Factors Influencing Management of Cognitive Impairment among Older Adults in Acute Care Settings: A Review of the Literature

Kang, Yun Young
School of Nursing, Cheju Halla University, Jeju, Korea

Purpose: This study was done to better understand factors affecting care management of older adults with cognitive impairments (CI) in acute care settings and to provide a discussion of the literature focusing on educational issues for nurses caring for older adults with CI in acute care settings. Methods: Analysis was done of 26 articles related to management of acute or chronic confusion in older adults in acute care settings, which were published between 2000 and 2012. Results: The theoretical literature outlines nurse-related and organizational-related factors that influence management of dementia or delirium in older adults in acute care settings. These themes offer grounding for further research and the development of education that address the needs of older adults with CI undergoing management for co-morbidity in acute care settings. Conclusion: In the current studies, the emphasis was on the need for education, which has the potential to lead to a significantly positive improvement in RNs' knowledge and attitudes, and the appropriate management and empowerment of family members to participate through the early detection of dementia or delirium in hospitalized older adults with CI. Consequently, facilitating care improvement for older adults with CI, particularly those with dementia, needs to be given attention in Korean acute care settings.

Key Words: Dementia, Delirium, Management, Hospital, Aged

INTRODUCTION

The growth in the older population, coupled with a longer life expectancy, is likely to result in an increase in the incidence of chronic illness, use of hospital services and length of hospital stays (Phelan, Borson, Grothaus, Balch, & Larson, 2012). A period of hospitalization can have an adverse effect on the health of frail older adults and in particular people with dementia (Phelan et al., 2012). People with dementia have the highest risk for developing delirium: the prevalence of delirium in hospitalized older adults with dementia is found to range from 59% to 89% (Margiotta, Bianchetti, Ranieri, & Trabucchi, 2006).

There were 495,000 Koreans (8.9% of the population aged over 65 years) with a diagnosis of dementia in 2011, with an increase of 3.4% in one year (n=499,000 or 5.5%)(Ministry of Health and Welfare, 2011). Currently, in Korea, approximately one in ten older adults aged over 65 years is diagnosed with dementia. The proportion of Korean people with dementia is projected to reach 9.7%(n=750,000) by 2020 as the growth of the older population continues (Ministry of Health and Welfare, 2011). Despite increasing needs for long-term care (LTC), the capacity of informal caregiving has been shrinking due to a decrease in the rate of co-residence of older parents and adult children alongside the increase in women's employment (Jeong et al., 2005). Although the number of formal LTC facilities and services has increased following the initiation of the Long-term Care Insurance Program in July 2008, formal LTC facilities and services to replace or supplement informal caregiving are in severe shortage. Also, the use of institutionalized care services is often interpreted as children relinquishing filial duty and older adults being abandoned by their adult children (Park, Butcher, & Mass,
2004). Therefore, many older adults with unmet needs for LTC services are hospitalized, even though many of them do not require medical care (so-called social hospitalization) in Korea (Kim & Choi, 2008). This may result in an increase in the number of older Korean people with dementia or without a diagnosis of dementia being placed in acute care settings, because Korean society perceives institutionalized care services negatively and believe that acute care hospitals provide better medical services (Lee & Moon, 2010). Acute care nurses are expected to provide optimum care for these patients with the best possible outcomes, despite the lack of suitable ward environments, appropriate staffing or educational preparation (Moyle, Borbasi, Wallis, Olorenshaw, & Gracia, 2011). However, nurses’ management of older adults with cognitive impairment (CI) is of great concern as their task-oriented care in a fast-paced acute care environment may negatively impact the complexities of these patients (Moyle et al., 2011). Consequently, facilitating care improvement for older adults with CI, particularly those with dementia, needs to be given attention in Korean acute care settings.

This literature review was done to further understanding of factors affecting care management of CI in acute care settings and to provide a discussion of the literature focusing on educational issues for nurses caring for older adults with CI in acute care settings.

## METHODS

Research literature published in English or Korean is presented in this paper. Papers included in this review were chosen according to the following criteria:

### 1. Inclusion Criteria
- Main focus on nurses’ management of acute or chronic confusion in older adults (65 years and older) in acute care settings,
- Published in a paper-reviewed journal between 2002 and 2012,
- Restricted only to quantitative and qualitative studies,

### 2. Exclusion Criteria
- Main focus was not on an acute care setting,
- Published in a non-peer reviewed journal,

### 3. Search Strategy

Four major databases, the Cumulative Index of Nursing and Allied Health Literature (CINAHL), Proquest, PsychLit and Medline were searched, using combinations of search terms including acute care setting-older adults with dementia-management-nurses, acute care setting-older adults with chronic confusion-management-nurses, acute care setting-older adults with delirium-management-nurses, and acute care setting-older adults with acute confusion-management-nurses. Additional reports were identified from the reference lists of retrieved papers. From a summary of the literature and field experience, a researcher distilled the following definition: acute care setting is an in-patient adult health medical-surgical care unit, intensive care unit, or emergency department in a health care facility (excluding paediatrics, mother/baby, and psychiatric units). For the relevant literature search, it was decided to limit the review to acute care settings that met the criteria in this definition. Table 1 gives an overview of the initial batch of articles (n= 201) resulting from a search for which there was only a limitation on publication date (2002~2012) and on type of publication (quantitative study, qualitative study). After selecting articles based on title and abstract and after removing doubles a total of 44 articles (37 quantitative studies, 7 qualitative studies) from databases were retained. A manual search through references and journals yielded 10 more studies, of which only 4 were different. Of

