

## **ASSESSMENT OF NURSES' KNOWLEDGE REGARDING DELIRIUM AT ADULT CRITICAL CARE UNITS IN BAGHDAD CITY**

Maryam Aayd Ismail\*, Huda Shaker Rahim, Younis Hamid Abd Alwan  
Wissam Ali Mahmoud, Haitham Alaa Salem, Hadeel Kamel Reggio & Hyam Hadi Abdullah

College of Nursing, Al-Bayan University, Baghdad, Iraq

---

### **Abstract**

**Introduction:** Delirium is a common side effect of hospitalization, particularly among the elderly. It has the potential to cause significant morbidity, death, and a reduction in quality of life. Despite this, a thorough literature study revealed that it is under-recognized and poorly handled by medical and nursing personnel. Although some studies have discovered that nurse education programs can help patients with delirium. **Objectives:** Assess nurses' level of knowledge about delirium and its associated risk factors. Identify clinical and education implications of the findings. Assessment of the presence of special delirium scale and nurses use of it. **Methods:** this study is designed to measure the nurses' knowledge regarding delirium at adult critical care units in Baghdad city. The non-probability (purposive) sample consists of 87 male and female nurses, who work in ICU, RCU and CCU in two teaching hospitals in Baghdad city. Their age range is between 21 – 60 years. Subsequently, SPSS software applied to analyze the relevant data of the study. To achieve the research objective, a questionnaire was composed of two sections: part one deals with the sample's demographic information. Part two deals with nurse's knowledge towards delirium. The questionnaire was introduced to the study sample manually to fill it. **Results:** the study findings show that the majority of sample have moderate level of knowledge regarding delirium (51.6 %). In addition, there is a relationship between nurses' knowledge and nurses' work place in ( $P$ -value  $< 0.001$ ) while there are no relationships with other variables. **Conclusion:** The study's main finding is that nurses at the study hospital have insufficient awareness of delirium, particularly when it comes to risk factors. However, nurses on one ward who received in-service delirium instruction performed better than nurses in other areas, indicating a link between nurse expertise and area of work. According to the researchers, further study that encompasses all hospitals in Iraq is needed. As well as, performing delirium training courses for patients, which is relevant to their sector of work.

**Keywords:** Nurses, Knowledge, Delirium, Critical Care

---

### **Introduction:**

Delirium is a major attention, awareness and cognition disorder that affects one third of elderly individuals (1). High age, cognitive impairment and comorbidity are the most important risk factors (2). The probability of death, cognitive impairment and institutionalization for delirium patients has increased (3) For the broader health system, delirium has substantial medical, social and economic

---

implications. There are four various kinds of delirium motors: hyperactive delirium, hypoactive delirium, hyperactive mixed delirium and no motor disturbance delirium (4). Most studies found the worst prognosis for hypoactive delirium (5). Whether the risk factors and etiologies differ among motor subtypes is uncertain (1).

Pre-existing cognitive impairment is the main risk factor for delirium. The greater age, acute systematic illnesses, co-morbid disease, and the use of specific medications are further risk factors (e.g., benzodiazepines) (6). Delirium is reported in up to 87 percent of ICU patients who are subjected to mechanical ventilation; therefore, the recommendations on critical care medicine propose that ICU patients be tested routinely for delirium with a validated screening instrument (7). Instant delirium recognition in the ICU enables caregivers to distinguish between the symptoms of patients (e.g. pain or worry) and other comparable disorders (e.g., psychomotor upheaval). Increasing mortality and ICU stay and health costs are connected with delirium. (8)

### **Nursing knowledge toward delirium**

The nurses had an insufficient perception of delirium and delirium identification. This is distressing, but not entirely unforeseen, because prior studies demonstrate that many clinical practices lack expertise of delirium. (9-11).

