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ORIGINAL ARTICLE

DELIRIUM RECOGNITION AND MANAGEMENT AMONG IRAQI NURSES IN THI-QAR GOVERNORATE: CROSS-SECTIONAL STUDY

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ABSTRACT

Background: Delirium poses a significant challenge in healthcare, particularly for older hospitalized adults. Early recognition and intervention are crucial to mitigate its adverse effects. Nurses play a critical role in delirium management, yet knowledge gaps persist. This study aimed to assess nurses' knowledge about delirium in the context.

Materials & Methods: A descriptive cross-sectional study was conducted with 210 nurses from Al-Nasiriyah Teaching Hospital in Thi-Qar, Iraq. Through the use of an adapted questionnaire, the socio-demographic characteristics, perception of knowledge, and different specific concepts related to delirium were measured by means of multiple-choice questions. Descriptive statistics and logistic regression as the methods of the data analysis were exploited.

Results: Of the total 210 nurses, 53.8 percent were women, 32.9 percent were between the ages of 20 and 25, and 50% had bachelor's degrees. The majority (77.1%) reported that they were not knowledgeable enough about delirium, and two third (70%) didn't have specialized training. Although there was a clear awareness of the fundamental description and preventative methods, there were notable gaps in the knowledge of possible environmental triggers and settings, how to use diagnostic instruments, and what treatments were available for different forms of delirium. Age, experience, and educational attainment all had a big impact on delirium training.

Conclusion: This research shows a lack of awareness of delirium among nurses, which provides evidence for developing such education and training programs. Updating-oriented trainings with professional growth prospects are the key to enhancing the competence of nurses to cope with delirium, which eventually leads to better results for the patients.

KEY WORDS: Delirium; Education; Knowledge; Nurses.

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INTRODUCTION

Delirium, a complex and acute neurocognitive disorder, presents as a sudden change in mental status characterized by fluctuating levels of consciousness, impaired attention, and disorganized thinking.[1] This multifaceted disorder is influenced by many factors, such as age and the presence of comorbid conditions, interacting with other triggering factors such as infections, drug side effects, surgery, etc.[2] Identifying delirium is often difficult, as its presentation encompasses a wide spectrum, from hyperactive states marked by agitation and restlessness to hypoactive states characterized by withdrawal and lethargy.[3]

Delirium has been proved to impact about 10 –30% of hospitalized medical patients, with rates as high as 50% in postoperative settings and up to 80% amongst mechanically ventilated ICU patients in epidemiological studies.[4,5] The condition has long-term hospital stays, records certain increase in healthcare costs (approximately $164 billion per year in the U.S.), increased morbidity

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and mortality (a 2-4 times increased risk of death in ICUs), and higher risks of long-term cognitive decline. Although of clinical importance, delirium is underrecognized in many healthcare settings with reports of diagnoses being missed in general wards from 35–60%, from partly failed recognition of subtle hypoactive presentations. "Delirium is underdiagnosed and underreported in hospital environments, with symptoms either ignored or mislabeled as dementia or old age" as reported.[6] Differences in reported incidence and prevalence rates are due to diagnostic variations (such as CAM and 4AT as methods of reporting) and employment of different patient groups and analytical strategies from one research to another.[7,8]

Delays in diagnosing or misdiagnosis led to unnecessary sufferings, poor clinical outcomes and high health expenditure among patients It's therefore important to recognize and treat delirium in its early stages.[9] This is because it allows for the main causes to be diagnosed early, then the correct strategies to be employed and measures to be taken on time. This entails enhancing the quality of patient care, reversing contributing factors such as drug side effects or metabolic disorders and providing additional supportive care in cases where the underlying cause is still unclear. Employing early intervention is not only an effective way of promoting the quality of life but also a way to decrease chances of being diagnosed with chronic diseases.[10,11]

Nurses considerably participate in delirium recognition and care thanks to their permanent patient contacts and holistic assessment. Their purposeful watchfulness in checking for finer alterations in mental state, behavior and cognition is very useful for timely investigation.[12] Also, nurses play a vital role in delivering non-pharmacological techniques like directional markers, sleep hygiene education, and early mobilization assistance. Interdisciplinary care framework that nurses, physicians, and other healthcare professionals work together is critical for the whole delirium management.[13]

Considering the delirium intricacy and the importance of nurse's functions in its management, further nursing education and training are mandatory. Teaching nurses how to recognize, estimate, and handle delirium well is very important and a must for patient care development.[14] There are a scarce in studies regarding knowledge and perception of nurses about delirium in Iraqi context, and this study aimed at adding some insights about aspects that is needed into future development of nursing staff. In this regard, this study aimed to assess nurses' knowledge of delirium in context.