### Table 1. Search Strategy and Outcome

<table>
<thead>
<tr>
<th>Source</th>
<th>Limits</th>
<th>Search terms</th>
<th>Total amount of inclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Four major databases Cumulative Index of Nursing and Allied Health Literature (CINAHL), Proquest, PsychLit and Medline 2002~2012</td>
<td>Quantitative and qualitative studies</td>
<td>Acute care setting, older adults with dementia, management, nurses</td>
<td>101</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute care setting, older adults with chronic confusion, management, nurses</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute are setting, older adults with delirium, management, nurses</td>
<td>55</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute are setting, older adults with acute confusion, management, nurses</td>
<td>32</td>
</tr>
</tbody>
</table>
Factors Influencing Management of Cognitive Impairment among Older Adults in Acute Care Settings: A Review of the Literature

the 48 articles retained for the literature review, 26 were eligible for inclusion. The following discussion of the findings commences with an identification of the common themes of factors influencing care management of CI in older adults in acute care settings followed closely by a critique of the educational interventions of management of CI in older adults in an acute care setting.

**RESULTS**

Common themes gleaned from the literature on factors affecting the management of CI in older adults as a result of dementia or delirium in the acute care setting provides some consensus on patient care. They are divided into two factors: nurse-related and organization-related. Nurse-related factors include a lack of knowledge; personal and professional characteristics; philosophy of care for older adults with CI; and inadequate assessment and documentation issues. Organizational-related factors are: acute care culture; priority of safety; and lack of educational efforts. Such themes offer grounding for further research and the development of education that would addresses the needs of older people with CI undergoing management for co-morbidity in acute care settings (Table 2).

1. Nurse-related Factors

1) Nurses’ Knowledge

Nurses’ knowledge about older adults with CI has a significant influence on nursing practice for the management of CI in acute care settings (Hamdan-Mansour, Farhan, Othman, & Yacoub, 2010). Korean nurses’ knowledge of delirium, especially its manifestations, were lower (Choi et al., 2011; Lee et al., 2007). It could be assumed that Korean nurses attribute the cognitive and behavioral changes of delirium to part of the normal aging process, and they are not able to differentiate delirium from dementia, because Korean society's expectation is that older adults may become forgetful and confused. It is likely that delirium is under- or misdiagnosed as dementia in Korea, thus preventing acute care nurses from appropriately managing care to prevent poor outcomes associated with CI in older adults. A recent study measured registered nurses' (RNs') knowledge on delirium superimposed on dementia (DSD), using standardized case vignettes and the Mary Starke Harper Aging Knowledge Exam (MSHAKE) in an American acute care setting (Fick, Kolanowski, & Waller, 2007). It was found that RNs had a high level of general geropsychiatric nursing knowledge as measured by the MSHAKE, yet had difficulty recognizing DSD compared to dementia alone or delirium alone (Fick et al., 2007). This knowledge level can result in an increase in psychotropic medication use among older adults with DSD (Fick et al., 2007), which can worsen the condition or further delay recognition of the problem (Voyer, Richard, Doucet, & Carmichael, 2009). This indicates that there is an association between RNs' geropsychiatric knowledge level and quality of care management. Consequently, an educational intervention developed with the aim to increase knowledge and then awareness of delirium in older adults with dementia is an important consideration to improve recognition and management of this problem (Fick et al., 2007).

A lack of knowledge contributes to low self-confidence in the ability to manage delirium following assessment (Flagg, Cox, McDowell, Mwose, & Buelow, 2010). Some studies explored the association between acute care nurses’ knowledge level and self-confidence in caring for patients with delirium in Korea and the USA (Choi et al., 2011; Flagg et al., 2010; Yang, 2010). These studies showed that acute care nurses with deficient knowledge tended to have low confidence in appropriately identifying and managing patients with delirium (Choi et al., 2011; Flagg et al., 2010; Yang, 2010). In addition to nurses’ knowledge of delirium, one study found that there were significant differences in self-confidence levels, depending on length of work experience, status of experience of caring for patients with delirium, and sufficient number of opportunities for delirium education (Yang, 2010). In this study, acute care nurses who have worked for more than 5 years, have experienced caring for patients with delirium, or have received sufficient delirium education were most likely to have confidence in managing delirium following assessment (Yang, 2010). This result might be related to nurses’ perception of the importance of delirium in acute care settings (Flagg et al., 2010). Acute care nurses are not likely to identify delirium as a common problem and thus compromise the quality of care provided to patients at risk for delirium (Flagg et al., 2010). These findings emphasize the need of educational programs to improve nurses’ knowledge.

