted by Nedd [21] (with 275 nurses in Florida) revealed that the presence of empowerment factors in clinical settings was associated with an increased intention of nurses to remain in the organization. More specifically, organizational structures aiming to support nursing staffs have been proven to be more influential in the retention of nurses than personal factors among these professionals. These results are consistent with the theory of Kanter [45], which emphasizes that a working environment focusing on supporting and developing professionals has a more significant influence on job satisfaction than personality traits of professionals.

For the patient

Krapohl *et al.* [51] attempted to determine, through a non-experimental descriptive correlational study design, the impact of the certification process on patients' outcomes. The results, however, did not determine a significant relationship between the proportion of certified nurses and nursing-related outcomes such as medication errors, falls, and pressure ulcers. The researchers commented that their study was probably not sufficiently specific to critical care units to be able to establish significant

correlations. Also, they were not able to determine the impact of certification on errors interceptions – an element that could be an important benefit for clinical care units. The following year, Kendall-Gallagher, Aiken, Sloane and Cimiotti [57] have shown, in the context of a retrospective correlational study, that the mortality rate and risk of complications were favorably influenced by the proportion of certified nurses. The authors were able to affirm that there is, indeed, a positive link between certification and patient outcomes. Donahue Piazza, Griffin, Dykes and Fitzpatrick [58] were also able to demonstrate, through a correlational quantitative study conducted among 259 nurses and 1,606 patients of a northeastern U.S. hospital, that there is a "significant positive relationship between the perception of empowerment of nurses and patient satisfaction" level. Consequently, the authors asserted that it is important for health care institutions to promote the empowerment of their professionals. Finally, Spence Laschinger [20] asserted that work environments that permit nurses to participate in decision making and allow better control over their clinical practice through, for example, certification, create a form of empowerment. Being better prepared, nurses are more likely to provide quality care directly optimizing patient satisfaction [59].

Barriers to certification

However, many barriers to the certification process are present in clinical care settings [55]. Lack of time and lack of perceived benefits for practice, as well as fear of failing the exam, are the barriers that are more often reported [43]. Costs associated with the certification process, the short time allowed to study, and lack of support from organizations have also been identified as barriers [52]. Although some nurses appear to experience a form of personal and professional development through the certification process, more efforts have to be deployed in clinical settings to support professionals who would like to engage in the certification process. It would potentially increase the number of certified professionals. In a survey conducted during a conference of the American Board of Nursing Specialties (ABNS) by Stromborg, Niebuhr, Prevost, Fabrey, Muenzen, Spence, Towers and Valentine [60], it was found that 25% of organizations do not provide any form of support to nurses engaged in the certification process. According to researchers, this lack of encouragement can not only decrease the perception of psychological empowerment of nurses, but also affect the potential for success in the certification exam.

The importance of organizational support

CNA [41], which develops and administers the Canadian nursing certification, provides nurses with information and organizational resources, such as mentoring, to support the certification process. In addition, some hospitals that recognize the benefits of certification process in terms of attraction and retention of nursing staffs, attempt, through various methods, to encourage nurses to engage in this process [61]. In the US, the AACN states that the certification process, although primarily based on the willingness of nurses to invest in self-learning, requires the presence of support and motivation in clinical

care settings to encourage nurses to persevere and acquire new specialized knowledge [29, 62]. According to Tigert [9], managers must implement measures providing information, resources, support, and opportunities to generate an environment conducive to personal and professional development. This author considers that allowing nurses to practice according to the highest standards of care increases job satisfaction and reduces stress. Similarly, Fitzpatrick et al. [18] highlighted, following the analysis of a survey done with 6,589 nurses who are members of the AACN, that education and certification make a difference in the empowerment of nurses. Therefore, it is of utmost importance to promote advanced training and recognize clinical competency in order to retain the most efficient nurses in hospitals. Incentives encouraging nurses to get involved in the certification process may consist of scholarships, recognition in the organization, support groups, and career advancement opportunities [55]. By analyzing the results of a survey conducted with 11,427 nurses by the American Board of Nursing Specialties (ABNS) [63] in 2006, these authors showed that nurses who feel supported by their employer have a sense of belonging. Finally, Nierbuhr & Biel [55] concluded that the certification process, when supported by the organizations and nursing associations, influences personal and professional satisfaction.

Recommendations

In order to help nurses prepare for national certification, several methods are proposed. Karvonen, Sayre and Wyant [62] showed how two nurses, one specialized in staff development and a clinical nurse specialist, created, from the American nursing certification guide, a preparatory course to help medical-surgical nurses prepare for the exam. They divided the course into several sessions and provided theoretical and practical content, such as exercises, to facilitate learning. Participating nurses were also able to make in-depth links and sustain their motivation. The facilitators were not just teaching, but rather, they were mentoring and accompanying nurses throughout the learning period. Finally, the participants reported that this method has increased their level of expertise and success rate, and has promoted the strengthening of relationships among the professionals involved. Similar results were obtained with a comparable intervention with Canadian nurses undergoing certification in rehabilitation [64]. In 2005, Shirey [59] reported how a hospital in Indiana increased the number of certified nurses in critical care from 4 to 34 in four years. According to this author, a comprehensive program must be implemented in an organization to encourage nurses to engage in the certification process. Scholarships, mobilization of clinical resources to answer questions during the study process, as well as recognition by the employer, can increase the number of participants. Patry [29] explored, using a consultation process as part of a final graduate studies project in nursing at the University of Ottawa, the experience of nurses who participated in a study group to support their certification process. It was found that this method allowed the creation of strong links among participants who used this strategy to support their certification process. The 58 nurses who participated in the consultation were unanimous on the usefulness of the study group as a

source of support and personal development. The only requirement for this method to be successful is the provision of financial and logistical support from the organization. In summary, many clinical settings have begun to implement supporting structures for professionals who undergo the certification process in a specialty. The process, therefore, deserves to be tested in different clinical care settings.

Discussion

This literature supposes that the certification process is considered by nurses to be beneficial on three levels: personal fulfillment, peer recognition, and professional credibility. Although a very small number of researches directly linked positive effects of empowerment generated by national certification on mental health, it remains that nurses from different specialties have identified several personal benefits, such as, feeling of self-accomplishment and increase in job satisfaction. Certification, according to literature, can improve autonomy, self-confidence, and a sense of clinical competence [28, 53-55]. By generating satisfaction and growth (both personal and professional), positive effects on burnout, emergence of PTSD, and retention of human resources in intensive care units have been reported. For the organization, the national certification of professionals, by its positive effects on the mental health of the employees, was correlated with an increase in attractiveness and competitiveness of their institution. It is however appropriate that research continues in this area.

The key element emerging from the literature is the importance of the presence of support methods in health care settings. As mentioned by Kanter [45] and Spence Laschinger [23], organizational structures are the basis for the development of psychological empowerment. By establishing programs to support certification, organizations allow nurses to have maximum access to various resources. On one hand, in promoting this process, professionals note the presence of opportunities in their work environment. When organizations mobilize resources and facilitate access to clinical information to support studying, nurses understand that they are supported and encouraged in the certification process. By using various methods, such as the creation of study groups, clinical care settings allow nurses to relate to each other. On the other hand, by promoting recognition and involvement of certified professionals in the organization, the other employees recognize opportunities for advancement and the impact that certification entails.

The theoretical framework of Kanter [45] reviewed by Spence Laschinger [23] has established, using a clear structure, the components of empowerment, certification, and mental health identified in the literature. Although no researcher has looked at these three concepts in one study, as identified by the literature review, the theoretical framework has been a guide in establishing the direct and indirect impacts of the certification process on the health of nurses. Although the link between mental health and this process is still poorly documented, it is pertinent to explore the experience of nurses who have undergone the certification process. Niebuhr and Biel [55] suggested that research should be conducted to

identify what environmental elements contribute to enhance empowerment during the certification process. In fact, all the articles and documents (opinions and self-reports) consulted used non-experimental study designs, and therefore, no direct causal links can clearly be established. Multiple factors or combination of factors could have influenced results and the conclusion mentioned in these studies. Authors affirm that the certification process in a specialty area such as critical care contribute to psychological health and growth (personal and professional) of nurses. However, they also acknowledge the lack of strong evidence.

There is also a lack of knowledge on the psychological and professional impact of failing the certification process or having to retake the exam. Based on the review of many studies regarding the experience by nurses who have passed their certification, it was noted that a bias might be present in the nurses' responses. One study used a survey to gather information that has limitations [9, 18, 65]. Thus, nurses with greater interest and a more positive perception of the certification process may have been more likely to respond to the questionnaires. Future research should use validated tools and performance audits in order to obtain more objective data. Better quality studies, with experimental and longitudinal designs, are strongly recommended to evaluate the causality between certification and psychological health improvement (satisfaction, well-being). Correlational and retrospective reviews retrieved for this literature review had some limits. Bias existed in analyzing participants' responses to questionnaires, the methodology used, and interpretation of results. Furthermore, results were often based on individual experiences or perceptions and were not supported by statistical analysis. Research should attempt to compare non-certified nurses to certified nurses in terms of performance. Differences on specific indicators, such as errors, incidents, and accidents reports, should be analyzed according to these two groups. Also, no studies evaluating nurses' growth and development following a successful certification process were found in the literature review. Research is needed to provide quantitative and objective benefits achieved by the certification process in critical care. Further research is needed to investigate, in depth, the correlation between certification, empowerment, and mental health of nurses to provide decision makers and managers with more evidence in order to invest in the certification process.

Finally, the authors of this review could have conducted a quality review of the articles selected to ensure a more thorough analysis, thus optimizing its impacts. However, the educational context in which this review was conducted was limited. In addition, the inclusion and exclusion criteria used to select articles could have been more refined in order to select articles directly linking the concepts of certification and empowerment. In fact, some articles selected were referring indirectly to the variables and thus should have been excluded. However, the authors wanted to perform a broader literature review to study the variables in depth.

Conclusion

National certification is a learning process that allows participants to enrich their knowledge in a specialty, acquire self-confidence, and develop a higher level of professional competence. However, this process remains an unexplored avenue in Canada and especially in Quebec. Nevertheless, the importance of the certification process in the nursing profession is beginning to be recognized at a political level [2]. Thus, this justifies that research has to be conducted to explore, in more depth, the contribution of the certification process for both organizations and professionals. In light of the literature review, Quebec's clinical care environments have everything to gain by investing in the promotion of the certification process. This option has proven its potential to improve the health of nurses, quality of care, and achievement of organizational goals. Nurses are professionals who, too often, neglect their own health in favor of that of their patients. It is time that organizations care about their professionals and get involved in their welfare in order to foster healthy, stimulating, and efficient work environments.

