

Knowledge and Attitude of Intensive Care Unit Nurses Towards Delirium Working at Guilan University of Medical Sciences in 2015

Monfared A¹, Soodmand M^{2*}, Ghasemzadeh G³

¹MSc. Dept. of Nursing, Instructor, Social Determinants of Health Research Center, School of Nursing and Midwifery, Guilan University of Medical Sciences, Rasht, Iran

²MSc. Student of Medical-surgical Nursing, Student Research Committee, School of Nursing and Midwifery, Guilan University of Medical sciences, Rasht, Iran

³BSc. Student of Nursing Research Committee, School of Nursing and Midwifery, Guilan University of Medical sciences, Rasht, Iran

***Corresponding Author:** MSc. Student of Medical-surgical Nursing, Student Research Committee, School of Nursing and Midwifery, Guilan University of Medical sciences, Rasht, Iran

Email: msudmand@yahoo.com

Received: 6 Oct 2016 **Accepted:** 10 June 2017

Abstract

Background: *Delirium* is a common problem in patients hospitalized in Intensive Care Unit. Despite the importance, only less than 13% of cases are diagnosed by physicians and medical personnel.

Objectives: The present research aimed to study knowledge and attitude of critical care nurses towards delirium.

Methods: This cross-sectional study was conducted in Iran. Convenience sampling was used to enroll nurses (186 persons) working in intensive care units of Rasht educational hospitals affiliated to Guilan University of Medical Sciences in 2015. Data collection instruments included a three part questionnaire: demographic data, 15- item questionnaire formerly used by Guthrie and Sendelbach (2009) on nurses' knowledge about delirium, and 10-item questionnaire adopted from Herrero et al on attitude of the nurses towards delirium. The obtained data were statistically analyzed using descriptive statistics, Pearson's correlation coefficient and t- test in SPSS-20.

Results: The majority of nurses (68.3%) have intermediate knowledge about delirium and only 24.6 percent reported good knowledge and 76 percent had positive attitude about delirium.

Conclusion: Nursing knowledge and awareness have a significant role in improvement of the quality of healthcare and preventive measures, as well as the attitude of nurses towards dealing with delirium patients. Hence, it is recommended to give greater importance to academic courses and ongoing post-graduation professional development programs in the workplace, as a globally practiced healthcare quality improvement strategy.

Key words: *Delirium, Knowledge, Attitude, Nurses, Intensive Care Units*

Introduction

Delirium, also known as acute confessional state, is one of the oldest known medical disorder [1].

According to DSM-V-TR (Diagnostic and Statistical Manual of Mental Disorders, Fifth

Edition, Text Revision), delirium is the acute loss of consciousness and cognitive degradation, especially in attention, which appears in a short time. Its main symptom of is clouding of consciousness, which is typically associated with

general degradation of cognitive functions. Typically, delirium has a sudden and swaying onset and can be found in three states including hypoactive, hyperactive, and mixed. Elimination of etiological factors is associated with a rapid recovery [2,3].

Based on DSM-V-TR, the core features of delirium include (i) altered level of consciousness, (ii) changes in attention, (iii) impairment of other cognitive functions as positioning disorder, (iv) relatively fast onset, (v) short duration, (6) and significant and unpredictable fluctuations in severity and other clinical manifestations during the course of the day, and exacerbation of symptoms at night [2]. These features degrade its diagnosis [1].

Delirium is more common among patients undergoing a surgery. Some of the most important causes of delirium include the age (> 70 years) and cognitive disorders. In a study conducted by Jannati et al. (2013), preoperative hypoxia and ischemia were reported to be the most common mechanisms of delirium [4,5]. Loneliness, fear of disease and death, deprivation, exclusive verbal communication with nursing staff and total dependence on them to meet basic needs, and impairments in temporal and spatial orientation increase the chance of distress, confusion, and agitation in these patients [1].