A study in Japan (Akechi et al., 2010) investigated the preliminary usefulness of a novel delirium training program to improve nurses' self-confidence in caring for patients with delirium in inpatient wards in a university-affiliated hospital. This program showed positive results in improving nurses' self-confidence in caring for pa-
<table>
<thead>
<tr>
<th>Items</th>
<th>Factors</th>
<th>Findings</th>
<th>Studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nurse-related</td>
<td>Nurses' knowledge</td>
<td>RNs' lower knowledge level of delirium manifestations attributed to cognitive and behavioral changes of delirium to part of the normal aging process, and they are not able to differentiate delirium from dementia.</td>
<td>Choi et al., 2011; Lee et al., 2007</td>
</tr>
<tr>
<td></td>
<td></td>
<td>RNs' knowledge of DSD measured by standardized care vignettes found that they had difficulty recognizing DSD compared to dementia alone and delirium alone. This knowledge level results in an increase in psychotropic medication use among older adults with DSD.</td>
<td>Fick et al., 2007; Hamdan-Mansour et al., 2010</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Nurses' lack of knowledge tended to result in low confidence in appropriately identifying and managing patients with delirium. They are not likely to identify delirium as a common problem and thus compromise the quality of care provided to patients at risk for delirium.</td>
<td>Choi et al., 2011; Flagg et al., 2010; Yang, 2010</td>
</tr>
<tr>
<td>Nurses' personal and professional characteristics</td>
<td>RNs who had a master's degree, had received gerontological education or had perceived the necessity of in-service education for older adults' care, had a higher knowledge level of delirium than those who did not have this education.</td>
<td>Lee et al., 2007</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Regardless of educational level, years of experience, or shift worked, orthopedic RNs had difficulty with knowledge related to the recognition of delirium, risk factors, and medications that can contribute to delirium.</td>
<td>Meako et al., 2011</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Higher levels of knowledge as a result of education equal more positive attitudes and greater tolerance</td>
<td>Kata et al., 2009; Nilsson et al., 2012</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nurses' negative attitudes attributed delirium to the individual client's personality and not to a physiologic, pathological condition that presents as a disturbance to cognition.</td>
<td>Dahlke &amp; Phinney, 2008; McDonnell &amp; Timmins, 2012</td>
<td></td>
</tr>
<tr>
<td></td>
<td>A lack of knowledge and skill led nurses to feel powerless, frustrated and a failure when faced with challenging behaviors thus they increased use of medication and physical restraint to mediate these behaviors</td>
<td>Moyle et al., 2011; Voyer et al., 2009</td>
<td></td>
</tr>
<tr>
<td>Nurses' philosophy of care in older adults with CI</td>
<td>Nurses using the healthful perspective were more likely to differentiate between acute and chronic confusion in hospitalized older adults, whereas nurses using the decline perspective were least likely to detect acute confusion.</td>
<td>McCarthy, 2003</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cognitive decline was accepted as normal and contributed to delay or neglect in the assessment of delirium, which results in low rates of recognition of delirium, although delirium is a medical emergency.</td>
<td>Yevchak et al., 2012</td>
<td></td>
</tr>
<tr>
<td>Nurses' inadequate assessment and documentation</td>
<td>Nurses superficially assessed their patients' cognition, using subtle questioning and observed behavioral cues, or they only focused on a few questions about orientation due to a lack of knowledge and awareness of cognitive assessment tools.</td>
<td>Choi et al., 2011; Dahlke &amp; Phinney, 2008; Lee et al., 2007; Yang, 2010; Yevchak et al., 2012</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nurses depended on reports by family caregivers, the primary carers for hospitalized older adults, who had been asked to watch for symptoms of cognitive decline. Therefore, confused behavior may be overlooked, because family caregivers are not skilled at detecting delirium.</td>
<td>Choi et al., 2011; Lee et al., 2007; Yang, 2010</td>
<td></td>
</tr>
<tr>
<td></td>
<td>With an inaccurate documentation of patients' cognitive status, delirium features were misinterpreted as dementia or other similar cognitive impairments, adding to the difficulty differentiating delirium from dementia.</td>
<td>Fick et al., 2007; Steis &amp; Fick, 2012</td>
<td></td>
</tr>
</tbody>
</table>
patients with delirium (Akechi et al., 2010). Clinical guidelines for nurses should also incorporate a formal educational program on their use to provide high-quality care to hospitalized older patients with CI and to improve acute care nurses’ self-confidence (Akechi et al., 2010; Meako, Thompson, & Cochrane, 2011).

2) Nurses’ Personal and Professional Characteristics

Nurses’ personal and professional characteristics seem to have an influence on the quality of care management and in particular their knowledge about older adults with CI (Nilsson, Lindkvist, Rasmussen, & Edvardsson, 2012). Depending on nurses’ educational level, attendance at gerontological education course, and perception of the necessity of in-service education related to older adults' care, there are differences in the level of their knowledge of delirium (Lee et al., 2007). In this study, RNs who had a master's degree, had received gerontological education or had perceived the necessity of in-service education for older adults' care had a higher level of knowledge of delirium than those who did not have these characteristics (Lee et al., 2007). Meanwhile, regardless of educational level, years of experience, or shift worked, orthopedic RNs had difficulty with knowledge related to recognition of delirium, risk factors, and medications that can contribute to delirium (Meako et al., 2011).