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Annex 2: Bénéfices associés à la certification nationale

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La certification canadienne des infirmières de soins intensifs; favoriser le développement personnel pour améliorer la santé psychologique au travail

Dans le contexte socio-économique actuel, les milieux de soins intensifs des pays industrialisés doivent faire face à de nouveaux défis en termes de ressources organisationnelles qui s'ajoutent aux conditions difficiles déjà existantes telles que la pénurie de main-d'œuvre et les restrictions budgétaires (Coomber & Barriball, 2007; Desrosiers, 2005; Groupe de travail sur l'innovation en matière de santé, 2012; Fletcher, 2002; Kérouac & Salette, 2011; Kuokkanen, Leino-Kilpi & Katajisto, 2003; MSSS, 2010; Purdy, 2011; Tigert, 2004). Dans les écrits, plusieurs auteurs soutiennent que les caractéristiques environnementales et organisationnelles propres à ces unités, telles que les horaires et le milieu de travail, le niveau de stress, l'efficacité du travail en équipe et le niveau de soutien pour faciliter le coping, ont des répercussions sur la santé psychologique et physique des infirmières qui y travaillent (Azoulay & Herridge, 2011; Burgess, Irvine & Wallymahmed, 2010; Cavalheiro, Moura Junior & Lopes, 2008; Epp, 2012; Martins, Santos, Tourinho, Dantas, Gurgel & Nunes de Lima, 2012; Mealer, Shelton, Berg, Rothbaum & Moss, 2007; Poncet et al., 2007; Tigert, 2004). Ces caractéristiques engendrent des taux élevés d'absentéisme et d'insatisfaction au travail (Purdy, 2011; Statistique Canada, 2007). De plus, les milieux de soins intensifs ont peine à attirer et à retenir leurs infirmières (Burgess et al., 2010). D'ailleurs, un sondage de Fitzpatrick, Campo, Graham et Lavandero (2010) auprès de 6 589 infirmières de soins intensifs aux États-Unis a d'ailleurs révélé que 41% des infirmières avaient l'intention de quitter leur emploi au cours des douze mois à venir. Lors de la dernière décennie, la recherche a tenté de trouver des pistes de solution pour répondre à ces problématiques de rétention et de satisfaction. Une des voies à emprunter, selon les écrits recensés (Kuokkanen et al., 2003; Leblanc & Sylvain, 2011), est la formation comme source de développement personnel et professionnel. Lorsqu'elle est rendue accessible par l'organisation et qu'elle correspond aux besoins des infirmières, celle-ci favoriserait l'acquisition de nouvelles connaissances et la croissance en termes d'autonomie et de perception de contrôle sur la pratique (Spence Laschinger, 2008). Le phénomène psychologique qui inclut l'expérience de ces facteurs

de croissance est appelé *empowerment* dans les écrits (Nedd, 2006; Piazza et al., 2006; Spence Laschinger, 2001/2008). Cette forme de développement, qui sera définie plus loin, aurait le potentiel de diminuer le stress et d'augmenter la satisfaction au travail (Etchison, 2012; Laschinger, 2008; Leblanc & Sylvain, 2011; Martin, 2010). Parmi les différentes options de formation continue, la certification dans une spécialité des soins infirmiers émerge comme une approche-clé potentielle pour favoriser l'*empowerment* (association américaine des infirmières en soins critiques (AACN), 2010; FCSII, 2012; Fitzpatrick, Campo, Graham & Lavandero, 2010; Gaberson, Schroeter, Killen & Valentine, 2003; Kuokkanen, Leino-Kilpi & Katajisto, 2003; Patry, 2006). Ainsi, il s'avère intéressant, tant pour les gestionnaires que pour les cliniciens, que le lien entre la formation et la santé psychologique des infirmières soit établi de manière explicite. De cette façon, il sera possible de justifier le développement de projets associés à la certification qui présenteraient le potentiel d'améliorer l'environnement de travail des professionnels actuels et à venir.

La présente recension des écrits vise, d'une part, à rapporter, à partir des écrits consultés, les impacts de la certification à divers niveaux, pour les milieux de soins et, d'autre part, à dégager les effets mentionnés en termes de santé psychologique des infirmières. Afin d'établir plus clairement le contexte de la problématique de la santé mentale des infirmières et de l'avenue de la certification proposée à titre de solution, les sections ci-après décrivent le travail infirmier en unité de soins intensifs ainsi que les concepts de certification canadienne et d'*empowerment*.

Le travail infirmier en unités de soins intensifs: état actuel

Dans les milieux de soins intensifs, des niveaux élevés de stress et d'épuisement ainsi qu'une prévalence plus importante des symptômes associés au syndrome post-traumatique ont été rapportés chez les professionnels y œuvrant (Azoulay & Herridge, 2011; Curtis & Puntillo, 2007; Epp, 2012; Mealer et al., 2007; Poncet et al., 2007; Wahlin, Ek & Idvall, 2010). Ces milieux sont connus pour leur rythme de travail accéléré (Burgess et al., 2010; St-Pierre et al., 2010; Tigert, 2004), la présence de situations de santé aiguës et complexes (Burgess et al., 2010; Cavalheiro et al., 2008; Epp, 2012; St-Pierre, Alderson &

St-Jean, 2010; Tigert, 2004) de même que l'expérience relationnelle des infirmières avec des familles dans un contexte de crise (Stayt, 2009; Tigert, 2004). Les stresseurs présents aux soins intensifs peuvent contribuer à expliquer pourquoi on y retrouve un taux élevé d'absentéisme, de roulement de personnel et de recours au temps supplémentaire (Shields & Wilkins, 2005). Certaines des infirmières, que ce soit par leur type de personnalité, leur méthode de gestion du stress ou l'utilisation de stratégies de coping efficaces, arrivent à s'y adapter et à y voir des défis à relever (Burgess et al., 2010). Malgré tout, les soins intensifs peuvent favoriser la survenue d'erreurs, qui peuvent être vécues comme une souffrance ou un « chemin de construction identitaire » (Deslauriers, Alderson, Caux & St-Louis, 2012). D'autre part, les stresseurs peuvent mener à une réduction de l'engagement et de la satisfaction au travail (Burgess et al., 2010). Ces conditions dans lesquelles exercent les infirmières sont donc susceptibles d'affecter tant les professionnelles elles-mêmes que les bénéficiaires et, dès lors, l'organisation toute entière (Burgess et al., 2010; Cavalheiro et al., 2008; Cho, Spence Laschinger & Wong, 2006; Milliken et al., 2007; St-Pierre, Alderson & St-Jean, 2010; Tigert, 2004). Afin de prévenir les effets du stress, des auteurs notent que les infirmières ont à trouver, dans leur travail, des sources de croissance personnelle et professionnelle comme la possibilité d'exercer une autonomie et l'existence d'opportunités d'apprentissage et de croissance (Kuokkanen et al., 2003; Spence Laschinger & Finegan, 2005). Lorsque celles-ci sont disponibles et accessibles dans le milieu de soins, que ce soit par la mise en place de pratiques de gestion participatives ou de structures de formation et de soutien, des sentiments et des attitudes positives émergent (Leblanc & Sylvain, 2011; Spence Laschinger, 2008; Spence Laschinger & Finegan, 2005). Leur expression, appelée *empowerment*, nécessite d'être clairement définie dans le contexte de santé organisationnelle afin de comprendre son implication pour les infirmières et leur santé psychologique. La section suivante vise à expliquer ce concept.

L'empowerment et son apport possible à la santé mentale de l'infirmière

D'entrée de jeu, il importe de noter qu'il n'existe actuellement aucun consensus concernant un libellé de langue française du concept « empowerment »; ce dernier sera par conséquent repris tel quel

dans le présent article. Selon Kuokkanen, Leino-Kilpi et Katajisto (2003), l'*empowerment* peut se définir comme la perception de croissance et de développement personnel dont l'évolution est affectée par les valeurs et les motivations de l'individu. Ces mêmes auteurs ont démontré qu'un lien positif très fort existait entre la satisfaction au travail, l'engagement, le niveau d'activité professionnelle (implication et participation à des activités de formation et de développement professionnel) et l'*empowerment*. Cho, Spence Laschinger et Wong (2006) ont aussi noté ce lien. Selon ces chercheurs, la présence d'initiatives et de structures favorisant l'*empowerment* dans une organisation (comme la mise en place d'activités de formation continue et de spécialisation) engendre une amélioration de la qualité de vie au travail et permet de diminuer le niveau d'épuisement professionnel chez les travailleurs. Toujours selon cette étude, lorsque le milieu favorise la santé des travailleurs, le niveau d'engagement de ces derniers augmente. Upenieks (2003) ainsi que Leblanc et Sylvain (2011) ont noté qu'en permettant à un individu de croître sur le plan personnel et professionnel, son autonomie s'accroît, tout comme les facteurs inhérents à sa personne, aux relations avec les autres et à l'organisation. Considérant ces propos, il serait pertinent d'évaluer quelles activités renferment le potentiel de contribuer au développement et au renforcement de l'*empowerment* des infirmières. Selon les écrits (Fitzpatrick et al., 2010; Ridge, 2008; Tigert, 2004), il semble que le processus de certification nationale ainsi que la mise en place de structures pour soutenir sa réalisation par les infirmières constituent des avenues prometteuses en ce sens.

La certification: une description

Depuis 1984, l'Association des infirmières et infirmiers du Canada permet à des infirmières possédant au minimum deux ans d'expérience de développer et, ensuite, de démontrer leurs connaissances dans l'une des dix-neuf spécialités offertes (AIIC, 2011). Les participantes volontaires sont invitées à étudier un contenu selon les objectifs fournis par l'association et à souscrire à une évaluation par questionnaire écrit après environ huit mois de cheminement. Renouvelable aux cinq ans, cette démarche est une attestation de compétence et de qualité qui est valorisée par les employeurs (AIIC, 2013). Au niveau politique, l'ex-présidente de l'Ordre des infirmières et infirmiers du Québec, Gyslaine

Desrosiers, a fait connaitre, en 2005, la position de l'Ordre quant à la nécessité de favoriser le développement de savoirs et de compétences spécifiques: « La complexification des soins impose à la profession de nouveaux défis. Pour les relever, l'OIIQ considère que la reconnaissance des spécialités est nécessaire » (p.7). Il semble que la certification pourrait être un des moyens envisageable pour générer cette spécialisation (Briggs, Brown, Kesten et Heath, 2006) et par le fait même cette reconnaissance, bien que ce processus ne fasse pas, actuellement, l'objet d'une prise de position claire au Québec.

Des études permettent d'établir que la certification s'avère profitable à divers niveaux (AACN, 2003; Briggs et al., 2006; Spence Laschinger, 2008; Wahlin, Ek et Idvall, 2010; Wade, 2009). Les paragraphes suivants investigueront dans quelle mesure et sur quels aspects, la certification peut être aidante pour les infirmières. Bien que la certification américaine diffère de la version canadienne, elles partagent des similarités en terme de processus, ce qui porte les auteures de cet article à considérer les résultats d'études réalisées aux États-Unis et qui sont présentés dans la section ci-après.