MATERIALS AND METHODS

This study employed a descriptive cross-sectional design to investigate the characteristics and associated factors of delirium among nurses at governorate. The study included 210 nurses who were willing to participate and complete the questionnaire with a response rate of 83%. Participants were recruited from different units at Teaching Hospital to ensure representativeness of the sample using convenience sampling. Data were collected between 2nd of December to 3rd of January, 2024.

Data were collected using an adapted questionnaire from with permission. The questionnaire had 18 questions with multiple choices. The first part, which included the opening six questions, focused on the subjects' socio-demographic characteristics, while the second part examined into respondents' actual or perceived education of delirium (3 questions). Finally, the third part assessed nurses' knowledge of delirium diagnosis, complication detection, and treatment. In the last part (which had 9 questions), respondents were asked to select the correct or incorrect response from four options. a 7 out of 9 right answers were considered as 'adequate' knowledge about delirium. 6 out of 9 correct answer scores or lower were classified as 'inadequate knowledge'.

The questionnaires were distributed through continuous education department to floor administrators then to nurses after a brief explanation of the study subject and objectives. Descriptive statistics (frequencies, percentages, means, standard deviations) were used to summarize the socio-demographic characteristics. Also, for analytic purposes, multiple choices questions were treated as dichotomous questions (where "correct" indicating right answer, and "incorrect" indicating any of the wrong answers). Stepwise logistic regression was conducted to determine which of the delirium training influencing factors should be included in multiple regression analysis, and the results were represented as odds ratio (OR) and confidence intervals (reference group chosen was the one with the highest frequency). All analyses were conducted using [statistical software package, e.g., Statistical Package for the Social Sciences (SPSS) with a significance level set at $p < 0.05$. This study was approved by the Board of Ethics at health directorate and Informed consent was obtained from all participants with the emphasis on data anonymity and confidentiality.

RESULTS

The study involves a group of 210 nurses, predominantly female (53.8%), highest percentage of age group was 20-25 years (32.9%). Most participants held a bachelor's degree (50%) and had been practicing for 2-5 years (33.8%). However, a significant majority (77.1%) self-identified as having inadequate knowledge about delirium, and most (70%) lacked specific training in this area.

Table 1: represent sociodemographic characteristics of study sample (n=210)

Variables	Groups	n	%
Age	20–25	69	32.9
	26–35	51	24.3
	36–45	48	22.9
	46–55	27	12.9
	>55	15	7.1
Gender	Male	97	46.2
	Female	113	53.8
Department	Medical wards	42	20.0
	Surgical wards	57	27.1
	Intensive Care	44	21.0
	Emergency Department	38	18.1
	Consultatory Department	29	13.8
Practice time of profession (Years)	<2	58	27.6
	from 2 to 5	71	33.8
	from 6 to 10	49	23.3
	>10	32	15.2
Duration of work in current department	<2	66	31.4
	from 2 to 5	79	37.6
	from 6 to 10	40	19.0
	>10	25	11.9
Education level	High school diploma	51	24.3
	Bachelor's degree	105	50.0
	Further education	54	25.7
Self-perception of knowledge on delirium	Inadequate	162	77.1
	Satisfactory	39	18.6
	Excellent	9	4.3
Specific training on delirium	Yes	63	30.0
	No	147	70.0

Table 2 shows that while a majority of nurses demonstrated understanding of the definition of delirium (71.9%) and recognized the crucial role nurses play in its prevention (81.9%), several knowledge gaps became evident. Less than half correctly identified potential settings where delirium might occur (51.4%). Similarly, only 43.3% of participants could accurately identify environmental triggers for delirium. The application of delirium diagnostic instruments (64.8%) and understanding treatment options for both hypoactive (32.4%) and hyperactive delirium (54.3%) also presented areas for improvement.

Table 2: Illustrate the answers for the main items regarding delirium knowledge

Questions	n (%) of correct answers	n (%) of incorrect answers
Definition of delirium	151 (71.9)	59 (28.1)
Potential setting where delirium may occur	108 (51.4)	102 (48.6)
Application of the delirium diagnostic instrument	136 (64.8)	74 (35.2)
First-line treatment for hypokinetic or hypoactive delirium	68 (32.4)	142 (67.6)
First-line treatment for hyperkinetic or hyperactive delirium	114 (54.3)	96 (45.7)
Discovering environmental elements that might act as delirium triggers	91 (43.3)	119 (56.7)
The function of a geriatrician-led team in reducing acute delirium complications	124 (59.0)	86 (41.0)
The role of nurses in preventing delirium	172 (81.9)	38 (18.1)
Leaving of family members during acute episode of delirium.	145 (69.0)	65 (31.0)

Age emerges as a crucial factor, with the 26-35 age group demonstrating significantly higher odds (OR=1.77, p=0.003) compared to other groups. Interestingly, healthcare professionals with less than 2 to of experience exhibit significantly lower odds (OR=0.53, p=0.021) compared to those with more experience. Additionally, education level demonstrates a significant impact, with individuals holding a higher education having higher odds (OR = 1.53, p=0.026) compared to those with a lower educational level.

