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Developing Capacity to Care for a Client at Risk for Delirium and for the Acutely Delirious Client

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A thesis submitted in partial fulfillment of the requirements for the Master of Science degree in Nursing

DEVELOPING CAPACITY TO CARE FOR A CLIENT AT RISK FOR DELIRIUM AND FOR THE ACUTELY DELIRIOUS CLIENT

by

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ABSTRACT

The purpose of this mixed methods study was: (a) to assess nurses' knowledge and self-efficacy of caring for clients experiencing delirium and those at risk of developing delirium in a hospital setting prior to and immediately after taking part in a clinical education session, and (b) to explore nurses' experiences of applying knowledge from the education session to the practice setting. Objectives of the education session included reviewing risks, signs, symptoms, standardized screening tools, and management strategies for clients at risk for or experiencing delirium in a hospital setting.

For the quantitative methods portion of the study, participants completed instruments to assess knowledge and self-efficacy prior to and immediately after the education session. Pre- and post-instrument score comparisons were made using t-tests. Overall, nurses were found to have gained knowledge of how to recognize and manage delirium. Nurses' higher ratings of self-efficacy after participating in a clinical education session suggest that those who believe they can assess for and manage delirious clients might engage in future behaviours to decrease exacerbations or incidences of delirium.

In the qualitative phase of the study, interviews were undertaken with seven nurses who had participated in the education program. Interview data was transcribed, and a descriptive content analysis was conducted to develop categories and themes related to nurses' experience of knowledge translation into practice. The participants' rich experiences where highlighted in the themes, *enhancing emotional intelligence*, *strengthening clinical judgment to enhance quality of care*, and *increasing competency for family care.*

This study demonstrates how continuing education in clinical practice can positively impact nursing knowledge, confidence, and application of knowledge into practice in efforts to

decrease the prevalence of delirium. As such, an investment in continuing professional development education for delirium recognition and management is proposed to be a strategy that can positively impact client care.

Keywords: nurses, delirium, education, clients, acute care, knowledge, self-efficacy, mixed-methods

CO-AUTHORSHIP

Sherida G. Ingram completed the following work under the supervision of Dr. Yolanda Babenko-Mould and Dr. Richard G. Booth who will co-author the publication that results from Part Two of the thesis.

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CHAPTER 1

Introduction

Delirium is an urgent health condition that requires immediate treatment to lessen the chances of mortality and morbidity. Despite the seriousness of delirium, it has been reported that both nurses and other healthcare professionals fail to detect its presence in approximately 60% of clients in acute care settings (Mitstarz, Eliott, Whitfield, & Ernest, 2011). Researchers have found that delirium is often poorly recognized due to a lack of formal education during pre-service nursing education (Gordon, Melillo, Nannini, & Lakatos, 2013; McCrow, Sullivan, & Beattie, 2014; Tabet et al., 2005). These reportedly high incidences of misdiagnosis or unrecognized cases of delirium (Flagg, McDowell, & Buelow, 2010; Mitstarz et al., 2011; Moghabghab et al., 2003; Tabet et al., 2005) prompt a need for continued education to assist in the development of nurses' professional competence and confidence about assessing for and managing delirium.

Nearly one third of cases of delirium are estimated to be preventable (Ouldred & Bryant, 2011). Nurses' active engagement in preventing delirium is proposed to be an effective strategy to reduce the frequency and complications commonly experienced with this disorder. Strategies to recognize and prevent potential outcomes of delirium require knowledge of the associated risks, signs, and symptoms. Outcomes of delirium for hospitalized clients include potential increased mental and physical disability, functional decline, length of stay, risk of institutionalization, and additional health care costs (Gordon et al., 2013; McCrow, et al., 2014; Moghabghab et al., 2003; Wand, 2011).

Nurses have an important role in assessing client health issues, thus, enhancing their competence (knowledge) and confidence (self-efficacy) concerning the care of delirious clients

in order to provide optimal care and prevent exacerbation of the condition. Although research has been conducted about educational activities related to delirium (Akechi et al., 2010; Gordon et al., 2013; McCrow et al., 2014; Tabet et al., 2005; Wand, 2011), few studies (Akechi et al.; Wand et al., 2014) have assessed nurses' self-efficacy of caring for clients experiencing or at risk of developing delirium after involvement in clinical education.

Akechi et al. (2010) conducted a study involving Registered Nurses (RNs) (n=390) to evaluate the effectiveness of a delirium-educational program designed to increase nurses' confidence when caring for a client with delirium. Akechi et al. found the intervention to have positive effects on nurses' self-confidence with regard to caring for clients with delirium. The findings by Akechi et al. provide support to the proposition that education specific to the care of clients with delirium may increase nurses' self-confidence of caring for these clients.

Wand et al. (2014) conducted a pre- and post-intervention study with staff (n=77) to examine the effectiveness of a multifaceted educational program in preventing delirium in hospitalized older clients and improving their practice, knowledge, and confidence. Findings pertaining to staff confidence were reported to be improved post intervention. Results from Wand et al. provide evidence to support the premise that professional development education about delirium can result in positive effects on staff confidence and has the potential to improve client outcomes.

Additionally, there is a noticeable gap in the literature that explores nurses' experiences of applying knowledge to the practice setting after participating in continuous professional development (CPD) education concerning care of the delirious hospitalized client. It is proposed that, if education can support nurses' abilities to gain knowledge and confidence, which can ultimately lead to the provision of safer client care, then it is prudent and timely to generate

deeper insights related to how nurses' translate knowledge into practice after involvement in CPD about delirium.

Continuing Professional Development in Nursing

Continuous education is part of professional development as a Registered Nurse (RN) (Canadian Nurses Association [CNA], 2000), and is important in maintaining and enhancing knowledge, skills, attitude, and judgment to meet the ever-changing requirements of the client. Education specific to the recognition and care of the delirious client has been found to be effective in improving professional practice with clinicians. In particular, studies examining the effects of education sessions for nurses and clinicians support the argument that those who participate in CPD initiatives contribute significantly to client health outcomes (McCrow et al., 2014; Tabet et al., 2005; Wand, 2011). For instance, McCrow et al. conducted a pre-test/post-test time series cluster randomized control trial with nurses (n=147) to evaluate the impact of a delirium specific educational website. Findings suggested that targeted education related to delirium effectively and significantly improved nurses' knowledge and client health outcomes (McCrow, et al.).

Self-efficacy in Nursing Education and Practice

Promoting confidence often requires a change in behaviour. When discussing the continuing education of nurses, Zulkosky (2009) noted that self-efficacy is an important concept that effects the actions nurses engage in and consequences related to patient care outcomes. Various components may contribute to influencing a change in nurses' performance, such as knowledge, skills, beliefs, attitudes, and social factors (Shortridge-Baggett, 2001). According to Bandura (1997), an individual's self-efficacy, which is the strength of one's own ability to accomplish a task or reach a goal affecting every area of human endeavor, is a result of efficacy

beliefs and may influence one's thoughts, feelings, motivations, and actions. It is the interaction of the learners' perceptions, the environment and behavior, which facilitate the acquisition of knowledge (Brannagan et al., 2013). The concept of self-efficacy has been examined in previous research in nursing education (Babenko-Mould, Andrususzyn, & Goldenburg, 2004; Manojlovich, 2005; Shortridge-Baggett, 2001).

One such investigation examined the influence of computer conferencing on nursing students' (n=42) self-efficacy for professional nursing competencies and computer-mediated learning during a final practicum (Babenko-Mould et al., 2004). Bandura's (1977, 1986) theory of self-efficacy was the theoretical framework underpinning this study, which used a pretest-posttest, quasi-experimental, control group design (Babenko-Mould et al.). Students who participated in online discussions (n=15) during their final practicum reported increased levels of self-efficacy for professional practice competencies at the conclusion of their practicum, as did the control group cohort (n=27) (Babenko-Mould et al.). Participants' qualitative responses to an open-ended question revealed that participants who engaged in online discussion felt connected to their peers through a network of support, which enhanced their learning in a peer-to-peer knowledge-sharing context. This study demonstrated support for the use of self-efficacy theory in relation to nursing education, as sources of self-efficacy information can positively influence one's appraisal of their own abilities, which could lead to engaging in professional practice behaviours.

Manojlovich (2005) used a non-experimental descriptive survey design with staff nurses (n=376) to examine the effect of unit-level nursing leadership on the relationships of structural empowerment and self-efficacy for professional nursing practice behaviours. Findings of Manojlovich's study demonstrated a significant relationship between caring self-efficacy and

professional nursing practice behaviours. Results of the study findings suggest that both structures in the environment and self-efficacy can influence professional practice behaviours.

Increasing confidence of nurses is one goal of nursing education that assists in encouraging competent clinical reasoning. This is essential when attempting to meet the increasing complexity of client care needs. The acutely delirious client and those at risk of delirium are examples of an increasing complex client population. By strengthening nurses' knowledge and self-efficacy about recognizing and managing delirium, it is hoped that this may prevent exacerbation of and decrease incidence of delirium.

Knowledge Translation in Nursing Education and Practice

Knowledge translation in nursing is understood to be the exchange, synthesis and application of knowledge to accelerate the benefits of new research, which may improve the health and care of clients (Bjork et al., 2013). Translation of knowledge can diminish gaps between what is found in research and what actually gets transposed to client care. In order for nurses to gain knowledge as to how to apply the best available evidence in clinical practice, schools of nursing need to incorporate evidence-based practice (EBP) models into curricula (Moore & Watters, 2013). EBP is a term first used in the 1980s to describe the concept of decision-making and is based on the premise of evaluating current evidence to support clinical decisions and incorporating the available research with clinical experience (CNA, 2013; Moghabghab et al., 2003). EBP has been noted as reducing practice variations and providing consistency and continuity of care, which has been seen to contribute to quality of care and client safety (Wells, Free, & Adams, 2007); however, there remains a knowledge gap between best evidence and translation of that evidence into practice to enable evidence-based practice (Moore & Watters).

The Registered Nurses Association of Ontario (RNAO) through the Nursing Best Practice Research Centre (NBPRC) develops best practice guidelines (BPG) and has been very active in enabling nurses to bridge the gap between available evidence and use of that knowledge in practice. In 1999, RNAO initiated a pilot project, the implementation of BPG *Screening for Delirium, Dementia and Depression in Older Adults* (RNAO, 2014), in three University of Toronto affiliated teaching hospitals. The purpose of this project was to "conceptualize and promote best patient care based on the best scientific evidence" (Moghabbghab et al., 2003). Organizations that promote best practices are associated with higher quality care and improved client outcomes, compared to those following traditional practices alone (CNA, 2013). EBP is also noted to reduce practice variations, provide consistency and continuity of care; this is seen to contribute to quality and client safety (Wells et al., 2007).

Knowledge translation involves systematic collection of new knowledge accumulated from research evidence and the integration of that knowledge into best-practice guidelines and curricula in order that nurses may integrate new knowledge into practice (Bjork et al., 2013). The actual process of translating knowledge into practice is a complex process that can be facilitated by specific frameworks or models to examine the level of the evidence being used, the context the research is to be placed, and the method by which the information is implemented (Bjork et al.). Accessing information on a regular basis is a challenge for most nurses, given the increased workload and demands of client care. It is important in nursing practice to make informed and educated decisions regarding interventions pertaining to the care of one's clients. Therefore, it is proposed that CPD educational offerings for nurses in practice provide a means for them to develop the requisite knowledge and confidence to translate new understandings into practice.

Majid et al. (2011) used a survey questionnaire to collect data from RNs (n=1486) to explore nurses' awareness of, knowledge of, and attitude toward EBP and factors expected to create barriers to adoption of knowledge into practice. Additionally, Majid et al. investigated information sources frequently used by nurses and nurses' skills in conducting a literature search. Results showed greater than 64% of the nurses expressed a positive attitude toward translating evidence into current practice-based knowledge (Majid et al.). However, nurses expressed that due to heavy workloads they were unable to keep up-to-date with actually being able to translate knowledge into practice (Majid et al.). Continuous professional development through education about conducting literature reviews was identified as a strategy for being able to develop the competencies of translating knowledge into current practice (Majid et al.).

Through participation in clinical education, health professionals can acquire new knowledge and increase their confidence in order that they may recognize, and potentially prevent exacerbation of delirium (Tabet & Howard, 2006). Therefore, it is proposed that an education session focused on the assessment and management of clients at risk for delirium and for those experiencing acute delirium could enhance nurses' knowledge and confidence, which in turn could influence nurses' abilities to translate new knowledge into practice. The process of knowledge translation allows nurses to accumulate research evidence, synthesize the evidence, communicate it to other healthcare team members, and apply it to practice to improve client care.

There is a paucity of research assessing nurses' knowledge and self-efficacy of caring for clients with delirium prior to and after an education session. Additionally, there is minimal research that explores nurses' experiences of caring for this population after being involved in an education session focused on their care. Research is needed to examine the extent to which nurses' perceptions of their knowledge and self-efficacy can be influenced after an education

session about delirium, as well as to explore and understand the experience of how nurses who participated in continuous professional development were able to apply their new knowledge into practice while caring for the acutely delirious client. It is hoped that such understanding will improve the capacity of nurses to provide effective and safe care for the client at risk for delirium and for those experiencing an acute episode of delirium.