Méthode de la recension des écrits

Cette revue critique de la littérature a été réalisée à titre d'exigence dans le cadre d'un cours à la maîtrise et visait à soutenir un éventuel projet de stage en milieu clinique. Pour effectuer la recherche d'écrits pertinents, les bases de données CINAHL, Medline (PubMed), Proquest, PsychINFO et EMBASE (Ovid) ont été interrogées. Le catalogue Atrium de l'Université de Montréal, regroupant les articles, les livres et les dépôts institutionnels des dix-sept bibliothèques de cette communauté, a enrichi la collecte de données. À la lumière des références citées dans les écrits recensés, les sites Internet de Statistique Canada, du Comité International des Infirmières (CII), de l'Association des infirmières et infirmiers du Canada (AIIC) et du Ministère de la Santé et des Services Sociaux (MSSS) ont été consultés afin de compléter la recension. Finalement, les modules de recherche Web of Science et Google Scholar ont permis d'accéder à des documents qui n'avaient pas été identifiés par les bases de données nommées ci-avant.

Les mots-clés suivants, seuls ou en combinaison, ont été utilisés: « infirmières (Nurses), santé au travail (Occupational Health) ou santé psychologique (Mental Health), soins intensifs (Critical Care ou Intensive Care), stress, *empowerment* et certification (Credentialing) ». Les critères d'inclusion étaient : (1) l'anglais ou le français comme langue d'écriture, (2) la présence des mots-clés dans le titre ou le résumé, et (3) la disponibilité sous forme papier ou électronique. Pour assurer l'exploration la plus exhaustive possible du sujet, la période de publication entre 2001 à 2013 a été choisie. Les critères d'exclusion étaient : (1) la langue d'écriture autre que l'anglais ou le français, (2) la situation géographique de l'étude autre que le Canada ou les États-Unis, et (3) la spécialité concernée autre que les soins intensifs (urgence, chirurgie). Cela a permis de recenser 105 documents dont 46 ont été écartés pour cause de non-respect des critères d'inclusion.

Parmi les 59 documents retenus, six étaient des rapports statistiques, douze écrits concernaient les stresseurs et les problématiques psychologiques présents dans les milieux de soins intensifs, dix-huit publications traitaient des différents effets de l'*empowerment* sur la santé mentale, seize écrits portaient sur les impacts de la certification nationale des infirmières dans une spécialité au plan personnel, professionnel et organisationnel et sept documents qualitatifs faisaient référence à certains concepts du cadre théorique de l'*empowerment*.

Cadre théorique

Le cadre de référence qui a été retenu pour la classification et l'analyse de la recension des écrits est la théorie de Kanter (1993) telle que revue et actualisée par Spence Laschinger (2001). Selon Kanter (1993), la structure d'un environnement de travail et la perception de l'accès au pouvoir formel et informel sont associées positivement aux attitudes et aux comportements des travailleurs dans les organisations. L'environnement doit constituer une source d'opportunités permettant la croissance, la polyvalence et la possibilité d'accroître ses connaissances et de développer ses compétences cliniques. De plus, il doit rendre accessible des ressources humaines et matérielles ainsi que de l'information comme de l'expertise et du support sous la forme de mentorat ou de tutorat. Finalement, pour que l'*empowerment* se

développe, le travailleur doit en percevoir les éléments constitutifs. Ainsi, il doit détenir une forme de pouvoir formel, soit la possibilité d'accéder à un emploi offrant de la flexibilité, de la visibilité et favorisant la créativité de même qu'une forme de pouvoir informel, c'est-à-dire établir des relations avec ses pairs et les membres de l'organisation. Selon Spence Laschinger, Finegan, Shamian et Wilk (2001a; 2001b), lorsque ces éléments structurels sont présents et accessibles, les travailleurs sont à même de développer un *empowerment* psychologique. Le schéma qui suit illustre la théorie de Kanter (1993) selon la conceptualisation de Spence Laschinger (2001) et permet de visualiser les liens qui sont proposés entre les concepts.
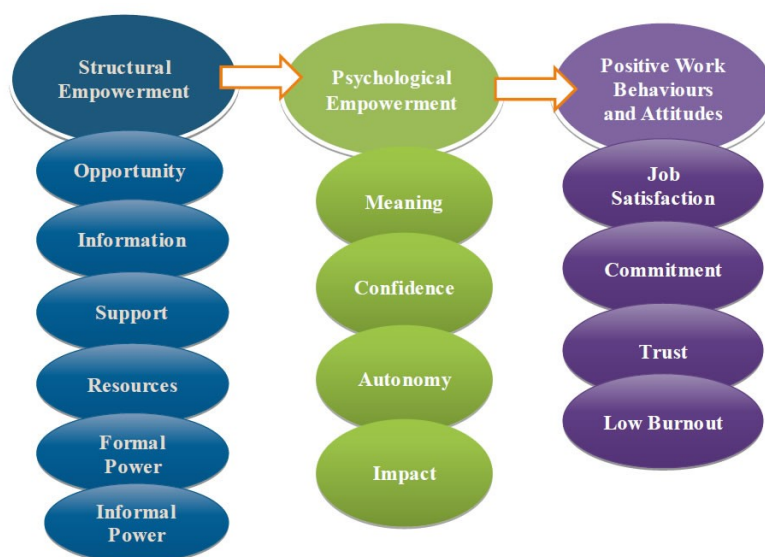
Représentation théorique de la théorie de Kanter (1979) par Spence Laschinger et al. (2001). Modèle détaillé publié dans Spence Laschinger, Finegan et Shamian (2001a).

Spence Laschinger et al. (2001a) ont démontré que les concepts structurels tels que décrits précédemment favorisent l'émergence de sentiments d'autonomie, d'influence sur le travail et l'organisation et de contrôle sur la pratique chez les infirmières. Selon leurs résultats, une diminution de l'épuisement professionnel et une augmentation de la confiance envers les dirigeants en résultent. Conséquemment, la satisfaction au travail et le désir d'engagement envers l'organisation augmentent (Spence Laschinger et al., 2001a). En d'autres termes, un milieu de soins dont les politiques et les

interventions sont axées sur le développement des professionnelles et le soutien de celles-ci, a le potentiel d'améliorer la santé psychologique, la satisfaction et la croissance des employés ainsi que la performance de l'organisation. Les écrits recensés traitent des liens entre le concept d'*empowerment* et la certification. Ils ont été classés selon les concepts du cadre de Spence Laschinger (2001): structure organisationnelle, *empowerment* psychologique ainsi que comportements et attitudes positifs au travail (suite à la certification). Les résultats de l'analyse des écrits sont présentés ci-après; ils permettent d'apprécier le potentiel d'amélioration de la santé psychologique des infirmières suite à la participation à un programme de certification nationale.

L'apport du processus de certification à l'*empowerment* psychologique des infirmières œuvrant en unités de soins intensifs

Les sections suivantes traiteront du processus de certification par rapport à sa contribution potentielle à une structure organisationnelle favorable à l'émergence de l'empowerment et à la santé psychologique des travailleurs.

La certification pour contribuer à une structure organisationnelle d'empowerment

Nedd (2006) et Spence Laschinger, Leiter, Day et Gilin (2009), ont noté, suite à des études quantitatives avec devis corrélationnel descriptif, que l'existence de structures d'empowerment influençait positivement la satisfaction au travail (en réduisant les épisodes d'incivisme) et le désir des infirmières de demeurer au sein de l'organisation ($r = 0.52$, $p < 0,01$ pour Nedd, $r = 0.28$ et $p < 0,001$ pour Spence Laschinger et al.). Plus spécifiquement au moyen d'une étude quantitative réalisée à l'aide d'un devis corrélationnel auprès de 1850 infirmières de l'Ohio, Wynd (2003) a fait ressortir que la certification dans une spécialité était associée, de façon modérée, à un score plus élevé en terme de professionnalisme ($pcc = 0,120$, $p < 0.001$). De plus, cette étude a aussi révélé que les attitudes d'autonomie, de confiance et d'indépendance étaient particulièrement développées chez les infirmières certifiées. Les infirmières se disaient mieux préparées à intervenir auprès des patients gravement malades.

Selon la chercheuse, les milieux de soins auraient avantage à soutenir le processus de certification afin d'accroître leur compétence ainsi que l'attraction et la rétention des ressources humaines (Wynd, 2003).

Par ailleurs, en 2003, l'AACN a mis en lumière, au moyen d'une revue documentaire présentée sous forme éditoriale, que la certification était une source majeure de croissance personnelle et de satisfaction professionnelle.

L'émergence de l'empowerment psychologique grâce à la certification nationale

Piazza, Donahue, Dykes, Griffin et Fitzpatrick (2006) on mit en lumière au moyen d'un devis descriptif comparatif de type quantitatif, que la perception d'*empowerment* des infirmières était significativement plus élevée suite à la certification dans une spécialité (CWEQ-II= 22.08, p < 0.008). Ce résultat, ayant pour effet de diminuer l'intention que quitter le milieu de travail, a été corroboré par l'étude quantitative corrélationnelle de Fitzpatrick et al. en 2010 auprès de 6589 infirmières américaines œuvrant aux soins intensifs (CWEQ-II= 22.12, p < 0.001). Dans les deux cas, les infirmières certifiées ont perçu aux termes de la certification une augmentation du pouvoir formel et informel, ainsi qu'un accès facilité à l'information. Ces résultats concordent avec le modèle de Laschinger (2001b) reprenant la théorie de Kanter (1993). Krapohl, Manojlovich, Redman et Zhang (2010) confirment aussi, par leur étude descriptive corrélationnelle menée auprès de 450 infirmières américaines, qu'il existe un lien positif et significatif entre la certification et la perception d'*empowerment* par ces dernières (r = .397, p = 0.05).