According to the DSM-V-TR, the elderly has the highest incidence and prevalence rates of delirium. Some studies have reported the prevalence of 1% for people aged over 55 years and 10% for older emergency patients. According to Zolfaghari et al. (2012), delirium has the prevalence of 75% [6].

Approximately, 15-20% of elderly patients are with delirium symptoms at admission. A very high number of patients with delirium, particularly in intensive care units, end up in death [2,7]. Delirium is associated with complications such as longer hospital and ICU stay, increased rate of mortality (22-76%), incidence of nosocomial pneumonia, increased risk of recurrence, risk of falling, urinary incontinence, skin disorders, permanent disability, and no improvement in cognitive status [6]. Delirium annually affects 2.3 million elderly inpatients, causing more than 17.5 million days of

hospital stay and more than 4 billion dollars on health care costs [8]. Given the high prevalence, harmful effects, and high healthcare costs, delirium is nowadays considered to be one of the main concerns of the medical staff (especially nurses) in intensive care units [9].

Delirium is usually diagnosed at the bedside and has an acute onset. Physical examination often gives us some etiological clues. However, to confirm cognitive impairment and provide a basis for assessing the clinical course of the disease, psychiatric examinations at the bedside can be also helpful [2].

Despite the importance of this syndrome and availability of various screening instruments, only less than 13% of cases are diagnosed by physicians and medical personnel [1,4,10].

Nowadays, critical care nursing is an independent and creative profession, and the greatest art of nursing. The main factor in intensive care units is the presence of experienced nursing staff, who are constantly and specifically in touch with patients and can play a major role in prevention, early diagnosis, and treatment of delirium. Since nurses are the major providers of clinical preventive services, increasing their awareness and knowledge on the issue is of great importance [6-14].

Despite particular importance of the diagnosis and availability of extensive screening tools, regular examinations have not been included as a key element in healthcare programs in most healthcare centers [15]. Studies conducted in Australia and Jordan on delirium in ICUs indicates that nurses lack the required knowledge on delirium, screening tools, and proper screening [16]. There are inconsistencies in other studies given the knowledge of nurses about delirium [4,6,17,18].

Attitude is shaped from one's perception of other humans and objects, and explains their reactions. In other words, it can be defined as having a range of perspective on a person or an object from favorable to unfavorable or from liking to disliking perspective [19]. Paying attention to the attitude of nurses towards delirium is of particular importance. Studies into this area show the existence of both negative [10,20] and positive [13] attitudes among nurses. Given the conflicting results of previous studies, the high prevalence of

delirium in intensive care units, the close relationship of the medical staff (especially nurses) with patients in ICUs, and significance of early diagnosis and knowledge of the symptoms, the present research aimed to study knowledge and attitude of critical care nurses towards delirium.

Methods

This cross-sectional, descriptive study was conducted in teaching hospitals, affiliated with Guilan University of Medical Sciences in Rasht, from March to June 2014. Subjects with at least a bachelor's degree in nursing with a minimum one-month work experience in intensive care units, who wish to participate in the study, were enrolled using convenience sampling.

Data collection instruments included a three part questionnaire. The first part contained demographics information (age, work experience in intensive care units, educational degree, attending special care courses, prior familiarity with delirium, and source of acquired knowledge). The second one, formerly used by Guthrie and Sendelbach (2009) [21], was comprise of 15 items to measure knowledge of the nurses about delirium. The third one, adopted from Herrero et al., was a 10-item questionnaire on attitude of the nurses towards delirium. The validity of this questionnaire was assessed by 10 esteemed faculty members of the Department of Nursing and Midwifery of Shahid Beheshti University of Rasht. The reliability of the questionnaire was obtained by applying a pilot study to 20 ICU nurses, using Cronbach's alpha ($\alpha=0.74$ for knowledge and 0.70 for attitude). The knowledge questionnaire was rated on a 3-point Likert scale anchored by ('correct'), ('wrong'), and ('neutral'). Scoring was done by assigning 1 to correct responses, and 0 to wrong and neutral ones. The minimum and maximum possible total score was 0 and 15, respectively. Based on the obtained scores, knowledge of the nurses was categorized as weak (0-5), moderate (6-10), and good (11-15). The attitude questionnaire was rated on a 3-point Likert scale anchored by 3 ('agree'), 2 ('neutral'), and 1 ('disagree'). The minimum and maximum possible total score was 10 and 30, respectively.