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CHAPTER TWO

Manuscript

Delirium, first identified by Hippocrates more than two thousand years ago, has been recognized to be one of the earliest described medical phenomena (Aslan, Koroglu, Celik, & Hocaoglu, 2011; Burns, Gallagley, & Byrne, 2004; Kaplan & Palmer, 2003). As one of the most common complications experienced by older hospitalized clients (Fong, Tulebaev, & Inouye, 2009; Kaplan & Palmer; Rice et al., 2011), the delirium incidence rate is reported to be as large as 20 to 53% of clients in hospital (Balasundaram & Holmes, 2007; Burns et al; Flinn, Diehl, Seyfried, & Malani, 2009; McCrow, Sullivan, & Beatie, 2014).

Resulting from a combination of clinical insults such as acute illness, environmental changes, sleep deprivation, medications, and medication changes, delirium is described as a multi-factorial syndrome (Rudolph, Schreiber, & Harrington, 2008). Diagnosis includes acute onset, fluctuating course, physical etiology, global cognitive impairment, disturbance of attention, and disturbance of the sleep-wake cycle (Flinn et al., 2009; Fong et al. 2009; Meagher & Leonard, 2008; Weber, Coverdale, & Kunik, 2004). The Diagnostic and Statistical Manual of Mental Disorders, 4th Edition, Text Revision (DSM-IV-TR) "defines delirium as: (A) a disturbance of consciousness (i.e. reduced clarity of awareness of the environment, with reduced ability to focus, sustain or shift attention, (B) a change in cognition (such as memory deficit, disorientation, language disturbance) or the development of a perceptual disturbance; and (C) the disturbance develops over a short period of time (usually hours to days) and tends to fluctuate during the course of the day" (Chaput & Bryson, 2012, p. 305).

Delirium is a temporary condition and is often confused with other cognitive disorders, such as dementia, which is chronic and progressive (Schofield & Dewing, 2001). Subdivided

into three categories, delirium is classified as hyperactive, hypoactive, or mixed (Attard, Ranjith, & Taylor, 2008; Mitstarz, Elliot, Whitfield, & Ernest, 2011) which can add to the difficulty of diagnosis. Many of the associated risk factors of delirium are closely linked to the characteristics of dementia, and other psychiatric disorders, leading to the complexity in generating a diagnosis (Tabet & Howard, 2006).

Examining differences in the symptoms of the three categories of delirium may increase the comprehension and consequently the recognition. Hyperactive delirium symptoms include sympathetic nervous system over-activity, such as verbal or physical aggression, agitation, restlessness, wandering, psychomotor hyperactivity, increased alertness to stimuli, mood liability, euphoria and anger (Attard et al., 2008; Evans, 2007; Tabet & Howard, 2006). Hypoactive delirium symptoms include lethargy or somnolence, withdrawal, decreased responsiveness to stimuli, apathy, psychomotor hypoactivity, clouded inattention, slow speech and the client may be difficult to arouse (Attard et al.; Evans; Tabet & Howard). Hypoactive symptoms are thought to be more difficult to diagnose and may be misdiagnosed as depression or simple fatigue (Attard et al., 2008; Evans, 2007; Tabet & Howard, 2006). Mixed delirium is demonstrated by evidence of signs and symptoms from both hyperactive and hypoactive delirium.

Regardless of the classification (hyperactive, hypoactive, or mixed) there is significant variability in the clinical course and manifestation of the condition (Evans, 2007). Full recovery from delirium is possible with early detection and intervention (Evans). Conversely, progression to stupor, coma, seizures and even death are also possible (Evans; McCrow, et al., 2014). Early recognition and management is likely to reduce the incidence and progression of associated co-morbidities of delirium (McCrow et al.). Because of its seriousness and potential reversibility

(McCrow et al.) it is important that nurses, as 24-hour caregivers, possess the competence (knowledge) and confidence (self-efficacy) to assess, screen, and manage the care of clients at risk for or experiencing delirium.

It has been suggested that prevention and recognition of delirium in clinical environments begins with education about the condition (McCrow et al., 2014; Tabet et al, 2005). Therefore, the authors developed and implemented an educational session for nurses about delirium as part of a mixed-methods study. In particular, objectives of the education session included reviewing risks, signs, symptoms, standardized screening tools, and management strategies for clients at risk for or experiencing delirium in a hospital setting. The purpose of the mixed-methods study was: (a) to assess nurses' knowledge and self-efficacy of caring for clients experiencing delirium and those at risk of developing delirium in a hospital setting prior to and immediately after taking part in a clinical education session; and, (b) to explore nurses' experiences of applying knowledge from the education session to the practice setting. It is proposed that assessment of nurses' self-efficacy for caring for the acutely delirious client and an exploration of nurses' experience of the translation of knowledge about delirium into practice can provide a deeper understanding of how knowledge development can ultimately improve nursing practice.

Theoretical Framework

Bandura's (1977, 1986) theory of self-efficacy was selected as the theoretical framework for this study. The theoretical lens is founded on the concept that *perceived self-efficacy* is understood to be a belief in one's own capabilities to organize and execute the courses of action required to manage future situations (Bandura, 1986). The concept of self-efficacy, derived from Bandura's Social Cognitive Theory (1977, 1986), is comprised of three factors, namely, environmental, behavioral and cognitive, that interact in a reciprocal manner.

Bandura (1977) posits that most "external influences affect behaviour through intermediary cognitive processes" (p. 160). Cognitive processes can have an effect on which external event is observed, how the event will be perceived and whether there is any lasting effect as a result, what positive feeling and efficacy the event has, and how the information will be structured for the future (Bandura). In the present study, Bandura's (1977, 1986) theory of self-efficacy was used to assist in the understanding of the cognitive factor related to perceptions of nurses' self-efficacy prior to and after an education session about caring for at risk clients and for those clients experiencing acute delirium.

Literature Review

A literature search was conducted using the databases CINAHL, MEDLINE, PROQUEST, SCOPUS and Medscape. Articles pertaining to nurses' self-efficacy of caring for clients at risk for acute delirium and those clients experiencing acute delirium while in hospital, along with literature pertaining to knowledge translation, and continuing professional development were reviewed.

Search terms included *self-efficacy, self-efficacy in nursing education and practice, delirium, delirium educational interventions in nursing, knowledge,* and *knowledge translation in nursing education and practice* were examined to obtain applicable research studies and expository articles from the year 2000 to present. This time period was sought, as there have been rapid advances in the understanding of delirium.

Self-efficacy in Nursing Education and Practice

Self-efficacy was described by Zulkosky (2009) as a multifaceted concept that influences how one acts, feels, thinks, and motivates oneself; a concept that is fundamental in nursing education (Robb, 2012). Robb conducted a concept analysis exploring self-efficacy and its

relationship to nursing education, and the role self-efficacy plays in both the cognitive and affective processes. Robb determined that one chooses courses of action dependent upon skills and abilities that one feels they possess. Enhanced self-efficacy in nursing education and practice can lead to a belief that one can engage in certain actions.

Pike and O'Donnell (2010) explored data gathered from a qualitative study with student nurses (n=9) that participated in a focus group interview about the impact of clinical simulation on self-efficacy beliefs amongst pre-registration nurses. Pike and O'Donnell found that students described low levels of self-efficacy with regards to communication skills. Additionally, the students described a need for learning experiences within clinical simulation to be more authentic, to improve the theory to practice gap (Pike & O'Donnell). It was proposed that integration of teaching and learning strategies that support self-efficacy development of the learner will, in theory, enhance clinical competence (Pike & O'Donnell). Pike and O'Donnell's study provides support for Bandura's (1977, 1986) theoretical propositions that performing mastery experiences (i.e., performing a task successfully) is the most effective way of developing an individual's strong sense of self-efficacy.

Brannagan et al. (2013) used a concurrent mixed-methods design with first year students (n=179) and third year students (n=51) to understand the impact of peer teaching-learning experiences on nursing students in roles of tutee and tutor in a clinical lab environment. In one phase of the study, Brannagan et al. used an intervention design in which participants were randomly assigned to either the intervention group that received peer teaching-learning instruction in addition to faculty instruction, or to the control group. Brannagan et al. examined differences during three semesters between an intervention and control group in relation to students' perceptions of a clinical lab experience, self-efficacy related to students' performance

of clinical skills in the lab setting and in the hospital setting, and clinical knowledge. Then, Brannagan et al. employed a mixed-methods approach to examine and explore peer tutor perceptions of the peer tutoring experiences. The qualitative and quantitative findings showed uniformity in that overall the peer tutors reported that the peer teaching-learning experience was constructive and that the experience would enhance nursing as a profession and teamwork among peers. Brannagan et al. presented quantitative findings that showed that there were no significant differences for knowledge acquisition and self-efficacy beliefs between the intervention and control groups. Findings from this study support to how concepts of peer teaching-learning experiences have influence on nurses' perceptions of self-efficacy.

Laschinger, Borgogni, Consiglio, and Read (2015) conducted a cross-sectional survey of new graduate nurses (n=1009) across Canada. Laschinger et al. found that new graduate nurses who perceived their leaders as authentic, also reported a positive worklife, self-efficacy for coping in the practice setting, decreased burnout, and increased mental health. This study provides support to how both effective leadership and self-efficacy have an important role to play in developing and sustaining healthy work environments for nurses.

Roh, Lee, Chung, and Park (2013) used a comparative design and random assignment with nurses (*N*=38) who were educated about resuscitation techniques delivered via computer-based simulation (n=18) or mannequin-based simulation (n=20) to measure self-efficacy of nurses' perceptions of their capability to organize and execute a course of action in dealing with cardiac arrest situations. Nurses in both groups reported similar levels of self-efficacy for engaging in advanced life support behaviours post-education (overall average of 6.40 on a 10 point scale with higher values associated with higher self-efficacy). In addition, nurses in both groups reported similar levels of satisfaction with simulation usefulness and satisfaction with

instructional design (overall average of 7.53 on a 10 point scale with higher levels indicating higher satisfaction). Study findings provide support to the notion that educational interventions that include simulation, independent of the method of instruction (computer versus hands-on) can increase nurses' self-efficacy to engage in behaviours that can positively impact patient care practices.

Stanley and Pollard (2013) used a cross-sectional correlational design with a convenience sample of pediatric nurses (n=25) from two hospitals in the same region in the Southern United States. The purpose of Stanley and Pollard's study was to measure nurses' knowledge of and their self-efficacy for managing pediatric pain. Results of the study found that nurses at both hospitals reported moderate levels of knowledge about pediatric pain management. However, there was a significant difference in levels of knowledge of pediatric pain management between the two hospital sights (hospital one M=27.08 and hospital two M=24.83, SD=2.93, t=2.044, p=0.05). Nurses at both sites reported similar high levels of self-efficacy for pediatric pain management (hospital one M=25.69 and hospital two M=26.92). The researchers proposed the need for nurses to receive continuing education in practice about pain control to enhance knowledge and maintain subsequent strong levels of confidence for pain management. This study highlights the need for continuing professional development and to assess for a relationship between nurses' knowledge and self-efficacy in order to avoid situations where nurses feel over-confident without requisite knowledge, so there exists a balance between knowledge and level of confidence to carry out actions in a safe and effective manner.

A gap was identified in the literature regarding the limited amount of theoretically-based research about nurses' knowledge of and self-efficacy for how to prevent, assess, and manage

delirium in the acute care setting. In addition, limited research was found in this area that is based on any theoretical perspective.

Delirium Educational Interventions in Nursing

A limited number of studies, which involved educational interventions or sessions for nurses to gain knowledge and develop capacity to care for clients at risk for delirium and for those experiencing delirium, were located for review. Akechi et al. (2010) examined the preliminary usefulness of newly developed delirium training program to improve nurses' (n=390) self-confidence in caring for clients with delirium (Akechi et al.). Study results showed that participation in the educational program improved the self-confidence of nurses caring for delirious clients (Akechi et al.). The researchers noted that educating additional nurses to provide optimal care for the delirious client requires the establishment of a comprehensive and continual education program. The authors suggested that educating nurses in order to provide optimal care for delirious clients may require a comprehensive and continual education program be established.

Meako, Thompson, and Cochrane (2011) employed a pre-test-post-test quasi-experimental design, with a convenience sample of orthopedic nurses' (n=23) to describe their baseline knowledge about delirium in orthopaedic patients, test the usefulness of an educational intervention, and describe factors associated with differences in nurses' baseline knowledge about delirium and the effectiveness of an educational intervention. Using an evidence-based intervention based on nationally recommended guidelines and a pre-test-post-test questionnaire containing ten multiple-choice questions developed by the first author (Meako), participants' knowledge of delirium was assessed. Meako et al. (2011) found the educational intervention to be successful in that all participants' scores improved. Meako et al. reported that irrespective of

education, years of experience, or shift worked, RNs struggled with questions related to recognition of delirium, predisposing and precipitating risk factors, and medications that can contribute to delirium. Meako et al. concluded that the intervention enhanced nurses' knowledge and could therefore be useful to implement in an ongoing manner in continuing professional development education programs.

Finally, Rudolph et al. (2008) presented a case-based review of a 68 year-old male admitted to hospital for elective peripheral artery bypass to examine the effects of post-operative delirium in hospitalized clients. Additionally, Rudolph explored potential opportunities to optimize outcomes through identifying those at risk using validated assessment methods. Rudolph et al. found four factors that can predict delirium risk in hospitalized clients, namely cognitive impairment, severity of illness, visual impairment and dehydration. Recognition of these risk factors using assessment and screening tools may prevent further complications from delirium. Rudolph et al. stressed that the rapid changes in the understanding of delirium since the year 2000 are not fully integrated into practice. The researchers recommended that in order to optimize health outcomes in the delirious client, a greater focus needs to be placed on education of nursing students and to integrate education about assessing and managing delirium in continuous professional development (CPD) offerings to nurses in practice (Rudolph et al.). Despite advances in knowledge concerning delirium, these changes have not been fully incorporated into nursing practice (Rudolph et al.). Because of this, there continues to be a need to educate nurses regarding assessment and management of the health issue of delirium.