Table 3: Identify factors associated with delirium training

Variables	Groups	OR	SE	p-value	UP (CI95%)	LP (CI95%)
Age	20–25	1				
	26–35	1.77	0.14	0.003	0.31	2.44
	36–45	2.90	0.84	0.740	2.15	19.04
	46–55	1.11	0.82	0.095	1.03	2.93
	>55	0.34	0.34	0.342	0.67	13.20
Gender	Male	0.38	1.95	0.127	0.22	0.73
	Female	1				
Practice time of profession (Years)	<2	0.53	0.96	0.021	1.12	11.05
	from 2 to 5	1				
	from 6 to 10	1.28	0.46	0.318	0.15	3.72
	>10	1.08	0.44	0.394	1.59	2.9
Education level	High school diploma	0.94	0.55	0.304	0.80	23.51
	Bachelor's degree	1				
	Further education	1.53	0.70	0.026	0.13	0.98
Specific training on delirium	Yes	1.05	0.86	0.793	0.53	8.41
	No	1				

DISCUSSION

The current study aimed to assess the knowledge of nurses about delirium in the context. Findings reveal a significant disparity in delirium knowledge among the surveyed nurses. While a majority demonstrated awareness of the basic definition and the importance of nursing interventions in preventing delirium, there were clear gaps in their understanding of specific aspects. This was particularly evident in areas related to identifying potential settings where delirium might occur, recognizing environmental triggers, utilizing diagnostic tools, and understanding treatment options for different types of delirium.

These findings are similar to other works which depicted that the level of knowledge among nurses across the globe regarding delirium is poor. Previous studies have revealed that nurses are unsure of how to identify and address complicated patients with delirium, which has prompted delays in both the diagnosis and other subsequent treatments. This lack of awareness poses dangers for patients and lead to worse health status, increased mortality and morbidity, and of course; costs of care.[12,15-17]

Studies shows that the assessment of delirium patterns is problematic for nurses, differentiation between delirium and dementia or another type of cognitive impairment[18], or the knowledge of risk factors and reasons.[19] It can expose patients to wrong treatment regimens, affects the timeliness of treatment and also, the general experience of the patient is not as ideal.[20] Moreover, nurses can lack knowledge on the best communication approach towards the delirious patients or the right approaches and interventions both pharmacological and non-pharmacological to apply in dealing with the delirium. Closing these knowledge gaps through specific education and training is important to advance delirium practice and maintain more satisfactory patient outcomes.[21,22]

When comparing the groups, age and experience were found to have significant effects on how much the nurses know about delirium. Middle-aged nurses fared better than young ones; thus, showing that, perhaps, experience plays out well in storing up information and is influenced by the type of patients one interacts with. In a similar manner, the years of practice showed that most nurses with many years of practice had an answer to most questions showing that experience is critical in the building of the delirium expertise. This highlights the need for ongoing formal education and continuing education, which can take place at dusk throughout a nurse's professional practice, as they seek to improve and

maintain competencies and standards of practice in delirium management. Furthermore, regarding the results that showed Education level affected the nurses' knowledge about delirium where the more educational qualification the better result will be achieved. Through facing various patient', age-specific differences, medical histories, and forms of delirium, nurses can gain more knowledge and understanding regarding this condition.[23] Encountering delirium cases several times in a day enables nurses to improve their assessment ability and even identify hidden features of such cases and differentiate delirium from other ailments with similar symptom.[24] Besides, elective rotations with patients with various cultural backgrounds enhance the nurse's cultural competency, which defines how cultural characteristics can impact the manifestation and clinical approach to delirium.[25]

Nonetheless, the following limitations of the study are: Although the study offers some understanding of the existing void of knowledge on delirium among healthcare workers, it is crucial to consider the following limitations. Although the study sample was diverse in its composition, its recruitment from a single region did impose some restrictions on the scope of generalizing the results, obtained in the present research, to other populations or healthcare settings. Furthermore, as it relates to a self-administered questionnaire, the data on the knowledge and training could be inflated or deflated as the participants might not depict actual knowledge levels accurately. In addition, it was beyond the scope of the study to determine why these knowledge deficits were found, for example whether nurses had access to education that addressed delirium or various barriers that may be faced by facility healthcare personnel working with the literatures. However, it is vital to understand that given the cross-sectional design successfully used in the study, it is difficult to determine causal relationships between the mentioned factors and the level of knowledge.

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CONFLICT OF INTEREST
Authors declare no conflict of interest.
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AUTHORS' CONTRIBUTION

The following authors have made substantial contributions to the manuscript as under:

Conception or Design:	HAD, QJOA
Acquisition, Analysis or Interpretation of Data:	HAD, QJOA
Manuscript Writing & Approval:	HAD, QJOA

All the authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.