Based on the obtained scores, attitudes of the nurses were categorized as negative (10-16), neutral (17-23), and positive (24-30).

To conduct the study, the necessary permissions were first obtained from Research and Technology Section of Guilan University of Medical Sciences, Ethics Committee of Guilan University of Medical Sciences, and nursing departments of the teaching hospitals. Then, required coordination was made with the esteemed head nurses of intensive care units. After that, research objectives were explained to the subjects and their oral consent was gained. Finally, the questionnaires were distributed among them. In order to achieve better and more reliable results, the nurses were asked to fill out the questionnaires whenever they had greater concentration at work.

Out of 186 distributed questionnaires, 167 ones were fully filled out and returned. The obtained information was inserted into SPSS-20 and normal distribution of data was assessed using the Kolmogorov-Smirnov test. To determine the knowledge and attitude of the nurses descriptive statistics (percentage, frequency, mean, and standard deviation) were utilized. Pearson correlation coefficient was used to study the relationship between knowledge and attitude. In addition, the factors affecting these two variables were determined using Pearson correlation coefficient and t-test.

Results

The mean age of nurses was 31.91 ± 6.44 years and their mean work experience in intensive care units was 6.63 ± 5.24 years. Approximately, 94.6% of the nurses had a bachelor's degree and 96.4% were familiar with delirium. The main source of their knowledge about delirium was their academic courses. According to data, 58.1% of the nurses had attended critical care courses, the majority of them (68.3%) had a moderate level of knowledge about delirium, and only 24.6% of them had a good level of knowledge in this regard. In addition, 76% of the subjects had a positive attitude towards this disorder (Table 1).

Table 1: Knowledge and Attitude of Critical care Nurses About Delirium

Variable		Frequency (%)
Knowledge	weak	12 (7.2%)
	Moderate	114 (68.3%)
	Good	41 (24.6%)
Sum		167 (100%)
Attitude	Negative attitude	0 (0%)
	Neutral	40 (24%)
	Positive	127 (76%)
Sum		167 (100%)

Based on Pearson's correlation coefficient, age ($r=0.12$, $p=0.04$) and clinical work experience in ICU ($r=0.12$, $p=0.05$) had a significant and positive relationship with knowledge of the nurses about delirium, that their knowledge increased with aging and work experience. There was no significant relationship between nurses' attitudes

towards delirium with these variables. Independent t test showed a significant difference between the knowledge of nurses about delirium and educational degrees ($p=0.006$). However, no significant difference was observed between the attitude of nurses towards delirium and their demographic information (Table 2).

Table 2: Comparison of Mean scores of Icu nurses' Knowledge and attitude towards delirium and nurses' educational status

Variables		Knowledge	Attitude
Educational degree	Bachelor's degree	9.07±2.15	25.16±2.73
	Master's degree	11.25±2.05	24.75±3.69
	t-test	$p=0.006$	$p=0.67$
		$t=-2.78$	$t=-0.41$
		$df=165$	$df=165$
Attending critical care courses	Yes	9.08±2.33	25.39±2.76
	No	9.31±2.01	24.81±2.33
	t-test	$p=0.50$	$p=0.18$
		$t=-0.67$	$t=1.32$
		$df=165$	$df=165$

Results also indicated that there was a significant relationship between knowledge scores of nurses and their attitude score, that the latter increased with improving their knowledge ($r=0.14$, $p=0.03$).