To date, research about delirium reveals the importance of developing a deeper understanding related to the recognition of delirium through assessment, screening and managing the care of clients. It is proposed that increased knowledge about delirium facilitates accurate

and early diagnoses, and prevention of incidences or exacerbations of delirium. Also, there were no studies found that explored nurses' experience of caring for delirious clients after participating in a clinical education session pertaining to the recognition of delirium in hospitalized clients.

Knowledge Translation and Practice

Knowledge translation can be interpreted to be the process needed to close the gap between evidence and decision-making within nursing care by transmitting knowledge into action (Straus, Tetroe, & Graham, 2009). The Canadian Institutes of Health Research (CIHR) defines knowledge translation as "a dynamic and iterative process that includes the synthesis, dissemination, exchange and ethically sound application of knowledge to improve health, provide more effective health services and products, and strengthen the health care system" (Straus et al., 2009, p. 165). In the literature, a consistent theme was noted about how nurses have reported that the transfer of research findings into practice is a time-consuming, challenging, and prolonged process (Bjork et al., 2013; Graham et al., 2006; Johnson, Brown, Harniss, & Schomer, 2010).

Not only is the process of knowledge translation complex, accessing current information that is reliable and based on current research (Doran & Sidani, 2007) is difficult for nurses on a regular basis due to client acuity and day-to-day workload issues. Researchers have estimated that 30 to 55% of clients in the United States and Netherlands do not receive healthcare based on scientific evidence (Heyland, Cahill, & Dhaliwal, 2010; Straus et al., 2009; Wallin, 2009). It is proposed that similar estimates might exist in the Canadian context given similar work environment issues and barriers to accessing and using research in practice. The concept behind

knowledge translation not only includes the dissemination of knowledge; it involves the use of knowledge in practice (Heyland et al., 2010; Straus et al.).

Cummings et al. (2011) conducted a systematic review and meta-analysis of 26 studies that studied the effects of knowledge translation interventions involving healthcare providers, clients and their caregivers to improve cancer pain outcomes. Cummings et al. reported that knowledge translation interventions for cancer pain often, but not always, resulted in improved knowledge, skills and attitudes about pain control and improved pain related health. Cummings et al. proposed that educational interventions were most effective when they involved committed multidisciplinary teams of content experts, used pre-constructed educational materials and standardized delivery approaches of the material.

Horeczko, Enriquez, McGrath, Gausche-Hill, and Lewis (2013) reviewed charts of pediatric patients (n=528) who had been triaged through the emergency department to determine the ways in which nurses were applying their knowledge of pediatric assessment in practice by using the Pediatric Assessment Triangle (PAT) evaluation tool. The researchers found that the tool was valid in that nurses, overall, were able to use their knowledge to accurately note level of acuity of patients and pathophysiological issues experienced by children (respiratory, cardiopulmonary status, central nervous system/metabolic status). This study demonstrated how nurses' knowledge of pediatric nursing could be reflected in the application of assessment skills, which were recorded on a comprehensive evaluation tool.

Christensen (2015) offers a case exemplar regarding advance practice nurses' development of 'Patient Group Directions (PGDs)', a form of a medical directive in Australia for treatments to be carried out by nurses. In particular, a team of Outreach nurses developed a PGD about provision of fluid boluses to patients encountered in their outreach practice without the

need for individuals to seek a prescription first. Outreach team nurses who applied the use of PGDs to practice believed such a mechanism offered timely care to individuals in the community in order for those persons to be able to avoid hospitalization for more acute health issues exacerbated by a decrease in fluid volume. In addition, nurses were open to being involved in interprofessional teams to develop additional PGDs to promote effective and individualized care.

Upon reviewing the literature, no research was found pertaining to how knowledge was applied to practice following an educational session specific to delirium or the care of the delirious client. Given the nature of negative outcomes associated with delirium, it is prudent to conduct research into how education can advance knowledge and confidence of health professionals, and also to learn about how that knowledge can be translated into practice. Such insights can support the development of ongoing educational sessions in multiple acute care settings, as an important step in the knowledge translation process.

Statement of Hypotheses and Research Question

Based on the preceding review of literature, and Bandura's (1977, 1986) Theory of Self-Efficacy, the following hypotheses were tested.

Hypotheses

1. Nurses will have a higher level of knowledge about the care of clients as it relates to the assessment, screening, and management of clients at risk of developing delirium and for clients experiencing acute delirium, after participating in an education session, than they did prior to the educational session.
2. Nurses will have a higher level of self-efficacy for assessment, screening, and management of clients at risk of developing delirium and for clients experiencing acute delirium after participating in an education session, than they did prior to the education session.

Research Question

When conducting the literature search, no known evidence was found pertaining to nurses' experience of applying knowledge gained from clinical education specific to delirium or the care of the delirious client to practice. Therefore, this study proposed to address the following research question: What are nurses' experiences of caring for clients in hospital who are at risk for or those experiencing delirium, after they (nurses) have participated in an education session about delirium?

Methods

A mixed-methods design was utilized in this study. In particular, an explanatory design (Creswell, 2009; Polit & Beck, 2012) was employed by the researcher, collecting quantitative and qualitative data sequentially. Following the explanatory design process (Creswell; Polit & Beck) both the quantitative and qualitative perspectives are collected and analyzed separately with findings from both methods addressing the overall purpose of the study.

For the quantitative portion of the study, participants completed instruments to assess knowledge and self-efficacy prior to and immediately after the education session (Appendix A). Objectives of the education session included reviewing risks, signs, symptoms, standardized screening tools, and management strategies for clients at risk for or experiencing delirium in a hospital setting. Descriptive statistics from these instruments were analyzed using the Statistical Package for Social Sciences (SPSS) Version 22 software (IBM, 2013). Pre and post-instrument score comparisons were made using paired t-tests.

For the qualitative study, a descriptive phenomenological perspective, as proposed by Sandelowski (2000; 2010), was used to explore nurses' experiences of applying knowledge from the education session to the practice setting. Sandelowski (2010) discusses the value of

qualitative descriptive studies being, not only in the knowledge that they can produce, but also as a medium for presenting and discussing research methods. Through descriptive phenomenological research, the goal of the researcher is to "enter another's world and discover practical wisdom, possibilities and understandings found there" (Polit & Beck, 2012, p. 496). This perspective was used to gain an understanding of the ways in which nurses ascribe caring for clients at risk for and those clients experiencing acute delirium after being involved in the education session. Descriptive content analysis was conducted with seven nurses. Interview data was transcribed to develop categories and themes related to nurses' experience of knowledge translation into practice.

Setting and Sampling Strategy

The researchers identified the geographical location of Southwestern Ontario in which to conduct the education sessions for this study. The selected acute care hospital sites are part of the Local Health Integration Network (LHIN). According to Cohen (1988), in order to attain a power of 0.8 and an alpha of 0.05, a sample size of N=72 would be required for this study. Also, the G-Power online calculator was used to compute the sample size required for quantitative segment of the study. A medium effect size (0.6), an error of probability of (α=0.05), a power of 0.80, and selection of the one-tailed test option were elements used in the computation, which resulted in a recommendation of a sample size of 72 participants (Appendix B).

In order to achieve the recommended overall sample size of 72 participants for the pre-post instrument completion, two acute care hospitals in the LHIN were included in the study. The first facility has 506 beds and the second has 372 beds. Between the two facilities there were 50,473 admissions in 2013 to 2014. A total of six education sessions were held; four sessions at the first facility and two at the second facility.

Initial recruitment of participants was carried out through direct contact with all surgical and cardiac unit coordinators and educators at the two participating acute care facilities. To gain access to all eligible RNs at the facilities involved in point-of-care-nursing practice the primary researcher contacted unit coordinators, and educators of all surgical and cardiac units within the two facilities. The study information was forwarded via email by unit coordinators and educators to nursing staff.

All eligible RNs at the acute care facilities involved in point of-care-nursing practice were invited to volunteer to participate in the education sessions, regardless of the number of years of experience, education completed to obtain license, age, or gender. Eligibility criteria included participants who were able to commit to the time required to be involved in the pre-test, education session, and post-test, and be willing to participate in the follow-up interview process. Participants needed to speak and understand English. Students participating in clinical placements as part of their educational experience were excluded from the study.

Each of the fifty-six participants from medical, surgical and cardiac units took part in one of the education sessions and completed the pre and post-test instruments during the session. The education sessions were held repeatedly, allowing participants to attend one session at their convenience. The follow-up interviews took place within one month after being involved in the education session, providing the participants opportunity to care for clients at risk or experiencing delirium in the hospital setting. Seven of the 56 participants who participated in the education session took part in the follow-up interview portion of the study.

Instruments

Two instruments designed by the primary researcher were utilized for the quantitative methods part of the study: the *Knowledge Instrument to Care for a Client at Risk for Delirium*

and of the Acutely Delirious Client (Appendix C, D) and the *Self-Efficacy Instrument to Care for a Client at Risk for Delirium and of the Acutely Delirious Client Instrument* (Appendix E, F). Participants completed both instruments prior to and immediately after the education session.

The *Pre-Test and Post-Test Knowledge Instruments to Care for a Client at Risk for Delirium and of the Acutely Delirious Client* both consist of ten items and take approximately five minutes each to complete. Participants were asked to respond by selecting an option from A to E to questions related to their knowledge of the assessment, screening and management of those clients at risk for delirium and of those experiencing acute delirium. Content and development of questions was based on current literature and the RNAO BPG about delirium, with specific content as to risk factors, methods of screening and management of delirium in the hospitalized client. This information was important for nurses to know in order that they may develop and perform nursing interventions to improve the outcomes of client care.

Content validity of the pre- and post-knowledge and pre- and post-self-efficacy instruments used in the study was assessed by ten RNs with varying degrees of education and specialties using a Likert type scale ranging from 0 to 4, where 0 represented *not relevant* and 4 represented *highly relevant*. The instruments were also evaluated by the same RNs for (a) clarity of directions for completion of the instrument, (b) clarity of the items, and (c) ease of response to each question. The RNs reported that the instrument structure and content aligned with developing knowledge about caring for the acutely delirious or those at risk for delirium, so that all participants involved may have an understanding of the potential consequences of the illness and appropriate measures to manage the outcomes of the clients. Based on the RNs' feedback, the full title of a screening tool was added to the instrument, with the acronym in brackets beside the full title for clarity.

The *Pre-Test and Post-Test Self-Efficacy Instruments to Care for a Client at Risk for Delirium and of the Acutely Delirious Client* both contain eight items and take approximately five minutes to complete. Participants were asked to indicate how confident they were that they believed they could perform the behaviours noted in the instrument items. Participants were requested to note their perceptions of level of confidence on a Likert type 10-point scale ranging from 0 to 100, where 0 represented *not confident* and 100 represented *very confident*.

The same ten RNs who had reviewed the pre and post-test knowledge instruments noted above assessed content validity of the self-efficacy instruments. The instruments were evaluated for clarity of directions, ease of providing answers to complete the instrument, clarity of the items, and the ease of response to each item. Based on feedback from reviewers, no alterations were made to the pre- and post-self-efficacy instruments.

Data Collection Methods

Upon receipt of ethics approval from the researchers' academic setting to conduct this study (Appendix G), approval from two practice settings recruited for the study was sought and received. An email containing the information about the study was sent to unit coordinators, and educators of all surgical and cardiac units within the two facilities. This email included the researchers' contact information and a request to reply via email if interested. Additionally, recruitment posters (Appendix H) were distributed throughout the two facilities by the researcher. At each education session, a package was distributed to attendees containing the Letter of Information, (Appendix I) the Consent Form (Appendix J), and the Demographic Questionnaire (Appendix K).

Participants were given the opportunity to attend a session of their choice. Information was provided to potential participants as they expressed interest as to potential dates. The

sessions were held every Friday for a total of six weeks. The pre-test knowledge instrument and pre-test self-efficacy instrument were distributed by the primary researcher for completion by participants immediately before the education session. The post-test knowledge instrument and post-test self-efficacy instrument were distributed by the primary researcher for participant's completion immediately following the education session. A total of six education sessions were held; four sessions at the first facility and two at the second facility.

Fifty-six participants took part in the education sessions and completed the pre- and post-test instruments. Each education session was held as a face-to-face 60-minute 'lunch and learn' session lead by the primary researcher. A pre-prepared slide presentation and the same case study were utilized in each session to ensure consistency of presented material. Given the time for participants to complete the pre- and post-instruments, the educational session itself was approximately 30 minutes of the overall 60 minutes.

In the qualitative arm of the research study, seven of the 56 nurses who participated in the education session, volunteered to participate in the individual audio-recorded interviews between three to four weeks following the education session. Approximately one week after an education session was conducted; participants who consented to involvement in instrument completion and the interview portion of the study were contacted by email (Appendix L) to arrange for an individual interview to take place between three to four weeks after the educational session. This span of time was chosen to enable participants to have an opportunity to apply the new knowledge in practice.