Nurses’ negative attitudes towards older adults with CI as well as their lower knowledge level can be an obstacle to the provision of quality care (Dahlke & Phinney, 2008; Kada, Nygaard, Mukesh, & Geitung, 2009; Nilsson et al., 2012). Previous studies found that nurses who had negative attitudes were most likely to have lower levels of education (Kada et al., 2009; Nilsson et al., 2012). In other words, a higher level of knowledge as a result of education equals a positive attitude and greater tolerance (Kada et al., 2009; Nilsson et al., 2012). Nurses’ negative attitudes attribute delirium to the individual client's personality and not to a physiologic, pathological condition that is presented as a disturbance to cognition (Dahlke & Phinney, 2008). Consequently, hospitalized older adults with CI are viewed as a burden, because disruptive behaviors are strong predictors of nurses’ distress that can potentially impact negatively on patients’ care (Dahlke & Phinney, 2008; McDonnell & Timmins, 2012). Nurses also experience feelings of discomfort and incomprehension when dealing with patients suffering from delirium (Dahlke & Phinney, 2008). Akechi et al., (2010) identified an association between level of knowledge and skill in relation to cognition disorders and nurses’ perception of the disorders. A lack of knowledge and skill led nurses to feel powerless, frustrated and a failure when faced with challenging behaviors, so they increased the use of medication and physical restraint to mediate these behaviors (Voyer et al., 2009). Consequently, hospitalized older adults with CI may receive an inferior quality of care in comparison to patients without CI, as they are often cared for by nurses with minimal knowledge or training in this field (Moyle et al., 2011).

In summary, nurses need more formal education and training to acquire appropriate knowledge, which can improve nurses’ self-confidence in assessing and managing the CI of hospitalized older adults as well as promote positive attitudes (Akechi et al., 2010; McDonnell & Timmins, 2012; Nilsson et al., 2012). This improved care practice should result in positive outcomes for these patients.
3) Nurses’ Philosophy of Care in Older Adults with CI

Nurses’ philosophy of care is frequently based on individual beliefs rather than on evidence for the delivery of care (McCarthy, 2003). McCarthy (2003) revealed that recognition of acute confusion was influenced by the philosophical orientation of the nurse towards health in aging. Three distinct perspectives were identified: (1) decline perspective (regards health in aging as decremental), (2) vulnerable perspective (regards health in aging as either positive or negative), and (3) healthful perspective (regards ‘good health’ in aging as normal). Nurses using the healthful perspective were more likely to differentiate between acute and chronic confusion in hospitalized older adults, whereas nurses using the decline perspective were least likely to detect acute confusion (McCarthy, 2003). In addition, the fact that cognitive decline is accepted as normal contributes to delay or neglect in the assessment of delirium, which can result in low rates of recognition of delirium, although delirium is a medical emergency (Yevchak et al., 2012). In older adults with dementia, changes in cognition and behavior are seldom perceived as important and thus are more often managed with chemical or physical restraints, as a result of being viewed as negative and unacceptable (Yevchak et al., 2012). Consequently, emphasis should be given to nurses’ views and knowledge with regard to health in older adults.

4) Nurses’ Inadequate Assessment and Documentation

A lack of knowledge about delirium and its detection following assessment affects decisions regarding strategies to care for and manage older people in acute care settings (Yevchak et al., 2012). In fact, nurses are well-placed to systematically screen for and recognize dementia or delirium in hospitalized older adults because of their significant presence at the bedside (Fick et al., 2007). However, the difficulty nurses have in recognizing delirium (Fick et al., 2007; Yevchak et al., 2012), dementia (Moyle et al., 2011) and DSD (Fick et al., 2007; Steis & Fick, 2012) has been substantiated.

Acute care nurses superficially assess their patients’ cognition, using subtle questioning and observed behavioral cues (Choi et al., 2011; Dahlke & Phinney, 2008; Lee et al., 2007; Yang, 2010) or they only focus on a few questions about orientation such as ‘Where are you?’ or ‘Who is your doctor?’ due to a lack of knowledge or awareness of cognitive assessment tools in the acute care environment (Yevchak et al., 2012). Also, nurses in Korea are dependent on reports by family caregivers as the primary caregivers for hospitalized older adults, who have been asked to observe the symptoms of cognitive decline (Choi et al., 2011; Lee et al., 2007; Yang, 2010). As a result, confused behavior may be overlooked, because family caregivers are not skilled at detecting delirium (Yang, 2010). There is a possibility that hospitalized older adults are managed by nurses’ subjective assessment, rather than objective assessment instruments.

Currently, nurses are using the term confusion to describe their patients’ mental status and this is ineffective in providing quality care management of a patient's cognitive functioning as it is not a clear term because of the many different definitions used among health care professionals (Steis & Fick, 2012). Using this term may demonstrate that instead of terms prompted by assessment tools such as the Confusion Assessment Method (CAM) for mental status, nurses limit their assessment to orientation only and therefore fail to recognize the behavioral aspects of delirium in their patients (Steis & Fick, 2012).

With an inaccurate documentation of patients’ cognitive status, delirium features may be misinterpreted as dementia or other similar cognitive impairments, adding to the difficulty of discerning delirium from dementia (Fick et al., 2007; Steis & Fick, 2012). Steis and Fick (2012) reported that American nurses did not recognize delirium as evidenced by the absence of nurses’ notations of the terms delirium or acute confusion. Also, nurses documented confused more often in the DSD group than in the no delirium (ND) group, but there was no indication that the nurses’ use of the term confusion communicated that the patient was experiencing delirium (Steis & Fick, 2012). Consequently, it is not clear whether the term confusion as used by nurses indicates confusion with dementia or delirium as this term is not consistently defined. As a result, inappropriate management of delirium or dementia following underdetection or misdetection leads to an increase in nursing workload as well as adverse outcomes for older adults (Pretto et al., 2009).