Gaberson, Schroeter, Killen et Valentine (2003) ont, quant à eux, relevé au terme d'une par étude quantitative menée avec un devis descriptif auprès de 2750 infirmières américaines certifiées dans le domaine péri-opératoire, que plus de quatre-vingt-dix pourcents de celles-ci avaient perçu, au terme de la certification, une croissance personnelle et professionnelle, un sentiment d'accomplissement, une impression de connaissances plus spécialisées, l'atteinte de standards de pratique élevés, un sentiment d'engagement et de défi professionnel et une augmentation de leur crédibilité. Une analyse de type psychométrique a permis d'évaluer le niveau de variance des différents bénéfices identifiés par rapport aux effets de ce processus au niveau de la valorisation personnelle, de la reconnaissance et de la pratique

clinique. Cette étude faisait partie de la première phase d'une grande recherche initiée par Byrne, Valentine et Carter (2004) investiguant la valeur associée à la certification. Lors de la seconde phase, Sechrist, Valentine et Berlin (2006) ont réalisé une étude d'approche quantitative pour comparer les groupes d'infirmières œuvrant en péri-opératoire selon leur titre ou leur statut de certification. L'outil de perception de valeur de la certification (PVCT), développé par le conseil de la certification des infirmières en péri-opératoire (CBPN) en 2004, a été envoyé par courrier à l'ensemble de la population visée sous forme d'un sondage. Le taux de réponse moyen a été de 55,5%. Les résultats obtenus sont très semblables à ceux de Gaberson et al. (2003). Cependant, Sechrist et al. (2006) ont pu exclure l'âge et l'expérience comme facteurs d'influence. Grief (2007) ainsi que Niebuhr et Biel (2007), ont identifié, dans le cadre d'études quantitatives exploratoires, les mêmes bénéfices intrinsèques associés à la certification chez 3000 infirmières américaines œuvrant à l'urgence (> 90% des répondants les ont reconnus). Ces auteurs ont analysé des résultats provenant d'un sondage national effectué, en 2004, par le conseil américain des spécialités infirmières (ABNS). L'augmentation de l'autonomie, la satisfaction personnelle et la confiance en soi chez les infirmières de toutes les spécialités sont les facteurs qui sont majoritairement ressortis. Les auteurs ont aussi noté, sur le plan extrinsèque, la perception d'une forme de reconnaissance par l'employeur et par les patients, ainsi que l'augmentation de la valeur marchande de l'infirmière. Ces bénéfices intrinsèques et extrinsèques ont également été rapportés par Briggs et al. (2006) dans un écrit éditorial traitant de la situation de la certification à partir des résultats d'un sondage effectué auprès de gestionnaires d'unités de soins critiques faisant partie de l'AACN en 2004 (particulièrement la croissance personnelle, rapportée par 77% des répondants). Ainsi, ces associations descriptives et les données issues des différents sondages auprès des professionnels permettent d'envisager l'apport possiblement significatif du processus de certification en termes de développement personnel et professionnel des infirmières.

Les bénéfices de l'*empowerment* suite au processus de certification nationale

La section précédente a permis d'établir que la certification dans une spécialité favorise la santé psychologique des infirmières à plusieurs niveaux (croissance, autonomie, estime de soi, engagement). Les paragraphes suivants visent à présenter les autres bénéficiaires de ce processus, soit l'organisation et les patients.

Pour l'organisation

Miller et Boyle (2008) mentionnent dans un écrit éditorial, relatant des résultats de sondages et de bases de données d'organismes américains, que l'apport des infirmières certifiées dans une spécialité va bien au-delà de l'aspect promotionnel pour le centre hospitalier. Ces professionnelles sont une source de soutien et de référence dans les milieux cliniques. Elles aident à atteindre des standards de qualité et favorisent la certification d'autres collègues. Dans un autre ordre d'idées, Fitzpatrick et al. (2010), ont démontré que le désir de quitter sa position était significativement plus faible chez les infirmières certifiées. De ce fait, l'observation était particulièrement marquée chez les infirmières œuvrant aux soins intensifs. Nedd (2006), quant à elle, a mis en lumière à partir d'un sondage mené auprès de 275 infirmières de la Floride que la présence de facteurs d'*empowerment* dans les milieux cliniques était associée à une augmentation des intentions de demeurer à l'emploi de l'organisation: les structures organisationnelles de soutien se sont avérées être plus influentes pour la rétention des infirmières que les facteurs personnels présents chez les professionnelles. Ces résultats rejoignent la théorie de Kanter (1993) énonçant que les traits de personnalité chez un professionnel influaient moins sur la satisfaction au travail qu'un environnement axé sur le soutien et le développement.

Pour le patient

Krapohl et al. (2010) ont tenté de déterminer, par une étude de type descriptif et corrélationnel, l'effet de la certification en termes de résultats auprès des patients. Les résultats n'ont cependant pas permis d'établir un lien statistiquement significatif entre la proportion d'infirmières certifiées et les résultats reliés aux soins infirmiers (erreurs de médication, chutes, plaies de pression). Les chercheurs

notent que leur étude n'a probablement pas considéré des résultats suffisamment spécifiques aux unités de soins critiques. Aussi, ils n'ont pas évalué l'effet de la certification sur les interceptions d'erreurs, élément qui pourrait constituer un bénéfice important pour les milieux de soins. L'année suivante, Kendall-Gallagher, Aiken, Sloane et Cimiotti (2011) ont démontré, dans le cadre d'une étude corrélationnelle rétrospective, que le taux de mortalité et le risque de complications étaient favorablement influencés par la proportion d'infirmières certifiées : pour chaque augmentation de 10% du pourcentage d'infirmières certifiées, la probabilité de décès et d'échec de sauvetage diminuerait de 2%. Les auteurs ont ainsi pu statuer sur le fait qu'il existe bel et bien un lien entre la certification et les résultats pour les patients. Donahue, Piazza, Griffin, Dykes et Fitzpatrick (2008) ont elles aussi démontré, dans une étude quantitative corrélationnelle menée auprès de 259 infirmières et de 1 606 patients d'un hôpital du nord-est américain qu'il existe un lien statistiquement significatif, quoique faible, entre la perception d'*empowerment* des infirmières et le niveau de satisfaction des patients (r = 0.052 pour l'ensemble des infirmières, 0,169 en excluant les infirmières possédant une formation de deuxième cycle, p < .05). Les auteures notent, par conséquent, qu'il importe pour les milieux de soins de favoriser l'*empowerment* de leurs professionnelles. Finalement, Spence Laschinger (2008) soutient que les environnements de travail qui permettent aux infirmières de participer aux décisions et d'avoir un meilleur contrôle sur leur pratique par le biais, par exemple, de la certification, engendrent une forme d'*empowerment*. Shirey (2005), de son côté, a soulevé que les infirmières, étant mieux préparées, sont plus enclines à offrir des soins de qualité, optimisant ainsi directement la satisfaction des patients.

Barrières à la certification

Plusieurs des études descriptives et des écrits éditoriaux mentionnés précédemment soulèvent l'existence de nombreuses barrières dans les milieux de soin. Ainsi, le manque de temps et l'absence de la perception d'utilité pour la pratique ainsi que la peur de ne pas réussir l'examen sont les barrières qui reviennent le plus souvent (AACN, 2003). Les coûts associés à l'examen, le peu de temps accordé pour la formation et le manque de soutien des organisations ont aussi été rapportés (Byrne, Valentine et Carter,

2004). Donc, bien que les infirmières semblent expérimenter une forme de développement personnel et professionnel par le biais de la certification, des efforts accrus sont à déployer dans les milieux de soin de manière à ce que les professionnelles se sentent soutenues et s'engagent plus aisément, augmentant ainsi potentiellement le nombre de participants au processus.

Dans une étude réalisée suite à un sondage durant une conférence du conseil ABNS par Stromborg et al. (2005), il est ressorti que vingt-cinq pourcent des organisations ne fournissent aucune forme de soutien aux infirmières alors qu'elles sont engagées dans le processus de certification. Selon les chercheurs, ce manque d'encouragement peut non seulement diminuer la perception d'*empowerment* psychologique des infirmières mais aussi nuire au potentiel de réussite lors de l'examen de certification.

L'importance du soutien organisationnel

Selon plusieurs sondages et points de vue éditoriaux, la mise en œuvre de structures pour soutenir le processus de certification est essentielle à la réalisation de son potentiel d'*empowerment*. L'AIIC (2013), qui élabore et gère le programme de certification canadienne, et fournit aux infirmières des ressources documentaires et organisationnelles, comme le mentorat, pour soutenir leur démarche de certification. En plus, certains milieux hospitaliers, qui sont conscients des avantages en termes de rétention et d'attraction associés à la certification, tentent, par diverses méthodes, d'encourager les infirmières à se développer par la réalisation de cette démarche (AIIC, 2009). Aux États-Unis, l'AACN mentionne que le processus de la certification, bien qu'il soit avant tout basé sur la volonté des infirmières à s'investir dans un apprentissage autodidacte, nécessite la présence de soutien et de motivation dans les milieux de soins afin de permettre aux infirmières de persévérer et d'acquérir de nouveaux savoirs spécifiques (Karvonen, Sayre & Wyant, 2004; Patry, 2006). Selon Tigert (2004), les gestionnaires doivent implanter des mesures fournissant de l'information, des ressources, du soutien et des opportunités pour générer un environnement propice au développement personnel et professionnel. Cet auteur considère que le fait de permettre aux infirmières de pratiquer selon les plus hauts standards augmente la satisfaction au travail et diminue le stress vécu. Dans le même ordre d'idées, Fitzpatrick et al.

(2010) soulignent, suite à l'analyse d'un sondage réalisé auprès de 6 589 infirmières membre de l'AACN, que l'éducation et la certification font une différence au niveau de l'*empowerment* des infirmières et qu'il importe d'encourager la formation avancée et de reconnaître la compétence clinique en vue de retenir les infirmières les plus performantes dans les hôpitaux.

Les incitatifs à l'engagement dans la démarche de certification peuvent être constitués de programmes de bourses, de méthodes de reconnaissance dans l'organisation, de groupes de soutien et de possibilités d'avancement en termes de carrière (Nierbuhr & Biel, 2007). En analysant les résultats d'un sondage effectué auprès de 11 427 infirmières par le conseil ABNS en 2006, ces auteures ont fait ressortir que les infirmières qui se sentent appuyées par leur milieu de travail ont un sentiment d'appartenance plus grand envers leur milieu de travail. Fait important, Nierbuhr et Biel (2007) concluent que la certification, lorsque supportée par l'organisation et les associations d'infirmières, influence la satisfaction personnelle et professionnelle des infirmières.

Interventions et activités de soutien à la certification recensées

Afin de contribuer à la préparation des infirmières à l'examen de la certification nationale, plusieurs méthodes ont été mises à l'essai. Karvonen, Sayre et Wyant (2004) ont présenté comment deux infirmières en développement du personnel et une infirmière clinicienne spécialisée ont créé, à partir du guide de compétence du centre américain de certification infirmière, un cours de préparation et de révision pour aider les infirmières d'un milieu médico-chirurgical à se préparer à l'examen. Celles-ci ont divisé le cours en plusieurs sessions ont fourni du contenu théorique et pratique, tels que des exercices, pour faciliter l'apprentissage. Les infirmières participantes ont pu créer des liens et maintenir leur motivation en groupe. Les facilitatrices n'étaient pas simplement des enseignantes, mais plutôt des accompagnatrices pour les infirmières tout au long de la période d'étude. Au final, suite aux commentaires des participantes, il semble que cette méthode ait permis d'augmenter le niveau de connaissances spécialisées, le taux de réussite à l'examen et la création de liens avec des professionnels dans le milieu de travail. Des résultats similaires ont été obtenus avec une intervention semblable auprès

d'infirmières canadiennes étudiant pour la certification en réhabilitation (Leclerc, Holdway, Kettyle, Ball & Keith, 2004). En 2005, Shirey a rapporté comment un hôpital de l'Indiana a fait passer le nombre d'infirmières certifiées en soins critiques de 4 à 34 en quatre ans. Selon cette auteure, un programme global doit être implanté dans une organisation pour que les infirmières souhaitent s'engager dans le processus de certification. L'octroi de bourses, la mobilisation de ressources cliniques pour répondre aux interrogations pendant l'étude et la reconnaissance par le centre hospitalier permettraient d'augmenter le nombre de participantes. À l'opposé, Patry (2006) a exploré, sous forme de consultation, dans le cadre d'un travail final de maîtrise en sciences infirmières à l'Université d'Ottawa, l'expérience d'infirmières ayant participé à un groupe d'étude visant à soutenir leur processus de certification. Il en est ressorti que cette méthode permettait la création de liens forts entre les participants et qu'elle favorisait le partage des stratégies d'étude. Les 58 infirmières qui ont fait partie de la consultation étaient unanimes quant à l'utilité du groupe d'étude comme source de soutien et de développement personnel. La seule exigence au fonctionnement de cette méthode est la nécessité d'un support financier et logistique provenant de l'organisation. En résumé, plusieurs milieux de soins ont commencé à mettre en place des structures de soutien pour les professionnels qui souhaitent se certifier dans une spécialité infirmière. Le processus mérite dès lors d'être mis à l'épreuve dans des unités et des environnements différents.