A reminder email (Appendix M) was sent to participants one week after the original email message. The interviews took place in a location and at a time preferable to the participant. Interview options include three different methods: three chose face-to-face, three

chose telephone, and one chose Skype contact. The interviews were conducted by the primary researcher using a semi-structured interview guide (Appendix N), were digitally audio-recorded, and the information was then transcribed verbatim by a transcriptionist for purposes of qualitative analysis.

Data Analysis

The SPSS Version 22 software (IBM, 2013) was used for statistical analysis of the quantitative data for this study. Demographic variables of gender, age, years worked as an RN, years worked on the unit and educational background were included in the analysis. Descriptive statistics are expressed as means, frequencies and percentages. Pre- and post-test comparisons were made using two tailed t-tests to determine if there was a statistical difference between the pre and post-test results.

Results

Quantitative Study

Demographics

A total of 56 participants, at two Southwestern Ontario acute care facilities were involved in the education session portion of the study. The sample included 47 females and 7 males; two participants did not provide an answer when filling out the gender related question on the demographic form.

The participants who attended the education session ranged in age from under 25 years of age to 56 years of age or older; twenty-three participants (43%) reported to be within the range of 41 to 55 years of age. Eighteen (33%) of the participants reported to have worked for 2 to 5 years as an RN and fourteen (26%) reported to have worked for greater than 25 years; fifteen (28%) of the participants reported to have worked on their current unit for 2 to 5 years. Thirty-

three (61%) of the 56 participants reported having a Baccalaureate of Science in Nursing (BScN). The detail of participants' demographic information is noted in Table 1.

Table 1

Demographic characteristics of the sample (N=56)

Characteristics		Frequency	Percentage %
Gender	Male	7	12
	Female	47	84
	No response	2	4
Age	under 25 years of age	9	16
	26 to 40 years of age	16	30
	41 to 55 years of age	23	43
	56 years of age or older	6	11
Years worked as a RN	less than 1 year	1	2
	2 to 5 years	18	33
	6 to 10 years	8	15
	11 to 20 years	8	15
	21 to 25 years	5	9
	More than 25 years	14	26
Years worked on the current unit	less than 1 year	13	24
	2 to 5 years	15	28
	6 to 10 years	13	24
	11 to 20 years	7	13
	21 to 25 years	3	5
	More than 25 years	3	5
Educational background	Nursing Diploma	20	37
	Bachelor of Science in Nursing	33	61
	Master of Nursing	1	2

Hypothesis One

Results supported hypothesis one in that nurses had a higher level of knowledge about the care of delirious clients as it relates to the assessment, screening and management, after participating in the education session. Results of a paired t-test, using the pre- and post-educational session knowledge instrument data, indicated that the overall mean score for 56 participants on the post-test knowledge instrument (M=6.95, SD=1.56) was significantly greater ($p \leq 0.000$) than the overall mean score of the pre-test knowledge instrument (M=3.29, SD=1.52). These results indicate that a small, positive correlation exists between these two variables (r=.29, $p \leq .028$) suggesting that those participants who scored high on the pre-test instrument tended to score higher on the post-test instrument. Table 2 exhibits the change in scores following the education session.

Table 2

Frequency and Valid Percentage (%) of Pre and Post Knowledge Correct Responses

	Response	Frequency (%)
Question One	Pre	13 (23.2)
	Post	26 (47.3)
Question Two	Pre	50 (89.3)
	Post	52 (94.5)
Question Three	Pre	44 (78.6)
	Post	36 (65.5)
Question Four	Pre	7 (12.5)
	Post	38 (69.1)

Question Five	Pre	9 (16.1)
	Post	51 (92.1)
Question Six	Pre	8 (14.3)
	Post	47 (85.5)
Question Seven	Pre	25 (44.6)
	Post	43 (78.2)
Question Eight	Pre	14 (25.0)
	Post	35 (63.6)
Question Nine	Pre	12 (21.4)
	Post	33 (60.0)
Question Ten	Pre	3 (5.4)
	Post	21 (38.2)

Hypothesis Two

Hypothesis two was supported by the study results. Nurses had higher ratings of self-efficacy for assessment, screening and management of the clients at risk of developing delirium and for clients experiencing acute delirium after participating in the education session. The paired t-test indicated that for the 56 participants who completed the instruments, the overall mean score of the post-self-efficacy instrument (M=7.73, SD=.88) was significantly greater ($p \leq .001$) than the overall mean pre-self-efficacy score (M=5.52, SD=1.73). A moderate, positive correlation was found between pre- and post-test scores (r=.33, $p \leq .025$), suggesting that participants that scored high on the pre-test instrument tended to score higher on the post-test

instrument. For each of the eight items responded to by the participants in the pre and post-test self-efficacy instruments, means and standard deviations are displayed in Table 3, illustrating the overall increase in post-test scores.

Table 3

Mean and Standard Deviations of Pre and Post Self-Efficacy Instruments

Item		Mean (*N*)	Standard Deviation (*SD*)
One	Pre	5.49	1.78
	Post	7.92	.94
Two	Pre	5.49	1.96
	Post	7.77	1.00
Three	Pre	5.81	2.11
	Post	7.73	.97
Four	Pre	4.42	2.39
	Post	7.41	1.62
Five	Pre	4.63	2.43
	Post	7.42	1.55
Six	Pre	5.51	2.09
	Post	7.66	1.19
Seven	Pre	5.69	2.16
	Post	7.62	1.14
Eight	Pre	6.79	2.69
	Post	8.18	1.06

The pre and post-self-efficacy instruments, containing eight items each, were assessed for internal consistency with the participants' (n=56) data. Reliability coefficients typically range between 0.00 and 1.00 (Polit & Beck, 2012), therefore the higher the coefficient, the more dependable the measure of internal consistency. Polit and Beck suggest that alpha reliability coefficients greater than 0.8 are traditionally considered as a good reflection of internal consistency.

The pre-self-efficacy instrument, Cronbach alpha reliability coefficient was 0.94, which indicates strong internal consistency among the pre-self-efficacy instrument items. The post-self-efficacy instrument, Cronbach alpha reliability coefficient resulted in an alpha of 0.90, which can be reported as a strong internal consistency among the post-self-efficacy instrument items.

Qualitative Study

Research Question

The study explored nurses' experiences of applying knowledge about caring for the client at risk for delirium and for the client experiencing acute delirium to practice, after participating in an education session. Interviews (n=7) were audio-recorded and then transcribed verbatim. The audio-recordings were first listened to while checking what was heard against the transcribed information to ensure consistency. Content analysis was conducted and initial categories were noted as empathy, knowledge acquisition, competence, leadership, and confidence. Themes were developed based on the categories, which served to highlight the essence of the participants' experience. Themes that emerged from analysis of the interview data were: *enhancing emotional intelligence, strengthening clinical judgment to enhance quality of care, and increasing competency of family care.*

Enhancing Emotional Intelligence

After involvement in the educational session, participants (nurses) became more consciously aware of and in control of themselves in practice. The nurses who participated in the education session were found to be engaging in self-management behaviours, expressing their emotions and handling their relationships with clients empathetically, when working with clients at risk for or who were experiencing delirium.

The participants, in recognizing and being more aware of their own feelings and emotions as a result of the educational sessions, also expressed a sense of competence in caring for their clients:

…Well I am not as apprehensive, I guess, when I hear that it was kind of a sleepless night for them and, and they look a little bit suspicious around the room and, I used to be quite apprehensive approaching that patient when I hear in report about that's what they kind of look like in the morning and just to be calm about it and, I guess my calmness in, you know, that feeling goes to the patient as well so that they're a little bit more, I guess cooperative … (Participant1).

After being involved in the education session, participants' shared that they were able to be more empathetic towards delirious clients. The participants discussed the ability to regulate emotions more effectively when providing care to those at risk of delirium. Enhanced emotional intelligence as a result of knowledge gained from the education session, emanates through the following participant's comments: *…It's easy to be more empathetic of them and reassuring to the families because I'm sure they have no idea what's going on and your approach is kind of gentle with them, you know, because, they're not thinking right, and not trying to, in any way, you know, escalate that behavior* (Participant 3).

Portraying a sense of awareness of the client's emotions, an aspect of emotional intelligence, resonated through the participants' interviews: …*It just made me think of the client more as a whole person keeping in mind the amount of sleep they've had or not had in the last couple of days … anything like that in being out of their element just to keep all of those things in mind, and trying to ease them into, transition to like the hospital setting and who we are just to continue to reinforce where they are and that they'll be safe* (Participant 1).

In keeping with the theme of enhanced emotional intelligence, the concepts of being aware of another's feelings and empathy, continues to be evident throughout the participants' experiences: …*I was able to look at the whole picture of my client holistically and I was able to recognize in a timelier manner what was going on* (Participant 6). …*I am more aware of what the patient is going through, being more patient… I know what to expect and go from there…I guess, empathize with the patient more. Well it makes me more of a competent nurse, I think, more knowledgeable* (Participant 2).

The interviews provided insight into meaningful experiences of interactions with clients and their families, which suggested use of elements underpinning emotional intelligence in the care of the client at risk for delirium or for those experiencing acutely delirium.

Strengthening Clinical Judgment to Enhance Quality of Care

Increasing clinical knowledge and applying that knowledge to practice enables nurses to provide quality care. Clinical judgement is the interpretation or inference of a clients health issues and the decision, on the part of the nurse, to take action or modify as appropriate dependent on the clients response (Tanner, 2006). The educational session provided to those who participated in this study, is a step in the process of supporting nurses' abilities to translate knowledge into practice. In addition, the meaningful insights emanating from participants'

interview data supports the notion that education sessions can positively influence nurses' clinical practice and contribute to their competency (knowledge) in caring for the client at risk for and those clients experiencing acute delirium in a hospital setting.

Participants' application of knowledge to practice, as a result of being involved in the education session was shared in the following ways by participants: … *So having those tools, knowing that they actually exist has definitely improved my way of assessing the patients. ... with regards to management, because as your presentation talked about there's the restless kind of delirium and then there's the somnolence, then I'm paying more attention on the, more somnolent ones because usually you think, we think, oh, it's just the narcotics or they're just really tired so then I'm trying to assess more of those patients to see if it, it could be delirium as well, whereas before I didn't really attribute the somnolence stage of delirium to be actually delirium. I treated it something else so now I'm looking for those in my practice right now. ... I've learned, and I, I'm trying to apply what I've learned ... about delirium* (Participant 5).

An outcome of the knowledge applied from the education session was that nurses believed they could more readily recognize, diagnose, and provide treatment in a timelier manner: … *So what I would say is that I was not aware of the different analyzing tools that were present to me ... I had not used them in my previous practice. And, they were very informative to me and my abilities to assess my patient in a different way when I would have them experience acute delirium, which happens often on our floor… I was able to recognize in a more timely manner what was going on and look at the, all my information and be able to diagnose my client quicker and get treatment faster and be able to help in the treatment plan* (Participant 6).

Increasing Competency of Family Care

Leadership is at the core of nursing. In an article pertaining to leadership and responsive care, McKenzie and Manley (2011) stated that nurses display leadership by being person-centred, through listening, interpreting and confirming understanding. Leadership also involves working with clients, colleagues, families and caregivers, along with evaluating and reflecting on the effectiveness of those interactions (McKenzie & Manley).

Characteristics associated with leadership include: knowledge, judgement, emotional intelligence, independence, adaptability, self-confidence, social participation, and interpersonal skills (Marquis & Huston, 2009). The acquisition of knowledge (competence) contributes to becoming a leader and enhancing an individual's self-efficacy (confidence), positively enhancing nursing performance (Lee & Ko, 2010).

The experiences shared by the participants following the education session pertaining to the care of the client at risk for delirium and for those experiencing delirium in a hospital setting, resulted in participants' perceptions of an increase in leadership competency and positively influenced their role as nurses in clinical practice: *... it makes me a better teacher for sure, because we're always doing health teaching, so that's, I'm able to provide more information to the families and I just feel better, better able to deal with these situations when they come up* (Participant 4).

The meaningful involvement shared by participants attributes newly acquired knowledge from the education session to positively affecting the professional relationship with clients and families:…*I am able to make a more informed decision and also to provide explanation for the family and sound more knowledgeable, ... I was more knowledgeable in my explanation for the family so that they would feel better* (Participant 6).

Further evidence that participating in clinical education contributes to nurses' competency (knowledge) and self-efficacy (confidence), resulting in positive influences in the nurses' clinical practice, is discussed during the interviews. The participants mention an ability to teach others with the knowledge and skills acquired from education session: *…Well for future, like, future scenarios I can now like teach other people, like students, I can tell them what to expect…What to look for… and what to do* (Participant 2).

Discussion

The purpose of this study was to examine the effects of an education session concerning the care of clients at risk of experiencing or having delirium on nurses' knowledge and self-efficacy. Additionally, the study purpose was to explore nurses' experiences of applying knowledge from the education session to the practice setting.

There are no known studies that have assessed nurses' knowledge and self-efficacy prior to and immediately after involvement in an education session targeted at providing care for the delirious client in a hospital setting. Results of this study indicate that overall, regardless of the years of experience, education, age, or gender, participants demonstrated an increased level of knowledge and self-efficacy pertaining to the care of clients at risk for or experiencing delirium as it relates to assessment, screening and management.

In addition, this is the first known study to explore the ways in which nurses experienced translating knowledge into practice after involvement in such an education session. The qualitative findings highlighted participants' meaningful insights including categories of *empathy, knowledge acquisition, competence, leadership,* and *confidence.* These categories enabled themes of *enhancing emotional intelligence, strengthening clinical judgment to enhance*

quality of care, and *increasing competency of family care* to be identified. These themes served to capture the essence of participants' participation.