Discussion

Research findings indicated that nurses had moderate level of knowledge about delirium. Gesin et al. (2012) conducted a study in Carolina and reported the same result [23]. Christensen et al. (2014) in a study in Asia showed that most nurses were able to diagnose delirium based on the signs and symptoms, risk factors, and negative

outcomes and obtained moderate scores on knowledge about delirium [15]. On the other hand, the findings of Elliott (2014) suggested that the critical care nurses had a high level of knowledge about delirium [16]. By contrast, the results of Hamdan-Mansour et al. (2010) indicated their low level of knowledge about delirium [24]. Trogrlic et al. (2013) also showed that the majority of healthcare workers had a rudimentary knowledge of delirium in patients hospitalized in ICUs [17]. These conflicting results can be attributed to the difference in instruments, the number of questions, and areas of

study. In addition, educational differences between universities and hospitals across the world may justify differences in knowledge of nurses about delirium.

Furthermore, moderate to poor knowledge of nurses about delirium can be attributed to severity of delirium (mild, severe, and mixed). Considering this probability and the importance of delirium in ICU patients, familiarity of nurses, who are in a direct and close relationship with patients, with this disorder and their ability to diagnose it can play a major role in the prevention, early diagnosis, and treatment of it.

In addition, results of this study showed that most nurses participated in this study had a positive attitude towards delirium. This finding is consistent with Dadgari et al. (2008) [13], but inconsistent with Trogrlic et al. (2013), who reported that nurses had a higher negative attitude than physicians towards screening and prevention of delirium [20]. Beach et al. (2013) indicated an attitudinal difference between nursing interns and personnel [25]. In another study, Beach et al. (2013) found that nurses had a negative attitude towards the screening and diagnosis of delirium [10].

These results may be due to the vital and caring conditions of the patients in these units. Considering that certain treatment and caring conditions are required for these patients and given the high prevalence of delirium, as a common complication, nurses should have a positive attitude towards the significance of this problem. On the other hand, conflicting results from different studies can be due to different cultural and workplace conditions of nurses and research methodology (2008) [13].

Findings of the present study revealed a significant relationship between knowledge about delirium with age and work experience of nurses; whereas, Christensen (2014) rejected any significant relationship between these factors [15]. Considering these controversies, it can be concluded that experience is a key factor in the acquisition of knowledge and awareness. As a result, aging and working experience can broaden the experience of critical care nurses of how to deal with delirium patients. This improvement may extend their knowledge.

In addition, a significant relationship was observed between nurses' knowledge about delirium and their educational degree. Consistent with the findings of this study, Christensen (2014) showed that nurses' knowledge about delirium was significantly related to their educational attainment ($p < 0.05$) [15].

Results also indicated a significant relationship between the score of knowledge about delirium and attitude towards it that the attitude score increased with improving the knowledge. However, no relevant study was found from literature review. Therefore, positive attitude towards a specific subject can be shaped by acquiring sufficient awareness and knowledge, which enable one to have better understanding of the importance of the subject. If people lack sufficient information and knowledge about a certain subject, they cannot achieve a thorough and comprehensive understanding of it. It is also true in the opposite order, that when people have a positive attitude towards a subject, they will be more willing to acquire more knowledge about it. As a result, knowledge and attitude of nurses working in ICUs about delirium can be interrelated and affect each other.

According to the results, critical care nurses had a moderate level of knowledge on delirium, much of which was obtained from academic courses. On the other hand, on-the-job training (critical care courses on delirium) had a vital impact on familiarity with delirium, and its prevention and treatment. For example, Smyth et al. (2015) reported the positive effects of training on the knowledge of all healthcare workers, including physicians and nurses [26].

Findings also indicated that nurses had a positive attitude towards delirium. Positive attitude, as an essential prerequisite for any service provision, can improve the quality of services in healthcare centers [19]. The expansion of knowledge and awareness is a prerequisite for effective nursing care as it shapes positive attitudes. Therefore, the expansion of knowledge can play a decisive role in shaping a positive attitude towards patients with delirium or those at risk. Consequently, positive attitudes lead to improved healthcare services in ICUs, and control and prevention of

adverse effects of hospitalization, including delirium.