Discussion

Cette recension des écrits permet de constater que le processus de certification pourrait potentiellement être bénéfique à trois niveaux: les infirmières en tant que personnes et professionnelles, l'organisation et les patients (satisfaction par rapport aux soins reçus et qualité des soins offerts). Toutefois, aucun chercheur n'a rassemblé en une seule étude les trois concepts (certification, *empowerment* et santé psychologique) et peu d'écrits ont reliés directement des effets favorables sur la santé mentale à l'*empowerment* généré par la certification nationale. Considérant ces limites, le cadre théorique de Kanter (1993) revu par Spence Laschinger (2001) a constitué un guide pour établir, dans les écrits recensés, les impacts directs et indirects du processus de la certification sur la santé des infirmières.

Ainsi, à l'issue de cette démarche, il semble que les infirmières de différentes spécialités ont identifié plusieurs bénéfices personnels tels que le sentiment d'accomplissement et l'augmentation de la satisfaction au travail, en lien avec ce mode de validation des savoirs. La certification, selon les écrits, permet d'améliorer l'autonomie, la confiance en soi et le sentiment de compétence clinique (Gaberson et al., 2003; Grief, 2007; Niebuhr & Biel, 2007; Sechrist et al., 2006). Pour l'organisation, des effets positifs, tant au niveau de la santé mentale des employés que sur le plan de la rétention (rapportée dans le texte en termes de désir de quitter l'emploi), ont été corrélés à la certification nationale des professionnelles. Il serait cependant pertinent que la recherche se poursuive à ce niveau, particulièrement par rapport aux impacts financiers et aux aspects d'attractivité et de compétitivité de la certification. L'ajout d'arguments additionnels pourrait favoriser la promotion et la justification de l'importance de cette démarche auprès des gestionnaires, dans les milieux de soins.

L'élément central qui émerge des écrits est l'importance de la présence de modes de soutien dans les milieux de soins. Comme le mentionnent Kanter (1993) et Spence Laschinger (2001), les structures organisationnelles constituent la base du développement de l'*empowerment* psychologique. En établissant des programmes de soutien à la certification, les organisations permettent aux infirmières d'avoir un accès maximal aux différentes ressources. D'une part, en faisant la promotion de ce processus, les professionnels constatent la présence d'opportunités dans leur milieu. Lorsque l'organisation mobilise des ressources cliniques et l'accès à des informations pour soutenir l'étude, les infirmières comprennent qu'elles sont accompagnées et encouragées. Par différentes méthodes comme la création de groupes d'étude, le milieu de soins permet aux infirmières d'établir des liens entre elles. D'autre part, en favorisant la reconnaissance et l'implication des professionnels certifiés dans l'organisation, les autres employés constatent les possibilités d'impact et d'avancement que la certification entraîne.

Recommandations des auteures

Quoique le lien entre la santé mentale et ce processus soit encore peu documenté, il existe un réel intérêt pour identifier les sentiments et les expériences des infirmières qui l'ont vécu. Niebuhr et Biel

(2007) notent que la recherche devrait tenter d'explorer les éléments qui, dans les milieux, ont contribué à l'*empowerment* pendant le processus de certification. Si les bénéfices sont généralement évalués après la réussite de la certification, il n'existe pas de documentation sur les interventions organisationnelles qui optimisent la croissance et le développement. Il manque aussi des connaissances quant aux conséquences psychologiques et professionnelles d'un échec à l'examen et au fait de recommencer le processus dans le cadre d'une reprise. Comme plusieurs des études recensées rapportent les impressions éprouvées par des infirmières ayant réussi leur certification, un biais de réponse pourrait être présent. La méthode utilisée, c'est-à dire le sondage, comporte aussi des limites qui ont été rapportées (Bekemeier, 2007; Fitzpatrick et al., 2010; Tigert, 2004). Ainsi, les infirmières ayant un plus grand intérêt et une perception plus positive de la certification ont peut-être été plus enclines à répondre aux questions. La recherche future devrait également investiguer plus en profondeur la corrélation entre la certification, l'*empowerment* et la santé mentale des infirmières afin que les décideurs et les gestionnaires détiennent plus de données probantes afin de s'investir plus amplement dans le processus de certification.

Conclusion

La certification nationale est un processus d'apprentissage et de validation des acquis qui permet aux participants de cheminer tant sur le plan des connaissances et de la confiance en soi qu'au niveau des compétences professionnelles. Elle demeure une avenue peu explorée au Canada et, particulièrement, au Québec. Cependant, des signes de volonté politique émergent (Desrosiers, 2005) et justifient la recherche quant à l'apport du processus de certification tant pour les organisations que pour les individus qui les composent. À la lumière de la présente recension des écrits, les environnements de soins québécois ont tout à gagner en s'investissant dans la promotion de la certification. Cette option, selon les auteures, semble détenir un potentiel d'amélioration pour la santé des infirmières, la qualité des soins offerts et l'atteinte des objectifs organisationnels. Les infirmières et les infirmiers sont des professionnels qui occupent une place centrale au sein du système de santé actuel. Il est temps que les organisations se préoccupent de ces travailleurs et s'impliquent dans leur bien-être pour favoriser leur santé psychologique

tout en poursuivant leurs objectifs axés sur la performance organisationnelle et la qualité des soins offerts

aux   patients.

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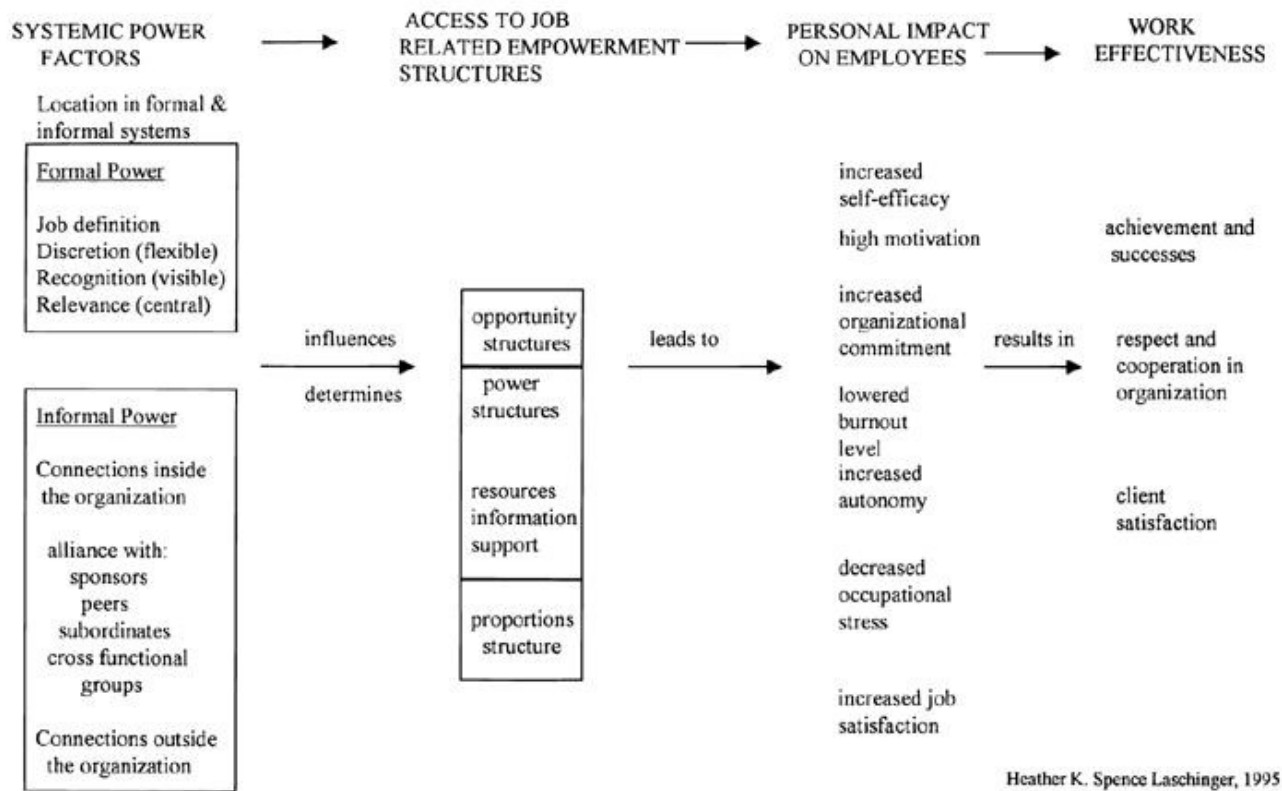
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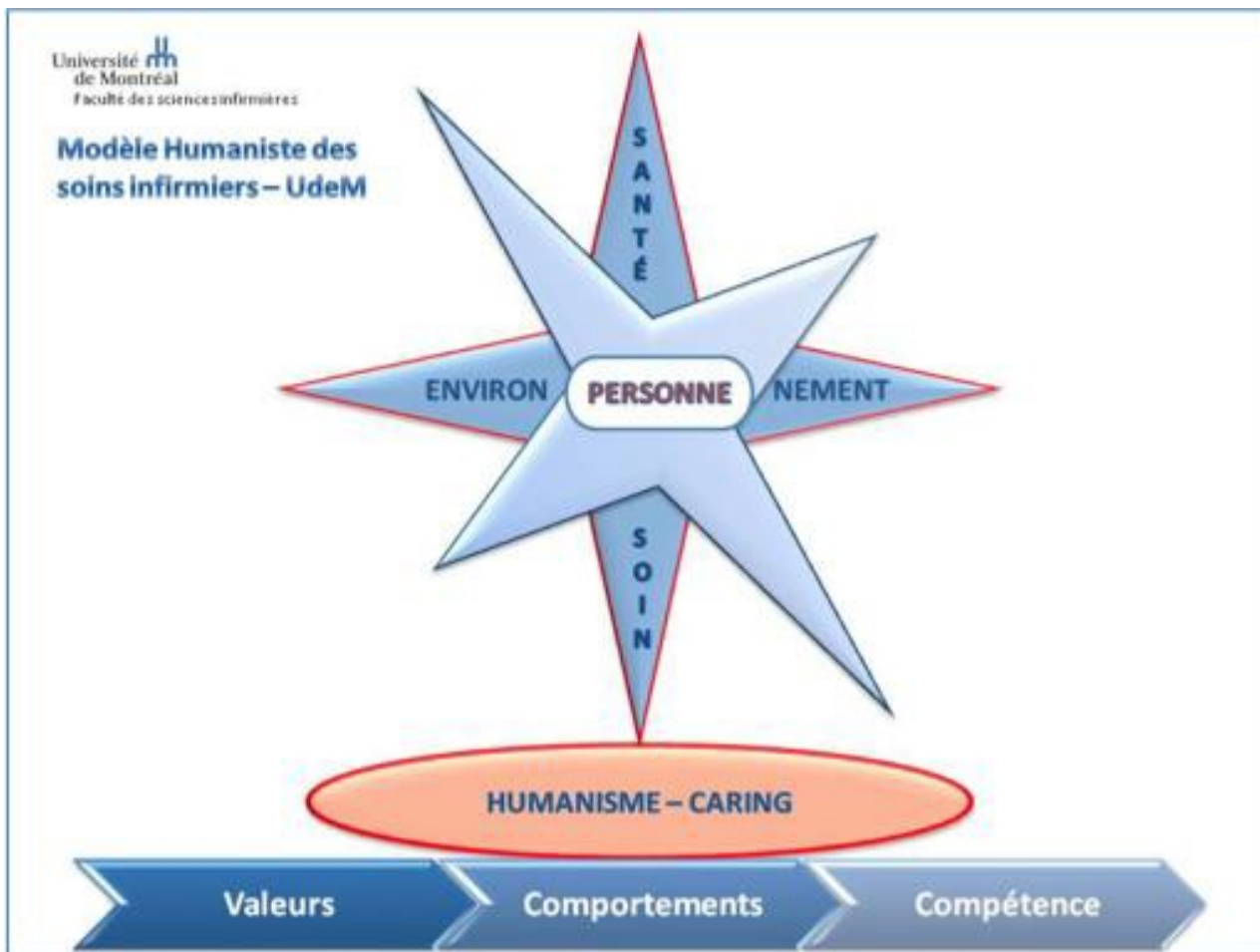
Annex 3: Laschinger's Nursing Worklife Model