Therefore, educational efforts are needed to improve nurses’ ability to detect delirium early as well as to improve their management skills in the busy acute care environment (Steis & Fick, 2012). Nurses who are caring for older adults are unsure of how to assess CI, not being able to differentiate between dementia and delirium as a result of lack of knowledge and awareness of cognitive assessment tools (Moyle et al., 2011; Yevchak et al., 2012). Also, they incorrectly assume that a standard neurological examination is sufficient to identify signs
of delirium (Flagg et al., 2010). Nurses need to begin to use the term delirium as a well-defined and objective label consistently, in line with their assessment results rather than the term confusion, which causes misunderstandings in the process of observation and diagnosis (Steis & Fick, 2012).

2. Organizational Characteristics of Acute Care

1) Acute Care Culture

In an acute care culture that focuses on technological and task-driven care, older adults with dementia are devalued and a holistic approach to care is limited, because of the inconveniences that they cause to nurses’ routines (Moyle et al., 2011). As a result, patients with disruptive behaviors are managed with physical or chemical restraints rather than compassionate care to meet complex care needs (Moyle et al., 2011). Hospitalized older adults with CI are frequently inadequately assessed and managed based on a medical model of care delivery that focuses attention solely on the patients' acute condition (Moyle et al., 2011).

This kind of care also frequently fails to incorporate the family into the care of hospitalized older adults with CI (Moyle et al., 2011). Family members as primary caregivers may be able to recognize a change in patients’ mental status, even though nurses may have identified the problem incorrectly (Fick et al., 2007). Acute care nurses with a better understanding of CI have the self-confidence to accurately explain delirium presentation and management to patients’ families. This then empowers family members to participate in patient care in an effort to reduce the complications associated with the development of delirium and avoid family suffering (Flagg et al., 2010).

2) Priority of Safety

Safety is the number one priority identified by nurses when caring for both chronically or acutely confused patients. Moyle et al., (2011) reported that Australian acute care nurses focused on minimizing injury or harm to a patient, other patients and staff as a consequence of a lack of understanding about the difference between dementia and delirium. Despite the importance of person-centered care for people with CI, this care appeared to be overlooked, with resources being allocated based on the level of risk rather than the level of need (Moyle et al., 2011).

As a best care practice, person-centered care for older adults with CI is encouraged to respect the person’s past and focus on ability, rather than disability (Moyle et al., 2011). However, studies have shown that nurses moved confused patients’ beds close to the nursing station or into the hallways, or placed patients in geriatric chairs during the day or at night to restrain movement with little perception of the importance of cognitive assessment (Dahlke & Phinney, 2008; Yevchak et al., 2012). Assessment and care management in such situations seemed to be task-orientated, rather than about meeting the psychosocial needs of the confused person (Moyle et al., 2011). This task-orientated care is commonly used to prevent falls and to watch over the confused patient to reduce risks to patient’s safety (Dahlke & Phinney, 2008; Yevchak et al., 2012).

For both staff safety and patient security, nurses suggest that chemical or physical restraints are needed to control challenging behaviors in persons with CI, despite the fact that these restraints are risk factors for developing delirium (Dahlke & Phinney, 2008; Moyle et al., 2011; Yevchak et al., 2012). Often older patients with dementia may be prescribed antipsychotic medication without recognition or management of the underlying cause of the behavior (Voyer et al., 2009). Delirium is a cause of disruptive behaviors in many instances (Fick et al., 2007), and inappropriate use of these medications in hospitalized older adults with dementia may worsen the condition, or further delay recognition of the problem and thus increase the risk of death for these patients with dementia (Fick et al., 2007; Voyer et al., 2009). Safety and the quality of nursing care provided to hospitalized older adults with dementia at risk for delirium is compromised, and as a result their lives might be at risk.

As the first line of care management, acute care nurses need to recognize delirium and use non-pharmacological interventions (Fick et al., 2007). However, currently nurses’ practice is often based on nurses’ experiential knowledge and trial and error, rather than evidence for the management of delirium (Yevchak et al., 2012). In Korea, most acute care nurses are likely to be interested in the treatment of delirium, despite the importance of its prevention (Park, Kim, Song, & Kang, 2006). The value or consequences of currently used non-medication strategies to manage delirium should be replaced by evidence-based training and knowledge with practical guidelines to implement non-pharmacological strategies (Yevchak et al., 2012).

3) Lack of Educational Efforts

Due to a lack of educational efforts regarding the as-
essment and management of CI, nurses have not inte-
grated these into their everyday nursing care (Moyle et al., 2011; Yang, 2010; Yevchak et al., 2012). In acute care settings, cognitive assessment is not routinely con-
sidered as an important component of standardized nurs-
ing care (Moyle et al., 2011; Yang, 2010; Yevchak et al., 2012). As a result, nurses tend to focus more on the pa-
tients' physical signs and symptoms rather than their cognitive status. A study in Jordan confirmed an associ-
ation between knowledge and nursing practice and found that ICU RNs with more knowledge about delir-
ium were more likely to have a higher level of effective nursing practice regarding its management (Hamdan-
Mansour et al., 2010).

In Korean acute care settings, there has been little at-
tention given to education or training about the man-
agement of CI. Yang (2010) reported that 24.3% of 
Korean acute care nurses had not received any training or 
education on delirium, and 74.9% of those who had 
received education on delirium had only a basic under-
standing of the subject. As a result, acute care nurses ex-
perience an elevated level of stress and strain when 
managing these patients due to the challenge of im-
plementing highly skilled assessment and care planning 
(McDonnell & Timmins, 2012; Yevchak et al., 2012). 
This deficit also results in disruptive behaviors because 
hospitalized older adults with delirium or dementia do 
not have their physical and mental health needs met 
(Moyle et al., 2011).