An important factor that distinguishes critical care nurses from their peers in other units is that the former group needs a great amount of knowledge on the nursing subjects, in both scientific and practical senses, to be able to appropriately meet the needs of their patients.

According to the nurses, academic courses were their main source of knowledge about delirium. It is noteworthy that the lack of educational facilities, especially in clinical settings, may reduce the effectiveness of academic education, leaving the graduates greatly alien to this disorder and how to take care of the affected patients, and even their profession. Therefore, nursing knowledge and awareness have a significant role in improvement of the quality of healthcare and preventive measures, as well as the attitude of nurses towards dealing with delirium patients.

Hence, it is recommended to give greater importance to academic courses and ongoing post-graduation professional development programs in the workplace, as a globally practiced healthcare quality improvement strategy.

According to the findings, the conduction of further studies into the effect of educational interventions on the knowledge and awareness of critical care nurses and also on the impact of their knowledge and attitude on the quality of healthcare services provided to patients with delirium are recommended.

Among research limitations was the huge workload and stressful settings of units, which could affect participants' responses.

Acknowledgments

The present paper was extracted from a research project approved by the Student Research Committee (under the code 93110604) in January 26, 2016 and the Ethics Committee of Guilan University of Medical Sciences (under the code 2930596701). Hereby, the authors would like to thank the Research and Technology Section of Guilan University of Medical Sciences for providing financial support, the Care and Treatment Section of Guilan University of Medical Sciences, as well as the esteemed

authorities and critical care nurses of teaching hospitals in Rasht.

Conflict of interest: It should be noted that there is no conflict of interest in this article.

Funding:

Research and Technology Section of Guilan University of Medical Sciences financially supported this study.

References

1. Kalani Z, Tavangar H, Rahimi A. Effectiveness of nursing interventions on incidence of delirium in patients hospitalized to intensive cardiac care units, shiraz hospital. *Med Surg Nurs J*. 2013; 2(3-4): 93-100. [In Persian]
2. Sadock BJ, Sadock VA, Ruiz P. Kaplan & sadock's synopsis of psychiatry: behavioral sciences. Rezaee F. (Persian translator). 11th ed. Tehran: Arjmand pub; 2015: 399-410. [In Persian].
3. Eastwood GM, Peck L, Bellomo R, Baldwin I, Reade MC. A questionnaire survey of critical care nurses' attitudes to delirium assessment before and after introduction of the CAM-ICU. *Aust Crit Care*. 2012; 25(3): 162-69.
4. Jannati Y, Sohrabi M, Bagheri M. Delirium and its diagnostic tools: A new approach to nursing practice. *Journal of Clinical Excellence. J Clin Exc*. 2013; 1(2): 85-96. [In Persian]
5. Wand AP, Thoo W, Sciuriaga H, Ting V, Baker J, Hunt GE. A multifaceted educational intervention to prevent delirium in older inpatients: A before and after study. *Int J Nurs Stud*. 2014; 51(7): 974-82.
6. Zolfaghari M, Arbabi M, Pedram Razi S, Biat K, Bavi A. Effectiveness of a Multifactor Educational Intervention on Delirium Incidence and Length of Stay in Patients with Cardiac Surgery. *Hayat*. 2012; 18(1): 67-78. [In Persian]
7. Wells LG. Why don't intensive care nurses perform routine delirium assessment? A discussion of the literature. *Aust Crit Care*. 2012; 25(3): 157-61.
8. Derakhshanfar A, Ghaleiha A, Niayesh A, Alizade S, Goodarzi M, Ghorbanpoor M. Assessment of the Frequency of Cognitive Disorder in Older Patients before and after

Surgery in Hamadan Educational Hospitals. Iran J Surg. 2011;18(4):9-17. [In Persian]

9. Heidari A, Dianati M, Mousavi SGA. Prevalence of delirium, its related factors and short-term outcomes in ICU wards of Kashan Shahid-Beheshti and Isfahan Kashani hospitals during 2012-2013. J FEYZ. 2014; 18(1): 76-84. [In Persian]

10. Beach SR, Chen DT, Huffman JC. Educational impact of a psychiatric liaison in the medical intensive care unit: effects on attitudes and beliefs of trainees and nurses regarding delirium. Prim Care Companion CNS Disord. 2013; 15(3): PCC.12m01499.