Relationship of Concepts in Rosabeth Kanter's (1979) Structural Theory of Power in Organizations

| SYSTEMIC POWER FACTORS | → | ACCESS TO JOB RELATED EMPOWERMENT STRUCTURES | → | PERSONAL IMPACT ON EMPLOYEES | → | WORK EFFECTIVENESS |

Location in formal & informal systems

Formal Power

Job definition
Discretion (flexible)
Recognition (visible)
Relevance (central)

influences

opportunity structures

leads to

increased self-efficacy

high motivation

increased organizational commitment

results in

achievement and successes

respect and cooperation in organization

determines

power structures

Informal Power

Connections inside the organization

alliance with:
  sponsors
  peers
  subordinates
  cross functional
  groups

Connections outside the organization

resources
information
support

proportions structure

lowered burnout level
increased autonomy

decreased occupational stress

increased job satisfaction

client satisfaction

Heather K. Spence Laschinger, 1995

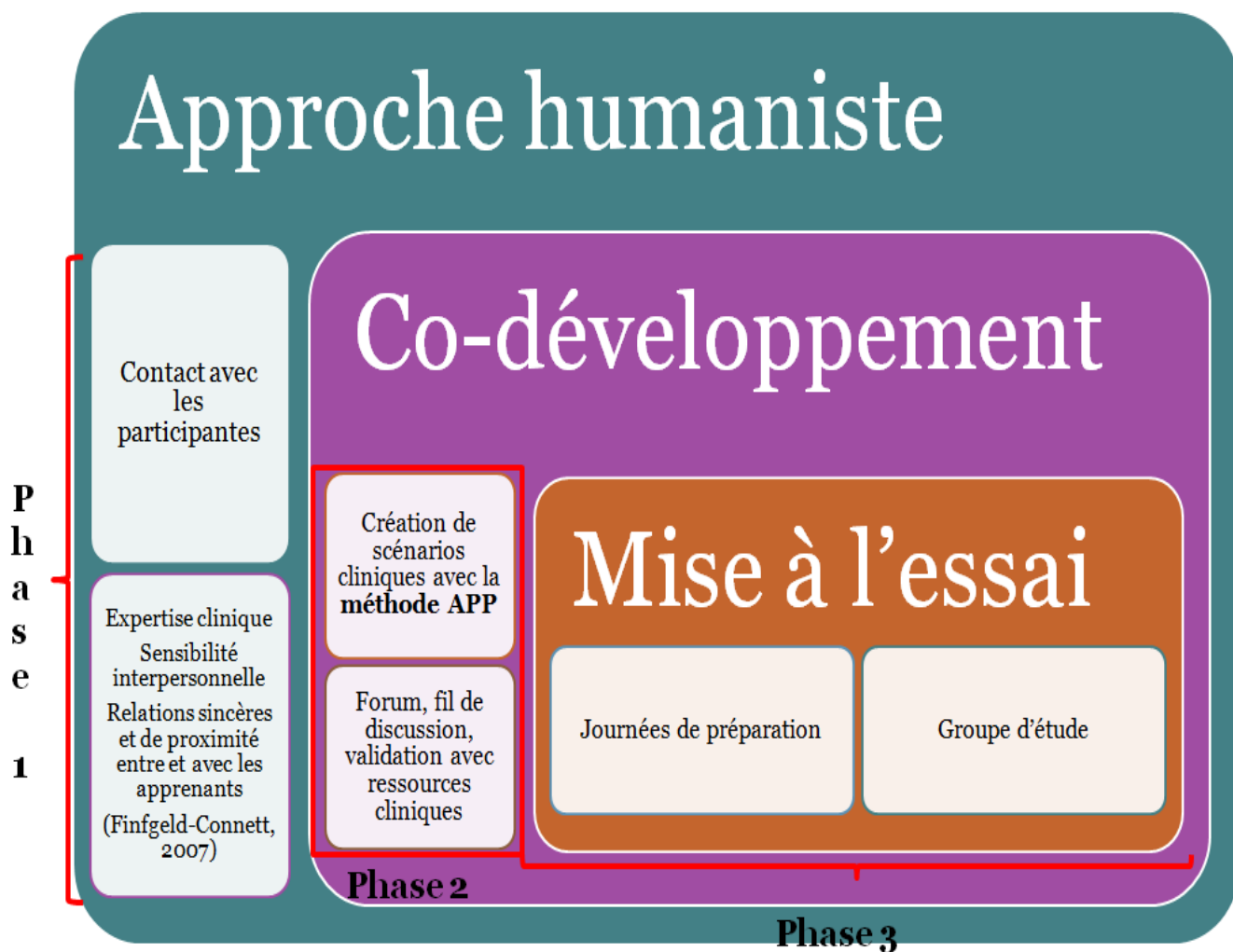Retrieved from Laschinger, Finegan, and Shamian (2001)

Annex 4: Humanist theory

Humanism theory (Girard & Cara, 2011)

Annex 5: Educational activity diagram

Schématisation du développement de l'activité éducationnelle

©Beaudoin (2014)

Annex 6: Clinical scenarios' titles

Titles of clinical scenarios elaborated during the stage

1- Stable and unstable angina

2- Leukemia and graft-versus-host disease

3- Drowning

4- Right ventricular myocardial infarction

5- Burns

6- Fracture (large bone)

7- Pulmonary embolism

8- Pheochromocytomia

9- Pneumonia, acute respiratory distress syndrome, adrenal insufficiency

10- Pulmonary hypertension

11- Amyotrophic lateral sclerosis

12- Drug overdose

13- Pneumothorax

14- Subdural and epidural hematomas

15- Brain tumor

16- Sepsis and disseminated intravascular coagulopathy

17- Heparin-induced thrombocytopenia (HIT)

18- Diabetic ketoacidosis (DKA)

19- Hyperglycemic hyperosmolar nonketotic (HHNK) coma

20- Post-renal acute renal injury

21- Ascending aortic aneurysm dissection

22- Dressler's syndrome

23- Status epilepticus

24- Cardiogenic shock

25- COPD exacerbation and acute renal failure

26- Septic shock

27- Left ventricular heart failure and pulmonary edema

28- Anaphylactic shock

29- Meningitis

30- Strokes

31- Spinal shock and autonomic dysreflexia

32- Patent foramen ovale

33- Hemothorax and hemorrhagic shock

34- Pancreatitis

35- Gastro-intestinal bleed

36- Bowel obstruction

37- Idiopathic thrombocytopenic purpura

38- Disseminated intravascular coagulopathy

39- Hepatic failure and encephalopathy

40- Diabetes insipidus

41- Tumor lysis syndrome, pre-renal failure

Annex 7: Clinical scenario example

Article submitted to the Clinical Nurse Specialist' Journal (May 2014)

Supporting speciality nursing certification: An innovative approach

Purpose/Objectives:

The purpose of this article is to present a case study used as part of an innovative educational activity aiming at supporting and preparing nurses engaged in the Canadian certification process in critical care that occurred between September 2013 and April 2014. The ultimate goal of the project was to decrease the psychological stress experienced by the participants during the study process and to enhance their perception of empowerment following the intervention.

Background/Rationale:

Nurses working in critical care are constantly facing multiple stressors such as advanced technology, critical clinical situations and families in crisis. All the stress critical care nurses face daily can affect their mental health as well as their retention within acute care institutions. Among other things, promotion of continuing education such as the completion of a national certification process in a specialty, and professional development have been proven efficient to improve satisfaction and the health of nurses. However, support from the organization is essential to help nurses successfully complete the certification process.

Description of the project/Innovation:

As part of a graduate studies project in nursing, an educational activity aiming to support nurses undergoing the certification process in critical care was developed and implemented in the ICU of a Canadian University teaching hospital. The Humanist model was used to guide the co-development and implementation of weekly study groups and two preparation days. The problem-based learning pedagogical approach was used, in parallel with the competencies blueprint provided by the Canadian nurses association (CNA), to develop a total of 41 clinical scenarios to support nurses in their learning by facilitating the application of theoretical concepts in concrete situations.

Outcomes:

A total of five nurses participated in the project. Following the educational activity, they reported feeling better prepared to write the Canadian certification exam in critical care. Also, they entrusted that the implementation of diverse support activities allowed specific individual needs of each nurse to be met. The participants said they felt supported by the organization which optimized their engagement and helped them perseverate during the entire process.