The results demonstrate that there is no knowledge of the term delirium. However, participants report interactions with people who plainly have delicate conditions without linking them with delirium diagnosis. Also, a term too dangerous for use was labelled as Delirium. This technique could, in our opinion, be one reason why delirium is often missed and the severity of the patient's altered health status is not noticed. People of advanced aging with cognitive impairments are particularly susceptible to the development of delirium, which is characteristic of many community care users. Delirium is therefore the first item to address when a patient's attention, consciousness and cognition witness acute alterations. The results demonstrate that most people have limited information that many types of delirium exist and their statements mirror typical hyperactive delirium examples. (12)

The objectives of this study are to:

1. Assess nurses' level of knowledge of delirium and the associated risk factors;
2. Identify clinical and education implications of the findings.
3. Assessment of the presence of special delirium scale and nurses use it.
4. Find the relationship between demographic data and nurse's knowledge.

## **Methods**

A descriptive design was used for the purpose of the study from the period of 15th January 2021 to the 15th May 2021. The study was conducted in ICU, RCU and CCU from three hospitals in Baghdad Medical City hospital, Al-Yarmouk hospital and Ibn Al-Nafees hospital. The non-probability (purposive) sample consists of 87 nurses, who work in ICU, RCU and CCU in two teaching hospitals in Baghdad city.

-Number of nurses in Baghdad hospital ICU is 39

-Number of nurses in AL-Yarmouk medical ICU is 25

- Number of nurses in Ibn Al-Nafees hospital ICU is 24

The criteria for the selection of the study samples: All nurses who worked at ICU, RCU. The sample consists of male and female nurses of different educational levels.

Study instrument was adopted from (13) consisted from two parts. The first part is about the population demographic data (Age, Gender, Educational level, years of experience, a special course on delirium, a special measure for delirium and types of delirium scale). The second part is about delirium concerns and their related risk factors. The second section allowed participants to respond to a series of 36 statements by agreeing, disagreeing or unsure. Eighteen statements relating to delirium ("Knowledge Questions") and 16 statements relating to risk for delirium ("risk questions") were presented and handled. A paper list of nursing staff was used to discuss the information sheets attached to the questionnaires in a decided-on protocol in the nursing manager's room. The researchers explained the questionnaire items to the participants to make sure every item is clear before they respond to the questionnaire. When scanned, answers for each delirium statement have been recoded to "correct," "incorrect," "uncertain" or "blank."

The Content validity of questionnaire is determined through a predetermined and recognized scale that can be reviewed thoroughly in Malcolm and Diane et al. (2008). The investigators used direct interview and the constructed questionnaire format to obtain the data from the sample and data were collected from the period of 15th January 2021 to the 15th May 2021.

Data are analyzed through the use of SPSS (Statistical package for Social Sciences) version 22.0 application Statistical analysis system and Excel application.

## Results

Table 1. Distribution of Nurse's Demographic Variables

	<b>Characteristics</b>	<b>N</b>	<b>%</b>
<b>Gender</b>	Male	25	28.7
	Female	62	71.3
	Total	87	100.0
<b>Age</b>	21-35 year	75	86.2
	36-46 year	9	10.3
	47-60 year	3	3.4
	Total	87	100.0
<b>Educational level</b>	Nursing School	24	27.6
	Diploma	38	43.7
	Bachelor	25	28.7
	Higher Education (Higher diploma, master and doctoral)	0	0.0
	Total	87	100.0
<b>Work</b>	ICU	27	31.0
	CCU	17	19.5
	RCU	43	49.4
	Total	87	100.0
<b>Years of experience</b>	>1-13 year	81	93.1
	14-26 year	6	6.9
	Total	87	100.0
<b>Courses about delirium</b>	Yes	2	2.3
	No	85	97.7
	Total	87	100.0
<b>Uses of delirium scale in work area</b>	Yes	3	3.4
	No	84	96.6
	Total	87	100.0

N=frequency, %=percentage, ICU=intensive care unit, CCU=Cardiac care unit, RCU= respiratory care

unit.

This table shows that the majority of the studied sample were between (21-35) years old, also showed the educational status of nurses in the study majority were diploma in nursing (43.7%) followed by bachelor (28.7%). The majority works in RCU (49.4%) and they don't have educational courses about delirium and didn't use delirium scale in the work place.