Both hypotheses were supported by the quantitative data. Overall, nurses gained knowledge in the recognition and management of delirium. Consistent with previous research (McCrow et al., 2014; Tabet et al., 2005; Wand et al., 2014) this study demonstrated that education had a positive influence on the knowledge of nurses with respect to the recognition and management of the delirious client population.

The significant change seen in the pre-test knowledge instrument scores (M=3.29, SD=1.52) to the overall post-test mean score (M=6.95, SD=1.56) in the current study can be compared to that of the increase in the mean score of correct delirium knowledge questions following participation in web-based delirium intervention in the McCrow et al. study. This finding provides support that education can increase nurses' knowledge, and is important to continue throughout pre-graduate education and post-graduate practice.

Tabet et al. (2005) and Wand et al. (2014) studied the effects of education on the incidence of delirium. Findings from these studies provided support that education provided to nurses about the recognition of delirium influences incidence of delirium. Results from these studies differ from the current study, in that, incidences of delirium were also analyzed using data collected from client populations. Both Tabet et al. and Wand et al. compared data collected that measured nurses' perception of delirium in client's pre- and post-intervention. Results showed a decrease in perceived incidences of delirium following the nurses receiving education pertaining to delirium recognition and management. Results suggest that by providing education to nurses it is believed recognition and care of the delirious clients by nurses will be positively influenced as a result of the education.

Second, as a result of participating in the clinical education session, nurses had higher ratings of self-efficacy for assessment, screening and management of the clients at risk of developing delirium and for clients experiencing acute delirium after participating in the education session. This study result suggests that nurses who think they can assess for and manage delirious clients, are more likely to engage in future behaviours that could decrease exacerbations or incidences of delirium.

Feelings of increased self-efficacy of caring for the client with or at risk of experiencing delirium were made evident through the shared experiences of the participants in the interviews. Similarly, findings from Babenko-Mould's et al. (2004) study reported increased levels of self-efficacy for professional practice competencies as a result of the influence of computer conferencing support and peer connectivity.

Application of knowledge acquired from the education session material to practice enabled nurses to experience firsthand the effects of the translation of knowledge on ones' emotional intelligence. Participants reported an increased awareness of their own feelings and emotions as a result of the education sessions. The concept of increased awareness of ones own beliefs was evident in the qualitative data provided in the study Pike and O'Donnell (2010). A participant shared experiences of high levels of self-efficacy in relation to dealing with a cardiac arrest following a clinical simulation session. The participant then described being aware of a change in efficacy that she could perform once presented with the real-life situation.

Nurses reported having the ability to have a keener sense of awareness of the clients' emotions. Experience shared by one participant, provided evidence that as a result of being involved in the education session provided knowledge that enabled the nurse to perceive herself as being more competent in the area of delirium client care practices. The participant stated that,

knowing there are tools to use to assess clients and understanding how to use them "has definitely improved my way of assessing patients" (Participant 5).

Previous studies examining delirium education for nurses, such as a quality improvement project by Solberg, Plummer, May, and Mion (2013), presented similar results as those found in this study. Solberg et al. (2013) evaluated a quality improvement program where nurses were educated to use a structured bedside assessment tool for delirium in practice. The authors found that the quality improvement program resulted in nurses' implementation and adoption of a bedside delirium tool (Solberg et al.), which assisted them with early recognition and treatment.

Finally, participants attributed the newly acquired knowledge received from participating in the education session as positively affecting relationships with clients and their families. The current study shared participants' experiences of strengthened empathy, which allowed participants to provide reassurance to clients and families. As a result of the knowledge translated through the education session, feelings of increased empathy toward the client and the family allowed participants the ability to provide quality care. Participants described feelings of empathy towards the client as a result of the knowledge provided in the education session. The distress that families live through during an elderly hospitalized client's delirious episode requires supportive information to assist in the understanding of delirium, the care and support needs (Toye, Matthews, Hill, & Sean, 2014).

Implications and Recommendations

Implications

Nurses were found to have improved their knowledge after attending an education session pertaining to the care of delirious clients and those at risk of delirium. The consequential increased understanding of how to assess clients at risk for or manage the treatment of those

experiencing delirium may allow for improved awareness and enhance nurses' abilities to prevent exacerbation of delirium. The positive effect that educational sessions can have on nurses' knowledge and confidence, it is important to consider investing in continuing education for health professionals about delirium, given the increasing numbers of elderly and the aging population who might increasingly encounter the need for hospitalization. As a result of increased knowledge, nurses may be able to provide more comprehensive screening, and seek treatment modalities earlier, preventing further decline in clients' overall health status. Providing a more timely diagnosis and early treatment has the potential to decrease clients' length of stay, potential risk of institutionalization following discharge, loss of function, and decrease the use of restraint.

Nurses' overall reported higher ratings of self-efficacy, as a result of participating in the education session, suggests that those who feel they can recognize and care for clients with delirium will actually engage in such actions in efforts to decrease the overall incidence of delirium. Such beliefs of self-efficacy for caring for the delirious client may enable nurses to develop plans of care to effectively promote positive client outcomes.

Further, increased self-efficacy for caring for this population enables the nurse to feel more able to manage clients who are experiencing delirium, while providing the support families need in such a stressful time of their lives. Given that delirium often distresses the client, family and the nurse (Adams et al., 2015), increased self-efficacy for caring for clients with delirium, as a result of the educational session, enabled nurses to develop the aptitude to offer emotional support clients need. Nurses displayed the use of emotional intelligence, clinical judgment and competency required to support the client and family.

Recommendations

Delirium education is recommended to strengthen nurses' knowledge and self-efficacy of caring for clients with delirium. Education programs should be provided by organizations as a form of continuous professional development for nurses and should be aligned with evidenced-based practices. In this way, education being delivered can be consistent, and effective management of these clients will become a standard practice of care. A recommendation to increase awareness of delirium would involve collaboration between nursing academic and acute care settings. Students and nurses already working with clients in hospitals could be educated as to how to screen for delirium using a standardized screening tool. Implementation of facility-wide mandatory screening may decrease the negative consequences associated with delirium. A potential increase in recognition prior to exacerbation can provide the client, family, nurse, and other interdisciplinary team members with potentially less negative outcomes.

Limitations

The results of the study are limited to the specific context of the two facilities involved. The size of the sample was smaller than anticipated, possibly due to the timing of education sessions coinciding with implementation of corporate change to order entry and computer system upgrades. Replication of this study would strengthen standardization of the researcher-designed instruments.

Conclusion

Following the education session concerning the recognition and management of delirious hospitalized clients, nurses' knowledge, and self-efficacy for the care of those clients with or at risk of delirium was found to have increased. The translation of knowledge obtained through the

education session allowed nurses to experience beliefs of increased self-efficacy for the care of delirious clients.

Delirium is one of the most common conditions found in the acute clinical setting, yet it remains one of the least recognized and understood conditions. Studies, such as this, demonstrate the influence CPD programs in nursing have on client health care outcomes. Assessing nurses' knowledge and self-efficacy of caring for clients experiencing delirium and those at risk of developing delirium in a hospital setting prior to and immediately after taking part in a clinical education session provided findings that support a need for ongoing nursing education.

Exploring nurses' experiences of applying knowledge from the education session to the practice setting allowed the researcher to understand the influence education has on nurses' beliefs of self-efficacy. Therefore, there is value in delivering CPD programs to nurses to increase their knowledge and self-efficacy for caring for delirious clients, translating to positive outcomes for clients and their families.

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CHAPTER THREE

Implications, Recommendations and Conclusion

Summary of Key Findings

Delirium is an acute, complex, serious medical condition that is prevalent in elderly hospitalized clients and described as transient and reversible (Balasundaram & Holmes, 2007; Burns, Gallagley, & Byrne, 2004; Flinn, Diehl, Seyfried, & Malani 2009; Fong, Tulebaev, & Inouye, 2009; Kaplan & Palmer, 2003; McCrow, Sullivan, & Beattie, 2014; Mistarz, Eliott, Whitfield, & Ernest, 2011; Rice et al., 2011). With frequent and repetitive contact during their care of clients, nurses offer a valuable role in observing acute changes and fluctuations in behaviour (Schuurmans, Duursma, & Shortridge-Baggett, 2001). As such, nurses play a critical role in client care practices in relation to delirium. Therefore, a mixed-methods approach was used to a) examine data related to the knowledge and self-efficacy of caring for clients at risk for delirium, or for those clients experiencing delirium prior to and immediately after an education session, and b) explore nurses' experiences of applying knowledge from an educational session about delirium assessment and management to practice. The associated risks, signs, and symptoms of delirium were outlined during the education session, as well as screening tools and management strategies available.

Bandura's (1977, 1986) theory of self-efficacy was used as an overarching theoretical framework for the quantitative portion of the study. As noted by Bandura (1977), cognitive processes can have an effect on which external experience is looked at, how the experience will be discerned and if there is any permanent effect as a result. This was evident in the quantitative findings as nurses demonstrated an increased level of knowledge and self-efficacy pertaining to

the care of clients at risk for or experiencing delirium as it relates to assessment, screening and management.

Translation of knowledge to practice was evident in this study's findings. Nurses shared beliefs of increased awareness of their own thoughts and feelings along with an increased ability to have a deeper sense of understanding of the clients' emotions as a result of the education sessions. As well, participants shared experiences of strengthened empathy, as a result of participating the education session. These experiences emerged through the themes of, *enhancing emotional intelligence, strengthening clinical judgment to enhance quality of care, and increasing competency of family care.*

Implications and Recommendations

Implications and Recommendations for Nursing Education and Practice

Findings from this study reflect the need to consider implications for education within academic and practice settings. In the academic setting, additions to curriculum would be beneficial to support transfer of knowledge about delirium into practice by facilitating students' learning through evidence-based information. Further, facilitating the knowledge transfer process among nurses through continuing professional development (CPD) educational sessions about delirium would enhance client health outcomes.

In order to foster an environment and context receptive toward knowledge translation of delirium content, nursing curricula should be developed to include frameworks and policies to provide standardized care (Kristjansdottir, 2012; Solberg, Plummer, May, & Mion, 2013; Sumpter & Carthon, 2011). Translating knowledge to practice requires a collaborative effort on the part of many stakeholders (Bjork et al., 2013). Further exploration as how best to implement curriculum and practice changes involves nursing leaders, such as clinical educators of nursing

programs, and acute care facilities, advanced practice nurses, and professional nurses practicing within the acute care facility.

Participants (nurses) imparted their experiences of translating the knowledge from the education session to practice. The study findings revealed higher levels of self-efficacy of caring for clients as a result of the education, providing evidence of knowledge translation. Moving knowledge into practice creates a supportive clinical setting in which enhancement of nurses' use of research and current knowledge in practice evolves (Bjork et al., 2013; Solberg et al., 2013). Implementing mentorship programs where peer-to-peer education can take place about delirium and related delirium screening tools could assist with early recognition and positive client outcomes.

Findings from this study illustrated that nurses' knowledge about the care of those clients with or at risk for delirium increased as a result of education. These study results provides a foundation to elevate awareness that a change is vital when discussing the need for CPD programs for nurses about delirium. The rising population of elderly magnifies the necessity that nurses must understand and feel confident about how to provide safe and effective care to clients at risk or those experiencing delirium.

Knowledge and self-efficacy was found to increase as a result of education to nurses of screening for delirium. Strengthening the scientific and theoretical foundations of nursing education can provide nursing students and nurses within the clinical areas the ability to develop emotional intelligence and self-efficacy of caring for clients with delirium and those at risk for developing delirium.

Additionally, as a result of participating in the education session, nurses reported an overall higher rating of self-efficacy of caring for clients with or at risk for delirium, suggesting

that those who believe they can assess for and manage clients may have an effect on the overall incidences of delirium. Improved self-efficacy for caring for these clients can enable nurses to feel more able to provide well-timed diagnoses and early treatment regimes. Given that delirium often distresses the client, family, and nurse (Adams et al., 2015), increased self-efficacy, as a result of the educational session, can allow nurses the aptitude to offer emotional support, utilizing emotional intelligence, clinical judgment and leadership competency needed to support the client and family.

Recommendations for Future Research

Nursing education, both pre-graduate and CPD programs, are essential when discussing the care of clients with delirium. Education has been shown, with this study, to strengthen nurses' knowledge and self-efficacy of caring for this high-risk population. Recommendations for future studies could involve developing standards of care for clients at risk or experiencing delirium, collaboration of academic faculties and hospitals in instituting the use of a standardized screening tool, and examining the longitudinal efficacy of educational interventions on clinicians' knowledge.

It is also important to develop standards of care for caring for the delirious client or those that are at risk, which would involve the use of a standardized and validated screening tool, such as that of Confusion Assessment Method (CAM) (Inouye et al., 1990). A recommendation would be to establish pre-graduate and CPD programs to educate student nurses and those practicing in hospitals as to the use of screening tool, such as that of the CAM screening tool and diagnostic algorithm.

A further recommendation would comprise implementing use of the CAM tool facility-wide to screen all clients. Employing this change may increase recognition and decrease the

incidences of negative outcomes associated with delirium, such as decreasing morbidity, mortality, hospital length of stay, and increased health care costs. Recommended research would involve a multi-centre, longitudinal research study in collaboration with academic faculties to provide support for further development of education programs as the use and importance of screening for delirium.