In order to change practices with regard to the ap-
propriate management of dementia or delirium follow-
ing cognitive assessment, the use of cognitive assess-
ment instruments at the bedside should be incorpo-
rated into nursing education to promote more consist-
tent assessment and higher levels of recognition of de-
ristolium or delirium (Steis & Fick, 2012). In the end, pro-
viding education to acute care nurses may help to pro-
vide a solution to these problems and can potentially 
lead to improved health outcomes and considerable 
cost savings.

3. Educational Interventions for Nurses

Studies were reviewed to evaluate the effectiveness of approaches to education for delirium or dementia 
(Akechi et al., 2010; Fick et al., 2011; Lundström et al., 
2005; Lundström et al., 2007; Meako et al., 2011; Naughton et al., 2005; Pretto et al., 2009; Robinson, Rich, Weit-
zel, Vollmer, & Eden, 2008; Tabet et al., 2005; Voellin-
ger et al., 2011). In these studies, assessment measures 
are divided into two measures: nurses’ outcome meas-
ures and patient clinical outcome measures, in order to 
assess the effectiveness of the educational intervention.

Despite a number of methodological limitations, it is 
reported in some studies that nurses knowledge regard-
ing delirium or dementia improved significantly after 
the educational intervention (Meako et al., 2011; Vo-
ellinger et al., 2011) and their performance improved, 
showing an increase in nursing assessments for delirium 
(Lundström et al., 2007) and the initiation of targeted 
management of hospitalized older adults with cognitive 
decline (Lundström et al., 2007). With a better under-
standing of assessment and management, delirium was 
consequently detected and managed more quickly, 
which led to less care needed, especially at night (Pretto 
et al., 2009). Meako et al., (2011) investigated the effec-
tiveness of an educational intervention based on evi-
dence to improve orthopedic nurses’ knowledge of 
delirium. An educational intervention, given as an 
in-service and lecture format with Power Point slides, 
was developed on the basis of nationally recommended 
guidelines from the American Association of Colleges of 
Nursing and the John A. Hartford Foundation Institute 
for Geriatric Nursing’s Geriatric Nursing Education Con-
sortium in the USA. The presentation contains content 
that helps to distinguish between delirium and demen-
tia, recognize risk factors including medications con-
tributing to delirium, and to formulate a management 
plan for delirium. Regardless of educational level or 
years of experience, a baseline knowledge assessment 
confirmed nurses’ lack of understanding of delirium. 
This baseline knowledge improved significantly follow-
ing the one-hour educational intervention.

In other studies, results also showed positive patient 
health care outcomes such as a reduced incidence of 
delirium post-intervention (Naughton et al., 2005; Robi-
son et al., 2008; Tabet et al., 2005), fewer complications 
during hospitalization and shorter length of stay (Lund-
ström et al., 2007, 2005; Naughton et al., 2005), espe-
cially in people with dementia (Lundström et al., 2007). 
However, for the prevention and management of delir-
ium, dementia or DSD, all educational intervention pro-
grams claimed moderate successes (Akechi et al., 2010; 
Fick et al., 2011; Lundström et al., 2005, 2007; Meako et 
et al., 2011; Naughton et al., 2005; Pretto et al., 2009; 
Robinson et al., 2008; Tabet et al., 2005; Voellinger et al., 
et al., 2011). Table 3 displays studies evaluating the impact of 
an educational intervention to improve delirium know-
ledge for acute care.
**Table 3. Studies Evaluating the Impact of Educational Interventions for Acute Care**