**Table 2A: Distribution of nurse's knowledge regarding delirium**

No.	Items	Disagree N (%)	Not sure N (%)	Agree N (%)
<b>Knowledge towards delirium</b>				
1.	<b>Fluctuation between orientation and disorientation is not typical of delirium (False)</b>	25(28.7)	31(35.6)	31(35.6)
2.	<b>Symptoms of depression may mimic delirium (True)</b>	20(23.0)	31(35.6)	36(41.4)
3.	<b>Treatment for delirium always includes sedation (False)</b>	40(46.0)	32(36.8)	15 (17.2)
4.	<b>Patients never remember episodes of delirium (False)</b>	18(20.7)	25(28.7)	44(50.6)
5	<b>Delirium is a difficult condition to assess (True)</b>	30(34.5)	32(36.8)	25(28.7)
6.	<b>A Mini Mental Status Examination (MMSE) is the best way to diagnose delirium (False)</b>	20(23.0)	28(32.2)	39(44.8)
7.	<b>Delirium never lasts for more than a few hours (False)</b>	21(24.1)	40 (46.0)	26(29.9)
8	<b>Initiation of antipsychotic treatment (eg, haloperidol) should be It is the primary intervention for all patients with delirium (True)</b>	30(34.5)	32(36.8)	25(28.7)
9.	<b>A patient who is lethargic and difficult to rouse does not have a delirium</b>	14(16.1))	30 (34.5)	<b>43(49.4)</b>

	<b>(False)</b>			
10.	<b>Patients with delirium are always physically and/or verbally aggressive (False)</b>	24(27.6)	41(47.1)	22(25.3)
11.	<b>Delirium is generally caused by alcohol withdrawal (False)</b>	28(32.2)	32(36.8)	27(31.0)
12.	<b>Patients with delirium have a higher mortality rate (True)</b>	39(44.8)	23(26.4)	39(44.8)
13.	<b>Behavioral changes in the course of the day are typical of delirium (True)</b>	28(32.2)	27(31.0)	32(36.8)
14.	<b>A patient with delirium is likely to be easily distracted and/or have difficulty following a conversation (True)</b>	34(39.1)	33(37.9)	20(23.0)
15.	<b>Patients with delirium will often experience perceptual disturbances (True)</b>	21(24.1)	36(41.4)	30(34.5)
16.	<b>Altered sleep/wake cycle may be a symptom of delirium (True)</b>	17(19.5)	29(33.3)	41(47.1)
17.	<b>The age group that can suffer from delirium most is the youth group (False)</b>	19(21.8)	29(33.3)	<b>39(44.8)</b>
18.	<b>Poor concentration, a symptom of delirium predominant (True)</b>	19(21.8)	22(25.3)	<b>46(52.9)</b>

**Table 2B: Distribution of nurses' knowledge regarding delirium (B)**

No.	Items	Disagree N (%)	Not sure N (%)	Agree N (%)
<b>Risk for delirium</b>				
1.	<b>A patient having a repair of a fractured neck of femur has the same risk for delirium as a patient having an elective</b>	13(14.9)	53(60.9)	21(24.1)

	<b>hip replacement (False)</b>			
2.	<b>The risk for delirium increases with age (True)</b>	45(51.7)	27 (31.0)	15(17.2)
3.	<b>A patient with impaired vision is at increased risk of delirium (True)</b>	23(26.4)	35(40.2)	29(33.3)
4.	<b>The greater the number of medications a patient is taking, the greater their risk of delirium (True)</b>	20(23.0)	23(26.4)	44(50.6)
5.	<b>A urinary catheter in situ reduces the risk of delirium (False)</b>	26(29.9)	39(44.8)	22(25.3)
6.	<b>Gender has no effect on the development of delirium (False)</b>	19(21.8)	32(36.8)	36(41.4)
7.	<b>Poor nutrition increases the risk of delirium (True)</b>	24(27.6)	29(33.3)	34(39.1)
8.	<b>Dementia is the greatest risk factor for delirium (True)</b>	13(14.9)	25(28.7)	49(56.3)
9.	<b>Males are more at risk for delirium than females (True)</b>	24(27.6)	38(43.7)	25(28.7)
10.	<b>Diabetes is a high-risk factor for delirium (False)</b>	23(26.4)	42(48.3)	22(25.3)
11.	<b>Dehydration can be a risk factor for delirium (True)</b>	22(25.3)	30(34.5)	35(40.2)
12.	<b>Hearing impairment increases the risk of delirium (True)</b>	18(20.7)	35(40.2)	34(39.1)
13.	<b>Obesity is a risk factor for delirium (False)</b>	34(39.1)	35(40.2)	18(20.7)
14.	<b>A family history of dementia predisposes a patient to delirium (False)</b>	18(20.6)	31(35.6)	38(43.7)
15.	<b>Patients who have mechanical ventilation (More prone to delirium). (True)</b>	27(31.0)	26(29.9)	34(39.1)
16.	<b>Anesthesia and narcotics are not related to delirium. (False)</b>	34(39.1)	29(33.3)	24(27.6)