Conclusion

The study findings provided support toward the use of an education session related to delirium as a mechanism for which to improve knowledge and self-efficacy of caring for clients at risk for or experiencing delirium. Additionally, this study illustrated through the translational of nurses' knowledge, how education affected their practice in strengthening their capacity to care for clients with delirium. Nurses' meaningful experiences provided insights into how knowledge can begin to transform practice. Given the gravity of the costs of delirium to the healthcare system, the client, and the client's family, it is vital that education about delirium is embedded in both the pre-graduate and in-practice setting and appropriately diffused over time to ensure it becomes a standardized part of a nurses' assessment.

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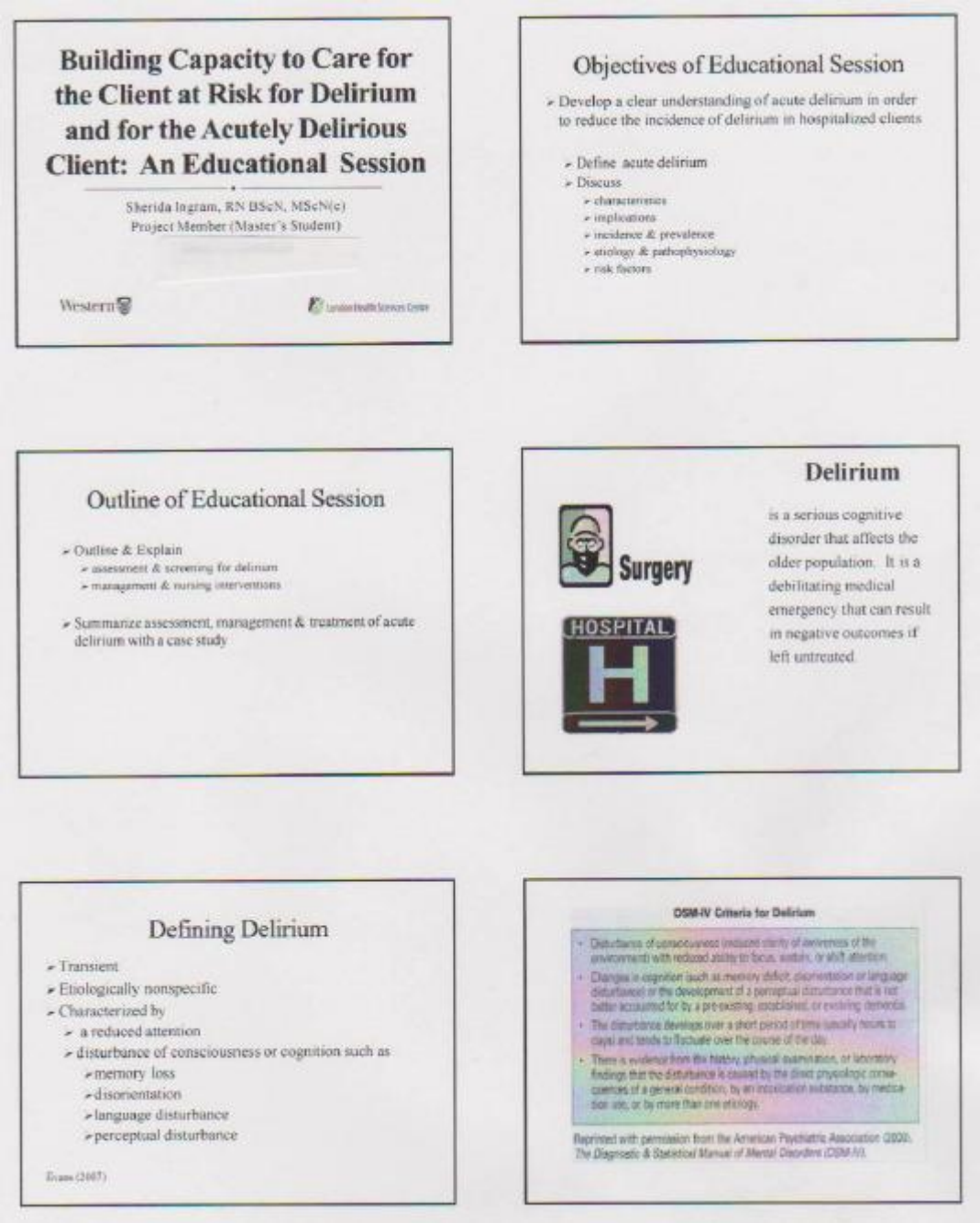
APPENDICES

APPENDIX A: Education Session©



Building Capacity to Care for the Client at Risk for Delirium and for the Acutely Delirious Client: An Educational Session

Sherida Ingram, RN BScN, MScN(c)
Project Member (Master's Student)

Western

Objectives of Educational Session

- Develop a clear understanding of acute delirium in order to reduce the incidence of delirium in hospitalized clients
- Define acute delirium
- Discuss
  - characteristics
  - implications
  - incidence & prevalence
  - etiology & pathophysiology
  - risk factors

Outline of Educational Session

- Outline & Explain
  - assessment & screening for delirium
  - management & nursing interventions
- Summarize assessment, management & treatment of acute delirium with a case study

Delirium

Surgery

HOSPITAL

is a serious cognitive disorder that affects the older population. It is a debilitating medical emergency that can result in negative outcomes if left untreated.

Defining Delirium

- Transient
- Etiologically nonspecific
- Characterized by
  - a reduced attention
  - disturbance of consciousness or cognition such as
    - memory loss
    - disorientation
    - language disturbance
    - perceptual disturbance

Evans (2007)

DSM-IV Criteria for Delirium

- Disturbance of consciousness (reduced clarity of awareness of the environment) with reduced ability to focus, sustain, or shift attention
- Changes in cognition (such as memory deficit, disorientation or language disturbance) or the development of a perceptual disturbance that is not better accounted for by a pre-existing, established, or evolving dementia
- The disturbance develops over a short period of time (usually hours to days) and tends to fluctuate over the course of the day
- There is evidence from the history, physical examination, or laboratory findings that the disturbance is caused by the direct physiologic consequences of a general condition, by an intoxication substance, by medication use, or by more than one etiology

Reprinted with permission from the American Psychiatric Association (2000). *The Diagnostic & Statistical Manual of Mental Disorders (DSM-IV)*.

Characteristics of Delirium

- An acute change in cognition
- Onset varies
- Clinical course is variable
- Can progress to stupor and/or coma, seizures and death if not treated
- Possible for full recovery with early detection and intervention

Implications of Delirium

- Delirium can result in
  - increase morbidity and mortality rates
  - loss of function
  - increase length of stay
  - increased hospital costs
  - increase rates of institutionalization

Common Misunderstandings about Delirium

- Typical delirium presentation is of delirium tremens (i.e. agitated and floridly psychotic behaviour)
- More severe delirium is associated with a greater degree of hyperactivity
- Quiet and well-behaved patients are generally cognitively intact
- Older people are normally forgetful and easily disoriented
- Irritability or vagueness generally reflects underlying personality rather than altered mental state
- Patients are easily offended or upset by simple tests of cognition
- The level of orientation and cognitive function is consistent over the 24-h cycle

There is evidence that delirium is often not detected by staff with as many as 50% of cases going unrecognized.

Balasundaram & Holroyd (2007)

Categories of Delirium

- Delirium is subdivided into three categories

- Hyperactive (agitated)
- Hypoactive (somnolent)
- Mixed

- Because the characteristics of delirium can vary depending on the subtype, it can be difficult to detect without a standardized assessment tool

Categories of Delirium

Categories of Delirium

Hyperactive	Hypoactive
• Sympathetic nervous system overactivity such as verbal or physical aggression, shouting at the bedding, wandering	• Lethargic or somnolent • Withdrawn, exhibit decreased responsiveness to stimuli • Apathy
• Psychomotor hyperactivity	• Psychomotor hypoactivity
• Increased alertness to stimuli	• Clouded inattention, slow speech
• Mood lability: euphoria, anger	• May require strong physical or verbal stimuli for arousal
Mixed	
Signs and symptoms may be evident from both hyperactive and hypoac- tive delirium.	

Incidence & Prevalence

- Studies indicate incidences of delirium as high as
  - 15-60% medical & surgical inpatients
  - affecting more than 2 million elderly clients each year
  - 10-55% in the postoperative population
  - as high as 83% in elderly clients in ICU

[illegible] et al. (2008)

Etiology & Pathophysiology

- Complex neuropsychiatric syndrome reflecting broad disturbance of brain function that includes a wide range of cognitive and non-cognitive
- Multi-factoral
- Many causes are life threatening
- A potential medical emergency

Delirium

Its pathophysiology being associated with many etiologies makes it difficult to detect and diagnose

Risk Factors Associated with Delirium

Non-modifiable/Predisposing

- Advanced age
- Cognitive impairment
  - Dementia, depression
- Sensory deficits
  - Visual, auditory
- Severe underlying illness
- Co-morbid diseases ie renal failure

Modifiable/Precipitating

- Medications
- Metabolic disturbances
- Pain ie post-operative
- Infections ie. uti, post-op wound infections
- Immobilization, physical restraint
- Dehydration, malnutrition
- Iatrogenic ie transfusion
- Type/severity of surgery

Clinical Indicators that can Contribute to Delirium

DELIRIUM (Acronym)

DELIRIUM (Acronym)

- **D**rugs, including any new medications, increased dosages, drug interactions, over-the-counter drugs, alcohol, etc
- **E**lectrolyte disturbances, especially dehydration, and thyroid problems
- **L**ack of drugs, such as when long-term sedatives (including alcohol and sleeping pills) are stopped, or when pain drugs are not being given adequately
- **I**nfection, especially urinary or respiratory tract infection
- **R**educed sensory input, which happens when vision or hearing are poor
- **I**ntracranial (referring to processes within the skull) such as a brain infection, hemorrhage, stroke, or tumor (rare)
- **U**rinary problems or intestinal problems, such as constipation
- **M**yocardial (heart) and lungs, eg heart attack, problems with heart rhythm (arrhythmia), worsening of heart failure or chronic obstructive lung disease

Causes of Delirium

I WATCH DEATH

(Mnemonic)

Figure 1 – Review for Causes of Delirium

Categories of Drugs that Can Cause Delirium

ACUTE CHANGE IN MENTAL STATUS

(Mnemonic)

Managing Delirium

Prevention & Recognition

Prevention

Preventing delirium is the most effective strategy for reducing frequency and complications of disorder.

Literature indicates that as great as 1/3 of cases of delirium are preventable.

Guldred & Bryant (2011)

Managing Delirium

- Managing delirium requires a sound understanding of its cause
  - Diagnostic evaluation
    - history, physical exam, review medications
  - Screening tools are used to screen for risk factors associated with developing delirium
    - Confusion Assessment Method (CAM)

Screening Tools to Measure Delirium

Screening Tools

- No standardized tool specific for assessment of delirium
- Multiple validated tools used by researchers and institutions
- Confusion Assessment Method (CAM) is a useful validated screening instrument based on the American Psychiatric Association's (1994) diagnostic criteria for delirium
- Minimal training in the use of CAM is required

Confusion Assessment Method (CAM)

- Based on the Diagnostic and Statistical Manual of Mental Disorders criteria for delirium
- Allows health care team members without formal psychiatric training, to quickly and accurately identify delirium

Confusion Assessment Method (CAM)

- Allows evaluation of specific observations relevant to each element of delirium
  - acute onset and fluctuating course
  - altered level of consciousness
  - disorganized thinking
  - inattention
- Identified as positive for delirium using the CAM if 3 out of 4 features are present

Confusion Assessment Method (CAM)

Because of its seriousness and reversibility, it is important that nurses caring for at risk clients will be able to readily assess, manage & treat acute delirium.

Early detection and management is likely to reduce the incidence and progression of associated co-morbidities of delirium.

Nursing Interventions

- Identify and minimize risk factors
  - non-modifiable risk factors
  - modifiable risk factors
- Screen clients using a validated tool every shift
  - documenting every shift using ie. CAM tool assists in identifying subtle changes and prevention of delirium exacerbation
    - CAM screening tool allows health care team members without formal psychiatric training, to quickly and accurately identify delirium

Nursing Interventions

- Provide a therapeutic environment
  - Foster orientation
    - frequently reassure and reorient client
    - provide clock/watch, calendar, eye glasses
    - caregiver identification
    - communicate clearly
    - explain all activities
  - Encourage appropriate sensory stimulation
    - provide a quiet room, adequate light
    - perform one task at a time

Tallman et al. (2012)

Nursing Interventions

- Facilitate rest and promote regular sleep patterns
  - relaxation music, massage
  - noise reduction measures
  - avoid awaking client if not necessary
  -
- Foster familiarity
  - encourage family or friends to stay and provide comfort
  - encourage family to bring comforting objects from home environment
  - limit moves within hospital

Tallman et al. (2012)

Nursing Interventions

- Enhance cognitive functioning
  - discuss interests, current events
  - assist in maintain independence and control of environment
  - explain all activities
- Enhance physiological stability
  - adequate nutrition, hydration
  - monitor and treat electrolyte imbalances

Tallman et al. (2012)

Nursing Interventions

- Provide interventions to avoid complications of immobility
  - avoid restraints
  - minimize use of urinary catheters
  - promote bladder and bowel function
  - minimize skin breakdown
  - assist and encourage ambulation or active ROM repeatedly throughout day
  - pulmonary care (chest physiotherapy)

Nursing Interventions

- Administer pharmacological agents when needed
  - minimize use of psychotropic medications
  - manage post operative pain
  - limit use of known medications that contribute to delirium
- Some common high risk medications to avoid include, but are not limited to
  - analgesics (NSAIDS, opioids)
  - anticholinergics (atropine, diphenhydramine)
  - sedative-hypnotics (benzodiazepines)
  - corticosteroids (prednisone, dexamethazone)
  - dopamine agents

Nursing Interventions

- Some common low risk medications to avoid include, but are not limited to
  - cardiovascular agents (antiarrhymics, beta-blockers, digoxin)
  - antimicrobials
  - anticonvulsants
  - gastrointestinal agents (antiemetics, H_2 receptor antagonists)
  - skeletal muscle relaxants (baclofen)

(Shaw, 2007)

Nursing Interventions

- After Care
  - Provide opportunity to discuss the experience and its meaning
  - Assist client and family in understanding the experience
  - Comprehensive discharge planning ie: provide referral to home care services such as psychiatric care, physiotherapy and occupational therapy

Key Points : Acute Delirium

- A serious cognitive disorder that affects the older population
- A debilitating illness that can result in negative outcomes (ie. increased mortality) if left untreated
- An urgent medical condition that needs to be treated quickly to decrease morbidity and mortality rates
- Described by many as multi-factoral

Case Study #1

Mr. Smith, a 74 year old male, is recovering from elective Abdominal Aortic Aneurysm repair. POD#3 he begins to present with acute SOB, periods of drowsiness and inability to follow commands. He has an epidural in place for pain control, an indwelling foley catheter and is receiving IV fluids while NPO.