Background/Rationale

Speciality certification is a continuing education approach that has been offered to Canadian nurses since 1980 by the Canadian Nursing Association (CNA). It requires participants to master specific knowledge related to their area of practice and to develop their critical thinking skills (CNA, 2010). The association provides online support such as webinars, exam study resources and mentors that are CNA-certified nurses who can offer assistance to participants seeking certification. In clinical care setting, though, organisational (incentives, bursaries, granted study time) and educational support (preparation courses, documentation) varies substantially. However, Karvonen, Sayre and Wyant (2004) and Patry (2006) have noted that resources and encouragement in clinical units are essential for nurses to successfully complete the certification process in a specialty. In this sense, studies have tested different educational options to help nurses better prepare for the certification process. Bursary programs, public acknowledgement by the organization or support groups, or career advancement opportunities were found to contribute to the engagement and pursuit of the certification program by nurses (Niebuhr & Biel, 2007). Preparation courses and study groups, tested in different settings, were recognized as particularly effective to improve knowledge acquisition and critical thinking development (Karvonen, Sayre & Wyant, 2004; Leclerc, Holdway, Kettyle, Ball & Keith, 2004; Patry, 2006). The principal author of this article completed the adult critical care nursing certification in 2011. At this time, financial aid was offered but minimal clinical support was available in the institution. In fact, certification in Québec is hardly recognized and only subject to sparse promotion. However, interest concerning this process and its potential impact on the nurses, quality of care and organizations is constantly growing (Desrosiers, 2005). Consequently, few initiatives have been set up to facilitate preparation of nurses intending to commit to that process. To improve this situation, an educational activity was co-developed with three ICU clinical resources and participants undergoing the Canadian certification process in critical care and implemented in an intensive care unit of a University teaching hospital of Montreal as part of a graduate studies project. The Humanist framework was chosen to support the interventions and to tailor assistance to participants'

needs. The problem-based learning approach was also used to structure and animate the teaching sessions. A blueprint provided by the CNA (2010) and clinical scenarios were used to prepare the theoretical content. The following article presents one of the clinical situations that was co-developed and discussed with the participants (nurses).

Actual critical care nursing context

Intensive care units, by the way they are structured, the acuteness of the patients' conditions and the exposure to distress expressed by families (Burgess et al., 2010; Cavalheiro et al., 2008; Epp, 2012; Stayt, 2009; St-Pierre, Alderson & St-Jean, 2010; Tigert, 2004), have been associated with high levels of post-traumatic syndrome symptoms (Azoulay & Herridge, 2011; Curtis & Puntillo, 2007; Epp, 2012; Mealer et al., 2007; Poncet et al., 2007; Wahlin, Ek & Idvall, 2010). As per Shields and Wilkins (2005), the numerous sources of stress present in these clinical settings could be responsible for increased level of absenteism and turnover rate. Stress has also been associated with a diminution of involvement and work satisfaction by the healthcare workers (Burgess et al., 2010). All together, those conditions could affect nurses and, collaterally, the patients and the organizations (Burgess et al., 2010; Cavalheiro et al., 2008; Cho, Spence Laschinger & Wong, 2006; Milliken et al., 2007; St-Pierre, Alderson & St-Jean, 2010; Tigert, 2004).

Some authors have noticed that, by finding sources of personal and professional growth, as well as opportunities and chances to develop autonomy inside the work environment, stress perception could be reduced (Kuokkanen et al., 2003; Spence Laschinger & Finegan, 2005). Spence Laschinger, Finegan and Shamian (2001, Annex 1), who elaborated a theory linking organisation support and resources to the enhancement of psychological empowerment, argue that by helping professionals to grow and cope with their professional experiences, retention, involvement, and satisfaction could improve and lead to higher quality of care overall. Continuing education, such as the process of certification, was reported as a real source of empowerment and potential improvement of psychological health (Cho, Spence Laschinger & Wong, 2006; Fitzpatrick, Campo, Graham & Lavandero, 2010; Gaberson, Schroeter, Killen & Valentine,

2003; Krapohl, Manojlovich, Redman & Zhang, 2010; Nedd, 2006; Niebuhr & Biel, 2007; Piazza, Donahue, Dykes, Griffin & Fitzpatrick, 2006; Spence Laschinger, Leiter, Day & Gilin, 2009; Wynd, 2003). Organisational support and resources, though, are essential so this type of psychologic development can emerge. Considering this information, it appeared relevant to the authors to propose interventions in that way so nurses can develop themselves, their competencies and their autonomy within their working environment through the certification process.

Theoretical framework

The Humanist theory

Since the intervention involved for the most part the establishment of a relationship and a social construction of knowledge and learning, the humanist theory, as defined by Watson (1985, 2005) and the model of Girard and Cara (2011), was chosen to guide the proceedings and the development of the different activities embedded in the intervention. The theory comprises four concepts: (1) person, (2) environment (or life and work context), (3) health (or well-being) and (4) care. The person is considered as a complex construct, for which its own reality is based on previous experiences and knowledge. Environment is the surrounding of the person, which allows social interaction and development. Health consists of the perception of balance and well-being that depends on the person's reality and beliefs. Finally, care is an authentic and transformative process that is created between two persons (in the case of an educational intervention, between the educator and the learner) and allows them to grow and learn in a shared, mutual way. Caring principles, which are embedded in the theory, suggest the following specific interactions: empowerment, growth and hope. It supposes that each person detains a potential and can develop its abilities and its competencies. The educator should attempt to bring the person to use its potential to grow and to maintain a sense of well-being by exploring and optimizing the use of beliefs which are meaningful to the individual (Watson, 1985). As per Shultz (2009, p.30), the educator should act "as a facilitator of learning rather than an all-knowing authority who conveys information".

To facilitate the understanding and the implementation of the humanist theory during the stage, the concrete caring interactions proposed by Finfgeld-Connett (2007) were used. Expert nursing, interpersonal sensitivity and intimate relationships were applied by the first author while interacting with the participants to experience the humanist theory. The expertise (knowledge of the certification process and the theoretical content) were offered to the participants rather than imposed. Also, the first author took time to explore each participant's beliefs, values and objectives, in order to adapt the educational interventions and to provide appropriate support. Finally, open communication, openness and availability were maintained throughout the stage to facilitate establishment of an authentic relationship between the educator and the participants. The Humanist theory provided an innovative structure to support and prepare nurses during their certification process by allowing the implementation of an intervention tailored to their needs.

The PBL method

Developed in 1969 by the University of McMaster, this method favors learning through problems that can challenge the thinking process of learners. It is based on the assumption that learners need to engage in their study process to integrate the knowledge and use it in diverse, real situations. Acquiring new knowledge is considered a social process, starting from each person's previous experience and reality, and proceeding by the creation of new links, which are challenged or reinforced by the contact with the environment and the other learners. By blending theoretical content into concrete clinical scenarios, students are forced to face a problem and to find by themselves tools and resources to resolve it.

The method implies the creation and development of those clinical scenarios, each based on three or more measurable learning objectives (Barrett & Moore, 2011). Once the situation is created, it can be presented to the learners, preferably during interactive group discussions, to allow common learning and sharing of information. According to this method, learning is mostly self-directed and autonomous. The "teacher", or the person that supervises the presentation of the clinical scenario, acts as a facilitator and

does not direct the learning process. The facilitator needs to develop a flexible structure, to allow individual learning by taking in consideration the specific needs, and community exchange (Barrows, 1986, 2000; Savin-Baden, 2003).

The PBL method has been associated with the development of higher thinking skills like analysis and synthesis (Alcázar and Fitzgerald, 2005), a better knowledge acquisition and improvement in clinical skills (Colliver, 2000), increased perception of satisfaction towards learning (Khaki, Tubbs, Zarrintan, Khamnei, Shoja, Sadeghi, & Ahmadi, 2007), and improved metacognitive skills, elaboration strategies, intrinsic motivation and critical thinking (Weshah, 2012; Sungur & Tekkaya, 2006). About nursing particularly, at least one meta-analysis confirmed the effects reported above for the nursing profession (Shin & Kim, 2013). Considering all those potential effects and the concordance with andragogic principles, which had to be respected so the intervention could be relevant to the participants, the PBL method was chosen to guide the development and the presentation of the theoretical content to the nurses to facilitate their learning.

Description of the project /Innovation

Method

The project consisted of co-developing a learning activity for nurses undergoing the certification in critical care. It was decided, with the five participants, to offer a weekly learning activity during the three months preceding the examination. The PBL method helped the authors to structure and present the theoretical content, as well as encourage and facilitate knowledge sharing and transfer between participants. This teaching method is particularly useful in this specific context as it allows building on the participants' knowledge by facilitating the transfer of information by creating a more interactive environment than traditional lecturing. As Savery (2006, p.9) described it, PBL is a « learner-centered approach that empowers learners to conduct research, integrate theory and practice, and apply knowledge and skills to develop a viable solution to a defined problem. » Based on the constructivist framework, PBL allowed the role of the educator to change from the traditional "expert teacher" to the "supportive

facilitator". This method also enabled constant feedback and communication between the educator and participants, leading to frequent adjustments of content and its presentation to meet learners' needs. Participants share their experience, theoretical content and support each other throughout the study period, which lasted eight months. They were also encouraged to structure their study time and to prioritize the content to be reviewed based on the list of competencies, by considering different types of knowledge gaps in their group. Finally, PBL was used in this project as a structural, an educational and a behavioral guide to meet nurses' learning needs in the context of national certification. The following section presents a clinical situation that was created during the project. The authors, nurses educators and clinical nurse specialist, used this clinical scenario as a template when preparing educational activity.

A total of 41 scenarios were developed based on the CNA blueprint (2010). The overall objectives of this activity were to: (1). facilitate learning by an interactive method that was adapted to adults, (2). provide comprehension of theory by creating links with realistic clinical cases, and (3). develop critical thinking through complex situations.

Each major critical care pathologic condition that nurses encounter when working in critical care was presented in a clinical context. Each of the scenarios covered three to seven learning objectives. These measurable objectives were written to structure each "case" and to ensure complete coverage of the essential theoretical content. To measure participants' satisfaction level regarding the PBL-based preparation course, pre- and post-activities questionnaires (qualitative) were sent to the participants.

Illustrative case scenario

The learning objectives of this clinical scenario were: 1) to review the pathophysiology of stable and unstable angina, which was reviewed in a previous clinical scenario; 2) to review the treatments of stable and unstable angina; 3) to discuss how unstable angina can precipitate STEMI; 4) to recognize the signs and symptoms of STEMI;5) to identify the treatment priorities and management of a patient presenting with STEMI; 6) to explore the possible complications of STEMI; 7) to review the pathophysiology of

cardiogenic shock; 8) to analyze the risk and benefits of different therapies used for patient with cardiogenic shock.