This table shows the highest percentage of nurse’s responses was false or they did not know the right answer. A patient who is lethargic and difficult to rouse does not have a delirium false answer (49.4), Diabetes is a high-risk factor for delirium False answer (48.3).

**Table 3: Distribution of overall nurse’s level of knowledge regarding delirium.**

	<b>Characteristics</b>	<b>N</b>	<b>%</b>
<b>Nurses’ knowledge</b>	<b>Low</b>	43	49.4
	<b>Moderate</b>	44	50.6
	<b>High</b>	0	0.0
	<b>Total</b>	87	100.0

This table shows that the majority of sample have low degree of knowledge towards delirium.

**Table 4: Relationship between Nurses Knowledge and Socio-demographic Characteristics:**

<b>Nurses Knowledge</b>		<b>Low</b>	<b>Mode rate</b>	<b>High</b>	<b>Value</b>	<b>df</b>	<b>P value</b>
<b>Socio-demographic characteristics</b>							
<b>Gender</b>	<b>Male</b>	11	14	0	0.413	1	0.343
	<b>Female</b>	32	30	0			
<b>Age</b>	<b>21-35</b>	34	41	0	3.753	2	0.153
	<b>36-46</b>	7	2	0			
	<b>47-60</b>	2	1	0			
<b>Educational level</b>	<b>Preparatory</b>	15	9	0	4.834	2	0.089
	<b>Diploma</b>	20	18	0			
	<b>Bachelor</b>	8	17	0			
<b>Work place</b>	<b>ICU</b>	22	5	0	17.47	2	<0.001*
	<b>CCU</b>	8	9	0			
	<b>RCU</b>	13	30	0			
<b>Sessions about</b>	<b>Yes</b>	1	1	0	0.00	1	0.747
	<b>No</b>	42	43	0			



<b>delirium</b>							
-----------------	--	--	--	--	--	--	--

This table shows that there is a relationship between nurses knowledge and work place of nurses in (P-value < 0.001) while there are no relationships with other variables.

## Discussion

Table one shows that the majority of the studied sample were females between (21-35) years old, which they are the young age of nurses worked with patient and have the ability to improve their knowledge. Instead of that, they were in this age focused on their personal life and begin to build their families, which could effect on their work and knowledge. Also showed the educational status of nurses in the study majority were diploma in nursing followed by bachelor. The majority works in RCU and they do not have educational courses about delirium and didn't use delirium scale in the work place. Which reflect the ignorance of health care polices and workers for this most important problem, which the nurse face in ICU and the patient, could suffer from it.

Table two shows nurse's knowledge towards delirium which it was in low degree, this differs with (14) which his research sample have moderate to good theoretical knowledge while they have poor practical knowledge about delirium. At the same part, researcher focused on Nurses knowledge scale. This table shows the highest percentage of nurses' responses were (false) or they did not know the right answer. A patient who is lethargic and difficult to rouse does not have a delirium false answer, Diabetes is a high-risk factor for delirium False answer. And we see the "Dementia is the greatest risk factor for delirium (True)" at the percentage was 56.3%. Also "Anesthesia and narcotics are not related to delirium. (False)" at the percentage was.

Table four shows the relationships between the nurses' knowledge and Socio-demographic. This shows that there is relationship between nurses' knowledge and work place of nurses at (P-value <0.001). While there are no relationships with other variables, results supported by the findings of (15) that there is a significant effect of increase nurses' knowledge in the work place and its positive effect on the improvement of the quality of health.