Vital signs: T 37°, HR 102, BP 86/50, RR 28

Labs: Hgb 76, WBC 15, Na 147, K 3.0, Ck 66, Trop 80

Conclusion

"What is really needed is a change in hospital culture"
(Tabet et al., 2005)

- Delirium is one of the most common conditions found in the acute medical setting, yet it remains one of the least recognized and understood conditions
- Studies have shown that simple inexpensive educational programs significantly decreases the point prevalence of delirium ($P<0.05$)

Tabet et al. (2005)

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APPENDIX B: G Power Calculations

Study: Building Capacity to Care for a Client at Risk for Delirium and for the Acutely Delirious Client: An Educational Session

Principal Investigator: Dr. Yolanda Babenko-Mould, Assistant Professor, Arthur Labatt Family School of Nursing, Western University

Study Project Member: Sherida Ingram, RN, BScN, MScN Student, Arthur Labatt Family School of Nursing, Faculty of Health Sciences, Western University

G-Power Calculations

t tests - Means: Difference between two independent means (two groups)

Analysis:	A priori: Compute required sample size		
Input:	Tail(s)	=	One
	Effect size d	=	0.6
	α err prob	=	0.05
	Power (1-β err prob)	=	0.80
	Allocation ratio N2/N1	=	1
Output:	Noncentrality parameter δ	=	2.5455844
	Critical t	=	1.6669145
	Df	=	70
	Sample size group 1	=	36
	Sample size group 2	=	36
	Total sample size	=	72
	Actual power	=	0.8094855

APPENDIX C: Pre-Test Knowledge Instrument©

Study: Building Capacity to Care for a Client at Risk for Delirium and for the Acutely Delirious Client: An Educational Session

Principal Investigator: Dr. Yolanda Babenko-Mould, Assistant Professor, Arthur Labatt Family School of Nursing, Western University

Study Project Member: Sherida Ingram, RN, BScN, MScN Student, Arthur Labatt Family School of Nursing, Faculty of Health Sciences, Western University

Pre-Test Knowledge Assessment©

This assessment is voluntary and therefore you may refuse to answer any question if you so wish.

1. Which of the following are non-modifiable risk factors associated with acute delirium? Circle all that apply.

    a. cognitive impairment

    b. type and severity of surgery

    c. age

    d. co-morbid disease i.e. renal failure

    e. medication

2. Which of the following statements are true?

    a. The clinical course of a client experiencing acute delirium is 3 days

    b. The clinical course of a client experiencing acute delirium is variable

3. The cause of acute delirium is:

    a. always medication related

    b. often multi-factoral

    c. of unknown etiology

    d. related to dementia

    e. b and c

4. Identify which of the following is a modifiable risk for experiencing acute delirium. Circle all that apply.

    a. post-operative infection (i.e. wound, urinary tract)

    b. post-operative pain

    c. depression and or dementia

    d. sleep disruption

    e. metabolic disturbance

5. What validated screening tool can nurses use to document and assess cognitive function with clients at risk for delirium in the clinical practice setting?

    a. Mini Mental Status Exam (MMSE)

    b. Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)

    c. Confusion Assessment Method (CAM) Diagnostic Algorithm

    d. Memorial Delirium Assessment Scale (MDAS)

6. What validated screening tool can nurses use to document and assess cognitive function with clients experiencing acute delirium in the clinical practice setting?

    a. Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)

    b. Delirium Symptom Interview (DSI)

    c. Mini Mental Status Exam (MMSE)

    d. Confusion Assessment Method (CAM) Diagnostic Algorithm

    e. The Neelon and Champagne (NEECHAM) Confusion Scale

7. What nursing interventions can assist in managing clients at risk for delirium to optimize cognitive, functional and psychosocial well-being of the client? Circle all that apply.

    a. avoid use of restraints

    b. prevention strategies (i.e. monitor intake, avoid catheterization)

c. manage pain

d. maintenance of normal sleep-wake cycle

e. avoid polypharmacy and deliriogenic medications

f. allow family members to be present

8. What nursing interventions can assist in managing clients experiencing acute delirium to optimize the cognitive, functional and psychosocial well-being of the client? Circle all that apply.

    a. use cognitive stimulation

    b. continue to monitor using validated screening tool

    c. mobilize

    d. optimize pulmonary function

    e. follow bowel and bladder protocols to prevent incontinence, constipation

    f. always restrain client for safety

9. Which of the following are common misunderstandings about clients at risk for or experiencing acute delirium? Circle all that apply.

    a. typical delirium presentation is of delirium tremens (i.e. agitated and floridly psychotic behavior)

    b. more severe delirium is associated with a greater degree of hyperactivity

    c. quiet and well-behaved patients are generally cognitively intact

    d. older people are normally forgetful and easily disoriented

    e. irritability or vagueness generally reflects underlying personality rather than altered mental state

    f. the level of orientation and cognitive function is consistent over the 24-h cycle

10. When managing the client and their family after having experienced delirium what should be included in nursing care? Circle all that apply.

    a. provide psychiatric care to facilitate resolution

    b. tell them all that they did wrong

    c. assist the client and family in understanding the experience

    d. provide a home care referral prior to discharge

    e. provide physiotherapy and occupational therapy home care services

APPENDIX D: Post-Test Knowledge Instrument©

Study: Building Capacity to Care for a Client at Risk for Delirium and for the Acutely Delirious Client: An Educational Session

Principal Investigator: Dr. Yolanda Babenko-Mould, Assistant Professor, Arthur Labatt Family School of Nursing, Western University

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3. The cause of acute delirium is:
    a. always medication related
    b. often multi-factoral
    c. of unknown etiology
    d. related to dementia
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    d. sleep disruption
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    c. Confusion Assessment Method (CAM) Diagnostic Algorithm
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6. What validated screening tool can nurses use to document and assess cognitive function with clients experiencing acute delirium in the clinical practice setting?
    a. Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)
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    e. irritability or vagueness generally reflects underlying personality rather than altered mental state

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    b. tell them all that they did wrong

    c. assist the client and family in understanding the experience

    d. provide a home care referral prior to discharge

    e. provide physiotherapy and occupational therapy home care services

APPENDIX E: Pre-Self-Efficacy Instrument©

Study: Building Capacity to Care for a Client at Risk for Delirium and for the Acutely Delirious Client: An Educational Session

Principal Investigator: Dr. Yolanda Babenko-Mould, Assistant Professor, Arthur Labatt Family School of Nursing, Western University

Study Project Member: Sherida Ingram, RN, BScN, MScN Student, Arthur Labatt Family School of Nursing, Faculty of Health Sciences, Western University

Pre-Self-Efficacy Instrument©

This survey addresses the pre-self-efficacy (confidence) assessment for an educational session conducted for the study Building Capacity to Care for a Client at Risk for Delirium and for the Acutely Delirious Client: An Educational Session.

Please indicate **how confident you are that you can perform the following** behaviours**. Circle** the number that best matches your response, e.g. a score of 100 means that you are 100% confident. *This survey is voluntary and you may refuse to answer any questions you do not wish to answer.*

	Pre- Self-Efficacy Instrument	**Not confident at all**										**Very confident**
1.	Recognize the risk factors, non-modifiable and modifiable, associated with acute delirium.	0	10	20	30	40	50	60	70	80	90	100
2.	Document relevant physical and psychological information about clients at risk for acute delirium.	0	10	20	30	40	50	60	70	80	90	100
3.	Document relevant physical and psychological information when assessing the client experiencing acute delirium.	0	10	20	30	40	50	60	70	80	90	100

4.	Provide assessment using the validated screening tool for acute delirium when caring for client at risk for delirium.	0 10 20 30 40 50 60 70 80 90 100
5.	Provide assessment using the validated screening tool for acute delirium when caring for client experiencing acute delirium.	0 10 20 30 40 50 60 70 80 90 100
6.	Manage the client at risk for acute delirium according to the Best Practice Guidelines.	0 10 20 30 40 50 60 70 80 90 100
7.	Manage the client experiencing acute delirium according to the Best Practice Guidelines.	0 10 20 30 40 50 60 70 80 90 100
8.	Communicate effectively with interdisciplinary team members while caring for the client at risk for or experiencing acute delirium.	0 10 20 30 40 50 60 70 80 90 100

APPENDIX F: Post-Self-Efficacy Instrument©

Study: Building Capacity to Care for a Client at Risk for Delirium and for the Acutely Delirious Client: An Educational Session

Principal Investigator: Dr. Yolanda Babenko-Mould, Assistant Professor, Arthur Labatt Family School of Nursing, Western University

Study Project Member: Sherida Ingram, RN, BScN, MScN Student, Arthur Labatt Family School of Nursing, Faculty of Health Sciences, Western University

Post-Self-Efficacy Instrument©

This survey addresses the post-self-efficacy (confidence) assessment for an educational session conducted for the study Building Capacity to Care for Client at Risk for Delirium and for the Acutely Delirious Client: An Educational Session.

Please indicate **how confident you are that you can perform the following** behaviours**. Circle** the number that best matches your response, e.g. a score of 100 means that you are 100% confident. *This survey is voluntary and you may refuse to answer any questions you do not wish to answer.*

	Post- Self-Efficacy Instrument	**Not confident at all**										**Very confident**
1.	Recognize the risk factors, non-modifiable and modifiable, associated with acute delirium.	0	10	20	30	40	50	60	70	80	90	100
2.	Document relevant physical and psychological information about clients at risk for acute delirium.	0	10	20	30	40	50	60	70	80	90	100
3.	Document relevant physical and psychological information when assessing the client experiencing acute delirium.	0	10	20	30	40	50	60	70	80	90	100

4.	Provide assessment using the validated screening tool for acute delirium when caring for client at risk for delirium.	0 10 20 30 40 50 60 70 80 90 100
5.	Provide assessment using the validated screening tool for acute delirium when caring for client experiencing acute delirium.	0 10 20 30 40 50 60 70 80 90 100
6.	Manage the client at risk for acute delirium according to the Best Practice Guidelines.	0 10 20 30 40 50 60 70 80 90 100
7.	Manage the client experiencing acute delirium according to the Best Practice Guidelines.	0 10 20 30 40 50 60 70 80 90 100
8.	Communicate effectively with interdisciplinary team members while caring for the client at risk for or experiencing acute delirium.	0 10 20 30 40 50 60 70 80 90 100

APPENDIX G: Ethics Approval Notice

Western Research

Research Ethics

Use of Human Participants - Revision Ethics Approval Notice

Principal Investigator: Dr. Yolanda Babenko-Mould
File Number:104563
Review Level: Delegated
Protocol Title: Building Capacity to Care for a Client at Risk for Delirium and for the Acutely Delirious Client: An Educational Session
Department & Institution: Health Sciences\Nursing,Western University
Sponsor:
Ethics Approval Date: January 27, 2014 **Expiry Date:**November 28, 2014
Documents Reviewed & Approved & Documents Received for Information:

Document Name	Comments	Version Date
Revised Western University Protocol		2014/01/10

This is to notify you that The University of Western Ontario Research Ethics Board for Health Sciences Research Involving Human Subjects (HSREB) which is organized and operates according to the Tri-Council Policy Statement: Ethical Conduct of Research Involving Humans and the Health Canada/ICH Good Clinical Practice Practices: Consolidated Guidelines; and the applicable laws and regulations of Ontario has reviewed and granted approval to the above referenced revision(s) or amendment(s) on the approval date noted above. The membership of this REB also complies with the membership requirements for REB's as defined in Division 5 of the Food and Drug Regulations.

The ethics approval for this study shall remain valid until the expiry date noted above assuming timely and acceptable responses to the HSREB's periodic requests for surveillance and monitoring information. If you require an updated approval notice prior to that time you must request it using the University of Western Ontario Updated Approval Request Form.

Members of the HSREB who are named as investigators in research studies, or declare a conflict of interest, do not participate in discussion related to, nor vote on, such studies when they are presented to the HSREB.