Clinical questions are included in the scenario in order to encourage discussion and knowledge sharing among the participants, and to facilitate readers understanding.

Part 1

M. Stigner (fictive name), 64 years old, is known for type two diabetes and stable angina. Heavy physical activity causes chest pain but it is always relieved by rest. He only uses nitroglycerin on rare occasions. He smokes 1 pack/day and lost three family members to cardiac disease. In the past two weeks, he has been having worsening substernal pain radiating to his neck, which happens with minimal physical activity. However, pain has been consistently relieved, by 1 to 2 sprays of sublingual nitroglycerine. This morning, his friend Ernie found him in his chair, moaning, with his right arm crossed on his chest. Emergency medical services (EMS) were notified and patient was rapidly transported to the emergency room. Aspirin 160 mg PO X1 has also been administered by the paramedics

The following questions were asked to the participants: What are your hypotheses? Can you describe the pathophysiology of stable and unstable angina?   Upon receiving the patient to the emergency department, what would be your assessment?

The results of the initial evaluation, using the acronym SAMPLE (signs and symptoms, allergies, medication, past medical history, events) are presented in table 1. The vital signs are as follow: T° = 99,3 °F per os (37,4 °C per os), heart rate 110/minute; respiratory rate: 30/min with utilization of accessory muscles on inspiration; oxygen saturation 92% on room air; blood pressure 151/90 mmHg with a mean arterial pressure (MAP) of 110 mmHg. The electrocardiogram (ECG) shows sinus tachycardia at 110/min with premature ventricular contractions (PVC) and ST segment elevation in leads V1 to V4. The following blood work is then requested: cardiac marker levels, electrolytes, coagulation studies and complete blood count (table 2). A portable chest x-ray is also requested urgently.

Table 1. Initial evaluation

S	Substernal chest pain 10/10 (crushing, constant, irradiating to left arm, started 3 hours ago); Dyspnea and tachypnea, 30 breaths / min; On uscultation bilateral crackles are present. Patient is coughing frothy secretions; S_3 heart sound
A	No known allergy
M	Aspirin, 81 mg PO QD; Metformin 500 mg PO TID; Nitroglycerine 0.4 mg 1 spray (sublingual) every 5 minutes PRN for chest pain ; Aspirine 160 mg PO X1 was administered by the paramedics.
P	Diabetes, angina, positive family history of cardiac disease
L	8 hours ago
E	Patient has been having progressive angina, requiring the use of nitroglycerine sublingual. This morning, the symptoms started when patient was sitting up in his chair

According to the ECG results, what should be the priority treatments? Which coronary artery is most likely to be affected? Can you explain the pathophysiology of STEMI? Why is reperfusion therapy so important? In what condition would fibrinolytic therapy be preferred?

The hemodynamic laboratory has been notified. Staff will be ready to take the patient in 30 minutes. In the mean time oxygen therapy has been initiated.

Why is oxygen therapy initiated? What are the recommendations for oxygen administration? Why was Aspirin administered by the paramedics? What are the contraindications in the context of an STEMI?

Nitroglycerin 0.4 mg sublingual spray is given q 5 min X3. The pt continues to complain of chest pain 7/10. IV nitroglycerine is initiated and morphine 4 mg IV is administered. The physician considered the administration of Metoprolol 5 mg IV q 5 min X 3 doses but did not order it.

Why were Nitroglycerine and Morphine administered? What are the indications and contraindications of each? Why was a beta-blocker considered? What are the indications and contraindications for this therapy? What are the risks versus benefits of its administration in this clinical condition? What does a S_3 heart sound indicates?

Table 2. Laboratory results

Serum electrolytes	Hematology	Coagulation profile	Cardiac biomarkers
Urea 18 mg/dL Creatinine 1,3 mg/dL Na 143 mEq/L K 3,8 mEq/L Ca (total) 9,8 mg/dL Glucose 91 mEq/L Cl 104 mEq/L Mg 0,81 mEq/L PO4 2,8 mg/dL Albumin 3,6 g/L	Hb = 9,9 g/dL Platelets = 460,000 / mm^3 Hct = 40,5% WBC = 12,000 / mm^3	PTT 30 sec INR = 1,1	CK= 250 U/L Troponin T = 0,05 ug/L

Part 2

In the hemodynamic laboratory, an angioplasty is performed and two stents are inserted. During the procedure, M. Stigner suffers pulseless ventricular tachycardia. Advanced Cardiac Life Support (ACLS) is rapidly initiated. Patient received high quality CPR for a total of eight minutes. A total of three unsynchronized shocks of 200 joules (biphasic defibrillator) were given. Epinephrine 1 mg IV was administered twice, as well as amiodarone 300 mg IV once. Following return of spontaneous circulation, patient was intubated and a nasogastric tube (NGT), a pulmonary artery catheter and an intra-aortic balloon pump were inserted under fluoroscopy. Plavix 900 mg was given via the NGT. As patient is having frequent PVCs, a decision is made to initiate amiodarone infusion at 1mg/min. After hemodynamic stabilization, M. Stigner was transferred to the intensive care unit (ICU).

What could have caused the cardiac arrest? What are the clinical signs of a cardiogenic shock? Why was an IABP inserted? What are the 2 clinical benefits of this therapy? What are the risks related to this therapy? What is the required clinical monitoring? Why was Plavix given?

Upon admission to the ICU, the patient's cardiac condition remained unstable. An echocardiogram of the heart revealed a left ventricular ejection fraction (LVEF) of 25% with wall motion abnormalities.

The hemodynamic profile is presented in table 3. The arterial blood gas showed: pH: 7.24, PaCO2: 45 mm Hg, PaO2: 61 mm Hg, HCO3: 21 mEq/L; Lactate: 3,6. The measured venous saturation was 51%. A vasopressor and an inotrope have been initiated.

Which vasopressor and inotrope should be used? What are the risks versus benefits of using a vasopressor and/or an inotrope? What other treatments could be added with this condition once vasopressor's requirements decrease? What does the phenomenon called down spiral or vicious cycle consist of? What are the priority interventions for this condition?

Table 3. Vital signs

Temperature	T° = 97 °F PO (36,1 °C PO)
HR	90 beats/minute, with occasional PVCs
BP	86/42 mmHg, Mean arterial pressure 57 mmHg
Central venous pressure (CVP)	17 mm Hg
Pulmonary artery pressure (PAP)	48/25 mmHg, Mean pulmonary artery pressure: 33 mmHg

Cardiac index (CI)	1,8 L/min/m^2
Systemic vascular resistance (SVR)	1700 dynes/sec/cm^{-5}
Urine output	≤ 5 mL/h
IABP	Trigger : ECG; ratio 1:1; Timing: good inflation and deflation

Finally, M. Stigner's clinical condition improved gradually over the next three days. Vasopressors, inotropes, IABP were weaned and discontinued. Patient was transferred to the cardiac step-down unit on day 4 and discharged home on day 7.

Discussion

The primary goal of the intervention, using clinical scenarios, was to support and prepare nurses engaged in the Canadian adult critical care certification process. The PBL method allowed theoretical content to be presented to participants using realistic scenarios. It also generated more interaction than traditional lecturing by creating discussions and reflection between participants. They were able to share personal experience and realize individually what content needed to be reviewed into in more depth. Finally, PBL, by integrating socio-constructivists principles, worked harmoniously with the humanist approach that was used to guide the proceedings of the project' activities. The choice of the humanist approach itself was also very relevant and useful during the development and the presentation processes of the clinical scenarios. The first author had to "be with" the participants (by facilitating communication and adopting opened and flexible attitudes) to understand their specific needs and adapt the activities consequently.

This clinical situation presented above aimed at reviewing a specific cardiac pathology (the anterior myocardial infarction) and its consequences and possible complications. The learning objectives

of the first section of the clinical scenario were to (1). review the pathophysiology of stable and unstable angina, (2). review the treatments of stable and unstable angina, (3). discuss how unstable angina can precipitate STEMI, (4). recognize the signs and symptoms of STEMI, and (5). identify the treatment priorities and management of a patient presenting with a STEMI. The clinical scenario evolved from stable to unstable angina and then to myocardial infarction, allowing the participants to review usual management and to think about theoretical content studied previously. Vital signs and laboratory work were presented so readers could establish links between clinical data and pathophysiologic hypothesis as part of critical thinking development. Basic physiologic concepts, mostly the heart sounds and coronary arteries were addressed with questions linked to the clinical scenario. These questions served at targeting specific essential knowledge in the context of myocardial infarction and to review some key elements of cardiac physiology. Finally, questions regarding rational behind choice of treatments and pharmacology allowed a global review and understanding of the management of this condition.

The second part of the clinical scenario aimed at exploring a frequent complication associated with an anterior myocardial infarction, the cardiogenic shock, and to review the appropriate treatments. The Ventricular tachycardia' Advanced Cardiovascular Life Support (ACLS) algorithm was reviewed. Thus, the learning' objectives for this part were 1- discuss the possible complications of STEMI, 2- discuss the pathophysiology of cardiogenic shock, and 3- discuss the risk and benefits of different therapies used for patient with cardiogenic shock. Questions, in combination with clinical data, were designed to generate hypotheses, discussions, and to help the participants to make links between patient's condition and interventions put in place. A question, aiming at broaching endocrinal physiologic principles, was also integrated so learners would consider the reciprocal effects of the different systems on the current health situation. For the other questions, it was assumed that the learner had identified the occurrence of a cardiogenic shock and he/or she had to understand the evolution of the clinical situation and the rationale behind the treatments prescribed.

Even though the effectiveness of PBL is still debated (Colliver, 2000; Kirschner, Sweller & Clark, 2006; Strobel & van Barneveld, 2009), this method met the structural and learning objectives of the graduate studies' project and the clinical context. The clinical situation presented above was developed for a specific clinical context and targeted audience, nurses undergoing the national critical care certification process. If it is used, in the future, by nursing educators or study groups, content should be adapted to specific circumstances to tailor learner's needs and contextual characteristics. They should also consider frequent updating of theoretical content, to ensure that information provided is still relevant and exact. The use of PBL method to address educational needs in the context of preparation to the Canadian certification has showed to be an innovative intervention to tailor educational activities in a professional context and to facilitate sharing and transfer of knowledge.

Conclusion

The development of a teaching activity using problem-based learning was overall very positive. Participants were satisfied with the level of support obtained and the usefulness of the method regarding critical thinking and the integration of theoretical content. The PBL was found to be easy to implement and compatible with certification process' objectives. The authors would recommend repeating the experience in different contexts, including different clinical units and other geographical locations, in order to pursue validation and relevance demonstration of this approach. Nurses who decide to commit to the certification process need to be supported and the PBL method appears to have brought potential and promise to this matter. Deciders and managers should encourage this type of innovation, along with other forms of clinical support (study group, educators trained to act as resources, dedicated paid study days, etc.) to facilitate continuous learning and increase the proportion of certified nurses in their specialty.

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