<table>
<thead>
<tr>
<th>Reference</th>
<th>Educational method</th>
<th>Study design</th>
<th>Participants</th>
<th>Outcome measures</th>
<th>Limitations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Akechi et al. (2010)</td>
<td>Delirium Training Program: RNs selected from each ward, who become the delirium-link nurses, received a 4-hour workshop including lectures, discussion and training in the use of the Neelon Champaigne Confusion Assessment Scale (NEECHAM) and then passed on their special training to the other nurses in their wards through small group discussions and case presentations</td>
<td>Before/after intervention</td>
<td>390 RNs in inpatient wards of general hospitals</td>
<td>Researcher-developed measure (15-item self-confidence measure): significant improvement in RN's self-confidence regarding assessment and care for patient with delirium in intervention group</td>
<td>No assessment of RNs' actual performance or patients' outcomes Not a randomized controlled trial No significant effect on early detection The existence of background differences due to a big gap of test-completion between control group (26%) and intervention group (88%) Instrument's validity and reliability not confirmed</td>
</tr>
<tr>
<td>Meako et al. (2011)</td>
<td>1-hour in-service education on delirium in lecture format based on recommended guidelines</td>
<td>Before/after intervention</td>
<td>23 orthopedic RNs in one single general hospital</td>
<td>Researcher-developed measure (10 multiple-choice questions): significant improvement in RN's knowledge after the education program</td>
<td>Small sample size Educational intervention not validated RN's knowledge examined immediately after the educational intervention For the instrument, content validity by nurse experts and then pilot testing conducted but its reliability not confirmed</td>
</tr>
<tr>
<td>Voellinger et al. (2011)</td>
<td>1-hour training sessions in small groups, focusing on prevention and screening and use of clinical practice guidelines</td>
<td>Before/after intervention</td>
<td>62 RNs and 23 assistant nurses in neurology &amp; neurosurgery wards</td>
<td>Researcher-developed measure (13-question multiple choice questionnaire): significant improvement in RN's knowledge three months after the education intervention</td>
<td>Low rate of participation three months after intervention Instrument's validity and reliability not confirmed</td>
</tr>
<tr>
<td>Fick et al. (2011)</td>
<td>DSD educational modules focusing on clinical assessment of delirium using the CAM, and on management of DSD, and use of clinical protocols in electronic medical records (EMR) in 60-minute sessions</td>
<td>Prospective cohort pilot study</td>
<td>All unit-based RNs and licensed practical nurses (LPNs)</td>
<td>Nurse adherence to EMR documentation: 100% on the delirium assessment decision support screens and 79% on the management screens</td>
<td>No randomized control group Clinical protocol in EMR not tested</td>
</tr>
<tr>
<td>Lundström et al. (2007)</td>
<td>A multi-factorial intervention program: a 4-day course covering rehabilitation, team work, individual care planning, delirium and associated complications, and use of protocols for pain management and risk factors for postoperative complications and delirium</td>
<td>Randomized intervention</td>
<td>Staff working in a geriatric unit specializing in orthogeriatrics</td>
<td>Length of stay: shorter (5 vs. 10 days) in intervention group Complications: fewer in intervention group Length of stay: shorter in intervention group The number of days of post-operative delirium: less postoperative days (5.2 vs. 12.8) with delirium in people with dementia in intervention group</td>
<td>Chart review used to diagnose delirium, Assessors not blinded to the ward of the patient Two groups unequal at baseline for ward type (surgical vs. geriatric trained staff)</td>
</tr>
<tr>
<td>Reference</td>
<td>Educational method</td>
<td>Study design</td>
<td>Participants</td>
<td>Outcome measures</td>
<td>Limitations</td>
</tr>
<tr>
<td>-----------</td>
<td>--------------------</td>
<td>--------------</td>
<td>--------------</td>
<td>-----------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Lundström et al. (2005)</td>
<td>A multi-factorial intervention program: education focusing on the assessment, prevention, and treatment of delirium, and on caregiver-patient interaction, monthly guidance for nursing staff, and reorganization from a task-allocation care system to a patient-allocation system with individualized care</td>
<td>Prospective case-control study</td>
<td>RNs and doctors (Drs) on a medical ward</td>
<td>Duration of delirium: lower rates at day seven in intervention ward Length of stay: shorter in intervention ward Mortality during hospitalization: lower in intervention ward</td>
<td>Patients not randomly allocated to intervention or control ward Presence of delirium not assessed daily</td>
</tr>
<tr>
<td>Naughton et al. (2005)</td>
<td>A multi-factorial intervention program: development of guidelines and protocols for the assessment and medication management of patients with delirium, behavioral disturbance and cognitive impairment</td>
<td>Before/after intervention</td>
<td>RNs and Drs in an emergency department (ED) and an acute geriatric unit (AGU)</td>
<td>Prevalence of delirium: significantly reduced at 4 (22.7%) and 9 months (19.1%) compared with baseline (40.95) Length of stay: shorter for delirious patients in AGU compared with baseline pre-AGU patients (11.5 vs. 8.2 days)</td>
<td>Less control of confounding factors with pre/post-test design Level of experience with geriatric patients in staff on AGU likely to have been considerably greater than non-AGU wards, increasing the difference between groups</td>
</tr>
<tr>
<td>Pretto et al. (2009)</td>
<td>An interdisciplinary nurse-led delirium prevention and management program (DPMP): education focusing on prevention, early recognition, and treatment of delirium</td>
<td>Before/after intervention pilot study</td>
<td>All nursing and surgical staff on a trauma ward (intervention) or on the other surgery wards</td>
<td>Nursing workload: reduction by 22% at night on the trauma ward compared with other surgical wards after the intervention</td>
<td>Delirium cases detected subjectively using a non-validated screening tool Factors confounding workload on different wards not controlled for small sample size with power less than 0.8</td>
</tr>
<tr>
<td>Robinson et al. (2008)</td>
<td>Four half-day classes on delirium, dementia, sensory losses and mobility for nursing assistants, similar education to professional nurses in staff meetings and use of a delirium prevention protocol</td>
<td>Before/after intervention</td>
<td>RNs &amp; nursing assistants on a renal unit</td>
<td>Incidence of delirium: less after the intervention (57.5 vs. 13.8%)</td>
<td>Delirium detected via only retrospective chart review A validated tool to diagnose delirium not used No assessment of the protocol adherence</td>
</tr>
<tr>
<td>Tabet et al. (2005)</td>
<td>A 1-hour didactic presentation, small group discussion, written management guidelines and follow-up sessions</td>
<td>Prospective case-control study</td>
<td>Nurses and doctors working on an acute medical ward</td>
<td>Point prevalence of delirium: less on intervention ward (9.8 vs. 19.5%) Clinical staff in the intervention ward more likely to correctly identify delirium</td>
<td>Assessors not blind to the patient's ward status Prevalent cases of delirium may be missed with a one-off assessment made by reviewing files on admission</td>
</tr>
</tbody>
</table>
DISCUSSION