11. Middle B, Miklancie M. Strategies to improve nurse knowledge of delirium: a call to the adult-gerontology clinical nurse specialist. Clin Nurse Spec. 2015; 29(4): 218-29.

12. McCrow J, Sullivan KA, Beattie ER. Delirium knowledge and recognition: A randomized controlled trial of a web-based educational intervention for acute care nurses. Nurse Educ Today. 2014; 34(6): 912-17.

13. Dadgari A, Yaghmaei F, Shahnazarian J, Dadvar L. A survey of knowledge, attitudes and skills of nurses in intensive care units (ICU) of cardiac surgical at prevention of ICU syndrome. Knowledge Health. 2008; 2(3): 28-35. [In Persian]

14. Hosie A, Lobb E, Agar M, Davidson PM, Phillips J. Identifying the barriers and enablers to palliative care nurses' recognition and assessment of delirium symptoms: a qualitative study. J Pain Symptom Manage. 2014; 48(5): 815-30.

15. Christensen M. An exploratory study of staff nurses' knowledge of delirium in the medical ICU: An Asian perspective. Intensive Crit Care Nurs. 2014; 30(1): 54-60.

16. Elliott SR. ICU delirium: a survey into nursing and medical staff knowledge of current practices and perceived barriers towards ICU delirium in the intensive care unit. Intensive Crit Care Nurs. 2014; 30(6): 333-38.

17. Trogrlic Z, Van der Jagt M, Van der Voort P, Bakker J, Ista E. Current perspectives, beliefs and

practices concerning delirium in critically ill patients: a multicenter survey among Dutch healthcare professionals. J Crit Care. 2013; 17(2): 1.

18. Rosenbloom DA, Fick DM. Nurse/family caregiver intervention for delirium increases delirium knowledge and improves attitudes toward partnership. Geriatr Nurs. 2014; 35(3): 175-81.

19. Artishedar A, Mortaga Gasemi M, Agajanjamaat M, Ghahremani Z. Attitudes toward Elderly among Nurses working in Medical-Surgical Wards in Zanjan hospitals, 2012. PCNM. 2015; 4(2): 81-90. [In Persian]

20. Trogrlić Z, Ista E, Ponssen HH, et al. Attitudes, knowledge and practices concerning delirium: a survey among intensive care unit professionals. Nurs in crit care. 2017; 22(3): 1-8.

21. Sendelbach S, Guthrie PF. Acute Confusion/Delirium: Identification, assessment, treatment, and prevention. J gerontological nurs. 2009; 35(11): 11-18.

22. Herrero S, Mendoza N, Muñoz M, Mendoza D, Garcia E, Sánchez A. Multicentre Study about Nurses' attitude to delirium patients. Crit Care & Shock. 2008; 11: 35-44.

23. Gesin G, Russell BB, Lin AP, Norton HJ, Evans SL, Devlin JW. Impact of a delirium screening tool and multifaceted education on nurses' knowledge of delirium and ability to evaluate it correctly. Am J Crit Care. 2012; 21(1): e1-11.

24. Hamdan-Mansour AM, Othman EH, Yacoub MI. Knowledge and nursing practice of critical care nurses caring for patients with delirium in intensive care units in Jordan. J Contin Educ Nurs. 2010; 41(12): 571-76.

25. Beach SR, Chen DT, Huffman JC. Attitudes and Beliefs of Trainees and Nurses Regarding Delirium in the Intensive Care Unit. Acad Psychiatry. 2013; 37(6): 436-38.

26. Smyth W, Wright K, Burton S, Murray H. Knowledge of delirium improves following staff education: results of a pre/post survey. J Ann Aust Coll of Trop Med. 2015; 17(1): 11.