The Chair of the HSREB is Dr. Joseph Gilbert. The HSREB is registered with the U.S. Department of Health & Human Services under the IRB registration number IRB 00000940.

APPENDIX H: Participant Recruitment Poster

Study: Building Capacity to Care for a Client at Risk for Delirium and for the Acutely Delirious Client: An Educational Session

Principal Investigator: Dr. Yolanda Babenko-Mould, Assistant Professor, Arthur Labatt Family School of Nursing, Western University

Purpose of Study: The purpose of this study is to assess nurses' knowledge and self-efficacy prior to and immediately after involvement in an educational session about how to provide care for the client at risk for acute delirium and those clients experiencing acute delirium in a hospital setting. In addition the study proposes to explore nurses' experience and meaning of caring for the acutely delirious client while applying knowledge from the educational session to the practice setting.

Educational Session

Date: _____

Time: _____

Location: _____

Please Contact

Sherida Ingram, RN, BScN, MScN Student
Building Capacity to Care for a Client at Risk for Delirium and for the Acutely Delirious Client: An Educational Session – Study Project Member
Arthur Labatt Family School of Nursing
Faculty of Health Sciences
Western University
xxxxxxxx@uwo.ca

APPENDIX I: Letter of Information

Study: Building Capacity to Care for a Client at Risk for Delirium and for the Acutely Delirious Client: An Educational Session

Principal Investigator: Dr. Yolanda Babenko-Mould, Assistant Professor, Arthur Labatt Family School of Nursing, Western University

Study Project Member: Sherida Ingram, RN, BScN, MScN Student, Arthur Labatt Family School of Nursing, Faculty of Health Sciences, Western University

Letter of Information

Invitation to Participate

You are being invited to participate in a research study to assess nurses' knowledge and self-efficacy prior to and immediately after being involved in an educational session about how to provide care for the client at risk for acute delirium and those clients experiencing acute delirium in a hospital setting.

Purpose of the Letter

The purpose of this letter is to provide you with information required for you to make an informed decision regarding participation in this research.

Purpose of this Study

The purpose of this study is to assess nurses' knowledge and self-efficacy prior to and immediately after involvement in an educational session about how to provide care for the client at risk for acute delirium and those clients experiencing acute delirium in a hospital setting. In addition the study proposes to explore nurses' experience and meaning of caring for the acutely delirious client while applying knowledge from the educational session to the practice setting.

Inclusion Criteria

Individuals must be English speaking, able to commit to time required to be involved in pre-test, educational session, and post-test, and willing to participate in the interview process of the study are eligible to participate in this study.

Exclusion Criteria

Nursing students participating in clinical placements as part of their educational experience, an RN who is not fluent in reading, writing, and speaking in English, an RN who is unable to participate in the educational session, and an RN who is unable to commit to participate in the interviewing process of the study are not eligible to participate in this study.

Study Procedures

If you agree to participate, you will be asked to complete pre-test and post-test instruments to assess nurses' knowledge and self-efficacy prior to and immediately after involvement in an educational session about how to provide care for the client at risk for acute delirium and those clients experiencing acute delirium in a hospital setting. Completion of each of the study instruments will take approximately 15 to 20 minutes per instrument. Each participant will be asked to participate in a face-to-face, telephone or Skype interview. The interviews will range from 45 to 60 minutes in length.

Possible Risks and Harms

There are no known or anticipated risks or discomforts associated with participating in this study.

Possible Benefits

The possible benefits associated with participation include an increased knowledge and self-efficacy of the nurses (participants), an improvement in the capacity of nurses' to provide effective and safe care for the client at risk for and experiencing acute delirium, potential decreased incidence of acute delirium, and potential decreased length of stay in hospital. The potential benefit to society is that participants involved in the study will have an opportunity to apply the knowledge gained from the educational sessions directly into client care - particularly for those at risk for delirium and those experiencing delirium. Health professionals involved in the study can potentially share their new knowledge with other health professionals, so as to support the enhancement of others' practice in the care of clients at risk for and experiencing delirium.

Compensation

You will not be compensated for your participation in this research.

Voluntary Participation

Participation in this study is voluntary. You may refuse to participate, refuse to answer any questions or withdraw from the study at any time with no effect on your participation in the educational session.

Confidentiality

As a participant in this study your name and email address will be collected on the consent form to enable follow-up by email for the post-educational session interview. Data will be kept for a minimum of 5 years in accordance with Western University policy. No other agency/group/person outside of the local research team will have access to any identifiable data. All information collected during this study will be kept confidential and will not be shared with

anyone outside the study unless required by law. As a participant you will not be named in any reports, publications, or presentations that may come from this study. If you choose to withdraw from this study prior to initiation of the data analysis phase, your data will be removed and destroyed from our database. Representatives of The University of Western Ontario Health Sciences Research Ethics Board may contact you or require access to your study-related records to monitor the conduct of the research.
You do not waive any legal rights by signing the consent form.

Contacts for Further Information

If you require any further information regarding this research project or your participation in the study you may contact the Principle Investigator Dr. Yolanda Babenko-Mould at xxxxxxxx@uwo.ca or x-xxx-xxxx extension xxxxx or Project Member (MScN Student) Sherida Ingram, RN, BScN at xxxxxxxx@uwo.ca.

If you have any questions about your rights as a research participant or the conduct of this study, you may contact The Office of Research Ethics at xxx-xxx-xxxx, email: xxxxxx@uwo.ca.

Publication

If the results of the study are published, your name will not be used and the name of the health facility where you are employed will not be used. If you would like to receive a copy of any potential study results, please provide your name and contact number on a piece of paper separate from the Consent Form on the day of the educational session.

Consent

A Consent Form will be provided for you to sign prior to the educational session and prior to the interview.

This letter is yours to keep for future reference.

APPENDIX J: Consent Form

Study: Building Capacity to Care for a Client at Risk for Delirium and for the Acutely Delirious Client: An Educational Session

Principal Investigator: Dr. Yolanda Babenko-Mould, Assistant Professor, Arthur Labatt Family School of Nursing, Western University

Study Project Member: Sherida Ingram, RN, BScN, MScN Student, Arthur Labatt Family School of Nursing, Faculty of Health Sciences, Western University

Consent Form

I have read the Letter of Information, have had the nature of the study explained to me and I agree to participate. All questions have been answered to my satisfaction.

Participant's Name (please print): _____

Participant's Signature: _____

Date: _____

E-mail Address: _____

Person Obtaining Informed Consent (please print): _____

Signature: _____

Date: _____

APPENDIX K: Demographic Instrument

Study: Building Capacity to Care for a Client at Risk for Delirium and for the Acutely Delirious Client: An Educational Session

Principal Investigator: Dr. Yolanda Babenko-Mould, Assistant Professor, Arthur Labatt Family School of Nursing, Western University

Study Project Member: Sherida Ingram, RN, BScN, MScN Student, Arthur Labatt Family School of Nursing, Faculty of Health Sciences, Western University

Demographic Instrument

When completing the following questionnaire, you may refuse to complete any questions you do not wish to answer.

What is your age?

- 25 or under
- 26-40
- 41-55
- 56 or older

What is your gender?

- male
- female

How many years have you worked as a Registered Nurse (RN)

- less than 1
- 2 to 5
- 6 to 10
- 11 to 20
- 21 to 25
- more than 25

How many years have you worked on the current unit?

- less than 1
- 2 to 5
- 6 to 10
- 11 to 20
- 21 to 25
- more than 25

What is your educational background?

- Diploma of Nursing
- Baccalaureate of Nursing
- Master of Nursing

APPENDIX L: Email Script for Recruitment

Study: Building Capacity to Care for a Client at Risk for Delirium and for the Acutely Delirious: An Educational Session

Email Script for Recruitment

Subject Line: Invitation to participate in research

You are being invited to participate in a study that I, Dr. Babenko-Mould, am conducting about *Building Capacity to Care for a Client at Risk for Delirium and for the Acutely Delirious Client: An Educational Session.* The study involves participating in completing a knowledge evaluation instrument and self-efficacy evaluation instrument prior to and immediately after the educational session. In addition, the study involves participating in an individual interview approximately 3 to 4 weeks after the educational session that will be conducted in person or via telephone or Skype. The interview will be digitally audio-recorded and will take between 45 and 60 minutes. Following your participation in the educational session, you will receive an email message reminding you about the study and requesting your participation in an individual interview. Upon receipt of your response to the future reminder email, the project team member will coordinate the interview to take place on a date and at a time and location that is convenient to you.
If you would like more information about this please contact the researcher at the contact information given below.

Thank you,

Yolanda Babenko-Mould, RN, PhD
Assistant Professor
Building Capacity to Care for a Client at Risk for Delirium and for the Acutely Delirious Client: An Educational Session – Study Principal Investigator
Arthur Labatt Family School of Nursing
Faculty of Health Sciences
Western University
HSA xxxx
xxxxxxxxxx@uwo.ca
xxx-xxx-xxxx ext. xxxxx

Sherida Ingram, RN, BScN
MScN Student
Building Capacity to Care for a Client at Risk for Delirium and for the Acutely Delirious Client: An Educational Session – Study Project Member
Arthur Labatt Family School of Nursing
Faculty of Health Sciences
Western University
xxxxxxx@uwo.ca

APPENDIX M: Reminder Email Script for Recruitment

Study: Building Capacity to Care for a Client at Risk for Delirium and for the Acutely Delirious Client: An Educational Session

Reminder Email Script for Recruitment

Subject Line: Invitation to participate in research
An email was sent to you one week ago and we wanted to send you a quick reminder about our study *Building Capacity to Care for a Client at Risk for Delirium and for the Acutely Delirious Client: An Educational Session*

You are being invited to participate in a study that I, Dr. Babenko-Mould, am conducting. The study involves participating in an individual interview that will be conducted in person or via telephone or Skype. The interview will be digitally audio-recorded and will take between 45 and 60 minutes. The interview will take place in the next two weeks on a date and at a time and location that is convenient to you.
If you would like to participate in the individual interview, please email Sherida Ingram, RN, BScN at xxxxxxx@uwo.ca so that interview arrangements can take place.
If you would like more information about this study please contact the researcher at the contact information given below. A letter of information about the study is attached to this message.
Thank you,

Yolanda Babenko-Mould, RN, PhD
Assistant Professor
Building Capacity to Care for a Client at Risk for Delirium and for the Acutely Delirious: An Educational Session – Study Principal Investigator
Arthur Labatt Family School of Nursing
Faculty of Health Sciences
Western University
HSA xxxx
xxxxxxxx@uwo.ca
xxx-xxx-xxxx ext. xxxxx

Sherida Ingram, RN, BScN
MScN Student
Building Capacity to Care for a Client at Risk for Delirium and for the Acutely Delirious: An Educational Session – Study Project Member
Arthur Labatt Family School of Nursing
Faculty of Health Sciences
Western University
xxxxxxx@uwo.ca

APPENDIX N: Semi-Structured Interview Guide

Study: Building Capacity to Care for a Client at Risk for Delirium and for the Acutely Delirious Client: An Educational Session

Principal Investigator: Dr. Yolanda Babenko-Mould, Assistant Professor, Arthur Labatt Family School of Nursing, Western University

Study Project Member: Sherida Ingram, RN, BScN, MScN Student, Arthur Labatt Family School of Nursing, Faculty of Health Sciences, Western University

Semi-structured Interview Guide

This interview is voluntary and you may refuse to answer any questions you do not wish to answer. All information will remain confidential. Please refrain from disclosing identifying information about yourself or others; however, in the event that information is accidentally disclosed it will not be transcribed.

In what ways did your participation in the educational session, Building Capacity to Care for a Client at Risk for Delirium and for the Acutely Delirious Client, increase your knowledge about the a) assessment, b) screening, and c) management of clients at risk for experiencing delirium and for clients experiencing delirium?

In what ways did your participation in the educational session, Building Capacity to Care for a Client at Risk for Delirium and for the Acutely Delirious Client, increase your problem-solving and decision-making skills for caring for clients at risk of experiencing delirium and for clients experiencing delirium?

How were you able to use the knowledge and skills gained from the educational session, Building Capacity to Care for a Client at Risk for Delirium and the Acutely Delirious Client, in clinical practice?

How do you think using your new knowledge and skills gained from the educational session Building Capacity to Care for a Client at Risk for Delirium and the Acutely Delirious Client, has positively changed your clinical practice?

In what ways have you been able to mentor or coach other nurses, physicians, or students in practice to help improve their knowledge and skills in the care of a client at risk for delirium or the client experiencing acute delirium?

In what ways has the application of your newly acquired knowledge and skills in the care of a client at risk for delirium or the acute delirious client been able to change the professional relationship you have with clients at risk for developing delirium and those clients experiencing acute delirium, and their families in clinical practice?

Curriculum Vitae

Name:	Sherida Glennese Ingram
Post-secondary Education and Degrees:	University of Western Ontario London, Ontario, Canada 2007-2011 Post-RN BScN Fanshawe College London, Ontario, Canada 1991-1994 Nursing Diploma
Honours and Awards:	Irene Norwich Foundation Graduate Scholarship 2013 Clinical Nurse Specialist Student Award 2013 Canadian Society for Vascular Nursing Travel Scholarship 2012/14 Canadian Society for Vascular Nursing Education Scholarship 2012 Iota Omicron Chapter, Sigma Theta Tau International Honor Society of Nursing Research Grant 2013
Related Work Experience:	Registered Nurse Vascular Surgery Unit London Health Sciences Centre London 1995-present