In the literature, there are nurse-related and organizational-related factors affecting the management of CI in hospitalized older adults. The acute care settings constitute a different care environment, culturally focusing on technological and task-driven care, and the priority of safety and lack of educational efforts regarding the assessment and management of CI (Moyle et al., 2011; Yang, 2010; Yevchak et al., 2012). In the busy acute care environment, educational efforts are needed to acquire appropriate knowledge, which can improve nurses’ ability to assess and manage the CI of older adults as well as promote positive attitudes (Akechi et al., 2010; McDonnell & Timmins, 2012; Nilsson et al., 2012). This improved care practice may result in positive outcomes for these patients. However, little attention has been paid to enhance acute care nurses’ management toward CI in older adults, although the number of older adults with dementia admitted to acute care settings has rapidly increased in Korea. Based on an incorrect assumption that a standard neurological examination is sufficient to identify delirium, nurses are more likely to focus on obvious medical diagnoses (Flagg et al., 2010). They may overlook cognitive and behavioral changes in older patients, which lead to inappropriate management of CI in acute care settings. The reason may be the result of a lack of knowledge and awareness of cognitive assessment tools, or not being able to differentiate between dementia and delirium (Moyle et al., 2011; Yevchak et al., 2012). Also, the development of a nursing education program to improve care management for people with CI is arguably not seen to be a priority in an acute care setting. In Korea, the majority of acute care settings have no standardized care protocols to manage dementia or delirium following cognitive assessment. Although Korean acute care nurses address the educational needs of these patients, formal education or training rarely includes the assessment and management of CI (Park et al., 2006). Family members as the primary caregivers are at the bedside 24 hours a day for hospitalized older adults and they are usually asked to watch for symptoms of cognitive decline. However, confused behavior could be overlooked by professional nurses as they are bound by Korean social expectations of filial piety, and the family caregivers are not skilled at detecting delirium (Yang, 2010). It is assumed that family members as the primary caregivers are not able to manage dementia or delirium without receiving appropriate education.

Consequently, delirium is often missed in hospitalized older adults, and this condition may be mislabeled as dementia, acute care nurses not being able to distinguish dementia from delirium (Fick et al., 2007). As evidenced by the absence of nurses’ use of the terms delirium or acute confusion in documentation (Steis & Fick, 2012), nurses’ low rates of identifying delirium has been linked to multiple factors. Identified nurse-related factors include a lack of knowledge about delirium, or dementia and its detection (Fick et al., 2007). A lack of awareness among nurses of the clinical importance of delirium was also found to be linked to undetected delirium (Yevchak et al., 2012). The result can be in an increase in psychotropic medication use among hospitalized older adults with delirium, in particular those with DSD (Fick et al., 2007), which can worsen the condition or further delay recognition of the problem (Voyer et al., 2009). This factor indicates that there is an association between nurses’ knowledge level and the quality of care management of CI.

Acute care nurses might lack formal and evidence-based training, which results in a lower knowledge level and negative attitudes toward older adults with CI, although they might encounter patients with delirium who are being managed without clinical care protocols for CI (Choi et al., 2011; Kada et al., 2009; Lee et al., 2007; Nilsson et al., 2012). This is especially the case in Korea where acute care nurses do not have the appropriate nursing education in relation to the management of delirium in hospitalized older adults (Choi et al., 2011; Lee et al., 2007). Acute care nurses have the potential to improve patients’ outcomes through the early detection of dementia or delirium in their patients. In order to improve knowledge and attitudes towards older adults with or without dementia who have delirium, an educational intervention needs to be developed to prompt nurses’ recognition and management of these problems (Fick et al., 2007). With a better understanding of CI, acute care nurses can empower family members to understand the symptoms and management of delirium and therefore enable a reduction in the complications associated with the development of delirium as well as additional cost and suffering for patients and family caregivers (Flagg et al., 2010).

CONCLUSION

This review identifies the potential for nurses’ knowledge deficit of CI as well as how negative attitudes influence the quality of care management in acute care settings. It also emphasizes the need for education, which
has the potential to lead to a significantly positive improvement in nurses’ knowledge and attitudes and the appropriate management and empowerment of family members to participate through the early detection of dementia or delirium in hospitalized older adults with CI.

As a result, it can potentially maximize patients’ positive health outcomes, minimize health care costs, and decrease the emotional distress of family caregivers. Studies have shown that nurses’ level of knowledge and attitudes towards older adults with CI are critical factors contributing to the quality of care in their patients. Within the literature, despite some consensus on the management of older adults with CI in an acute care setting (Moyle et al., 2008), knowledge and skills as well as attitudes towards the care of older adults with CI have been emphasized less, resulting in acute care nurses in Korea, failing to appreciate the challenges associated with caring for older adults with CI (Choi et al., 2011; Lee et al., 2007; Yang, 2010). Clinically, differentiation between dementia and delirium is important as delirium points to a serious illness and may indicate that the older adult’s life is at risk. Also, dementia is a high risk factor for older adults to develop delirium and causes a more convoluted course when coexisting with delirium (Fick et al., 2007). Consequently, facilitating care improvement for older adults with CI, particularly those with dementia, needs to be given attention in Korean acute care settings.

However, given the relative paucity of studies that test and report on educational interventions for best management of older adults with CI, and the dominance of small scale studies, this review of the literature demonstrates the need for further research that aims to identify and evaluate such an educational intervention validation of CI management. Also, the researcher argues that the review demonstrates the need for intervention studies that move beyond the descriptive to an evidence base for CI management in older adults in acute care settings. Further research should incorporate the current management of older adults with CI into intervention studies that document the type of intervention used, in sufficient detail to be useful in implementation.

REFERENCES