Limitation of the study was 1- The presence of COVID19 pandemic and its effect and dangers on the workers of the hospital lead to a very difficult process in conducting study sample. 3-Over load of work for nurses in critical care units that delay the conduct of study sample.

## Conclusion:

According to the findings, the delirium education benefited participating nurses by enhancing their knowledge and attitude toward delirium care of hospitalized older individuals with dementia who were at risk of delirium. Nurses in Baghdad teaching hospitals clearly require not just sufficient education, but also necessary resources, policies, and guidelines, as well as support from managers and other health care professionals, in order to successfully enable practice change. There is also a need for more research to compare the delirium program to other training strategies in different circumstances and countries.

## References

1. Martins, S., & Fernandes, L.. Delirium in elderly people: a review. *Frontiers in neurology*, 2012, 3, 101. <https://doi.org/10.3389/fneur.2012.00101>
2. Inouye SK, Westendorp RG, Saczynski JS. Delirium in elderly people. *Lancet*. 2014;383(9920):911–22.
3. Witlox J, Eurelings LS, de Jonghe JF, Kalisvaart KJ, Eikelenboom P, van Gool WA. Delirium in elderly patients and the risk of postdischarge mortality, institutionalization, and dementia: a meta-analysis. *JAMA*. 2010;304(4): 443–51.
4. Kiely DK, Jones RN, Bergmann MA, Marcantonio ER. Association between psychomotor activity delirium subtypes and mortality among newly admitted post-acute facility patients. *J Gerontol A Biol Sci Med Sci*. 2017;62(2):174–9.
5. Meagher DJ, Leonard M, Donnelly S, Conroy M, Adamis D, Trzepacz PT. A longitudinal study of motor subtypes in delirium: frequency and stability during episodes. *J Psychosom Res*. 2012;72(3):236–41. Medication as risk factors. *Critical Care Nurse*, 29(1), 85Y86
6. Ouimet S, Kavanagh BP, Gottfried SB, et al. Incidence, Risk Factors and Consequences of ICU Delirium. *Intensive Care Med*. 2017; 33(8): 66–73p. Planning Committee and Faculty. The American Geriatrics Society/ National Institute on Aging Bedside-to-Bench. Retrieved 13 October 2013.
7. Devlin J, Fong J, Howard E, et al. Assessment of Delirium in the Intensive Care Unit: Nursing Practices and Perceptions. *Am J Crit Care*. 2020; 17: 555–565p.
8. Jones SF, Pisani MA. ICU Delirium: An Update. *Curr Opin Crit Care*. 2012; 18(2): 146–151p. (Pubmed).
9. Mistarz R, Elliott S, Whiteld A, Ernest D. Bedsidenurse-patient interactions do not reliably detect delirium: anobservational study. *Australian Critical Care*, 2011;24: 126– 132.
10. Neerland, B. E., Watne, L. O., & Wyller, T. B.. Delirium Hos Eldre Pasienter *Tidsskrift for Den Norske Legeforening*, 2013, (Vol. 15, pp. 1596–1600).
11. Travers, C., Henderson, A., Graham, F., & Beattie, E. . Turning education into action: Impact of a collective social education approach to improve nurses' ability to recognize and accurately assess delirium in hospitalized older patients. *Nurse Education Today*,2018, 62, 91–97.

12. Vassbø, T. K., & Eilertsen, G. Faser under sykehusoppholdet–sykepleieres erfaringer med delirium blant gamle med brudd. *Nordisk Sygeplejeforskning*, , 2014, 4(01), 59–71.
13. Malcolm Hare, Dianne Wynaden, Sunita McGowan, Ian Landsborough & Gaye Speed, A questionnaire to determine nurses' knowledge of delirium and its risk factors, *Contemporary Nurse*, 2008, 29:1, 23-31, DOI: 10.5172/conu.673.29.1.23
14. Martin, G., Dasta, J. F., & Kane-Gill, S. L. ICU costs associated with dexmedetomidine vs. midazolam sedation. *Critical Care Medicine*, 2010, 22(5), 56Y61.
15. Majid Habibi Mohraz, Hossein Safari and Mehdi Asghari, (2013). Relationship Between Knowledge of Ergonomics and Workplace Conditions with Musculoskeletal Disorders among Nurses: A Questionnaire Survey.