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Exploring ICU Nurses' Experiences in Delirium Screening using CAM-ICU: A Thematic Analysis

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ABSTRACT

Background: Delirium is a common but under-identified complication in critically ill patients in intensive care units (ICUs). It leads to long hospital stays, high mortality, and high health care expenditure. Even though the Confusion Assessment Method of the ICU (CAM-ICU) is an instrument that has been validated to be used in the early detection, it is not regularly implemented in real practice. In Malaysia, there is little research on the experience of the ICU nurses as it relates to delirium screening after systematic educational programs. **Methods:** This qualitative descriptive research study helped to understand the experience of ICU nurses who took part in a structured CAM-ICU educational intervention. Purposive sampling was used to select six ICU nurses in two privately owned tertiary hospitals in Johor, Malaysia. Interviews were done in a semi-structured format and transcribed verbatim. Member checking, peer debriefing, and audit trail maintenance were used to guarantee rigor. The data collection process was completed until thematic saturation was reached. **Results:** Four general themes were identified, namely: issues in delirium screening, increased awareness about the significance of delirium, change in attitudes after education, and suggestions about how to help maintain screening habits. The barriers identified by the participants included the level of patient sedation and the large workload. Nevertheless, they also noted that they felt more confident, more motivated, and became more aware of the situation following the intervention. Peer support and managerial reinforcement were found to be significant to practice change maintenance. **Conclusion:** The CAM-ICU educational intervention in a structured form enhanced the knowledge and attitudes of the ICU nurses with regard to delirium assessment. Institutional commitment, workflow integration, periodic refresher training, and leader support are needed to maintain the implementation over a long period of time. Delirium screening in routine documentation and encouraging team-based interactions can contribute to long-term sustainability and could result in better patient outcomes.

Keywords: CAM-ICU; Delirium Screening; Educational Intervention; ICU Nursing; Thematic Analysis

INTRODUCTION

Delirium is one of the commonest and least known neuropsychiatric complications among the critically ill population. Marked by irregular alterations in awareness, cognition, and attention, it is common in a significant percentage of patients admitted to intensive care units (ICUs), especially of those who need the use of mechanical ventilation (Kotfis *et al*., 2020). Delirium is increasingly recognized as a multifactorial syndrome that is linked to acute instability, as well as sustained cognitive deficit and long-term functional impairment (Wilson *et al*., 2020). The reported prevalence rates vary between about 20% and up to 80%, which is due to variations in the population of patients and practices of detection (Salluh *et al*., 2010). Delirium is always associated with prolonged mechanical ventilation, extended ICU and hospitalization, higher healthcare spending, and mortality rate, irrespective of the setting.

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One of the most successfully tested instruments to identify delirium in critically ill adults is the Confusion Assessment Method of the ICU (CAM-ICU) (Ely *et al*., 2001). According to international clinical guidelines, regular monitoring should be provided with the help of such validated tools as CAM-ICU as a component part of the ICU treatment (Devlin *et al*., 2018). The early diagnosis can help to make an intervention in time and potentially lessen the negative outcomes. Nevertheless, even with high levels of guideline acceptance, the implementation of regular delirium screening is not yet equal across the healthcare systems (Lange *et al*., 2023). Long-term cognitive decline, poor functional recovery, and low quality of life in ICU survivors have also been linked with delirium, which argues the significance of regular practices in detecting delirium (Chróinín *et al*., 2023). Even though CAM-ICU is acknowledged as a clinically useful and rather uncomplicated method, compliance with standard screening guidelines is uneven across geographic units (Fiest *et al*., 2020). In even the units with formal screening procedures, the practices of monitoring can be either irregular or incomplete (Nielsen *et al*., 2023). Various barriers to implementation have been named among them: the lack of knowledge, the lack of training opportunities, conflicting clinical considerations, time management, and the idea that the assessment process is complicated or disruptive to the workflow (Kang & Bae, 2024).

Qualitative studies also shed more light on the issues facing the ICU nurses as they attempt to integrate the assessment of delirium into routine activities. The screening of delirium is often favored due to the heavy workloads and opposing care demands (Lange *et al*., 2023). The same implementation barriers have been reported in the context of Asian critical care, where organizational and cultural elements impact screening compliance (Kang & Bae, 2024). Besides, nurses describe emotional stress and mental workload in the case of delirious patients, and that can affect the uniformity of assessment practices (Hanifa *et al*., 2023). Even though nurses are aware of the significance of early detection, a lack of proper preparation and training frequently prevents them from feeling confident in the use of structured tools (Aldawood *et al*., 2023). System-level reinforcement, leadership involvement, and institutional support are also essential in the maintenance of screening practices (Alhalaiqa *et al*., 2023).

Nursing education has shown a significant increase in knowledge, evaluation abilities, and confidence in detecting delirium in nurses (Yildirim *et al*., 2022). Quasi-experimental designs also indicate the increased screening adherence after the organized training programs (Lieow *et al*., 2019). Most recently, scoping reviews have linked the importance of delivering delirium education in a structured way to competency enhancement and the development of long-term screening practices (Zhao *et al*., 2024). However, there is limited evidence in Malaysia. Ramoo *et al*. (2018) have found significant gaps in knowledge among ICU nurses and have reported that the evaluation of delirium was not commonly included in clinical practice. Factors such as hierarchical patterns of communication, large patient counts, as well as local contextual limitations that make it difficult to introduce standardized care models were also contributory.

The integration of delirium screening into care frameworks, such as the Assess, prevent, and manage pain; Both spontaneous awakening and breathing trials; Choice of analgesia and sedation; Delirium assessment, prevention, and management; Early mobility and exercise; and Family engagement and empowerment (ABCDEF) bundle, has been associated with enhanced multidisciplinary collaboration and more standardized assessment practices (Pun *et al.*, 2019). Since ICU nurses interact with the patient at all times, they are in a specific position to monitor any subtle changes in cognitive abilities and respond accordingly. Enhancing their competency by means of specific education is thus an essential element of evidence-based practice in an ICU. Additionally, the clinical demands in Malaysian ICUs have been on the rise, especially during the COVID-19 pandemic and the post-pandemic period. The problem of under-recognition of delirium in critically ill patients can be increased by overwork, staffing issues, and the complexity of decision-making (Kotfis *et al*., 2020). In this regard, educational programs that help strengthen the delirium assessment abilities are particularly applicable.

This paper, therefore, investigated the experiences of ICU nurses after a well-designed CAM-ICU educational intervention implementation in two privately owned tertiary hospitals in Johor, Malaysia. In the present research, the investigator aimed to learn the perceived barriers, facilitating factors, educational effects, and means of maintaining routine delirium screening in the Malaysian ICU context through qualitative thematic analysis.

METHODOLOGY

Study Design and Setting

The research design selected in the study was a qualitative descriptive design to examine the experiences of ICU nurses after two hours of organized educational intervention on delirium screening based on the CAM-ICU tool. The qualitative descriptive design was chosen due to the purpose of getting transparent and practice-based narrations of how the nurses comprehended and implemented delirium assessment in their respective practice settings without being overly interpreted with a theoretical approach (Sandelowski, 2010). The emphasis was to be close to the language and clinical realities of the participants, which corresponds to the pragmatic character of qualitative description in the applied research in healthcare (Colorafi & Evans, 2016).

The research was carried out in two private tertiary hospitals within Johor, Malaysia. The two institutions have well-established intensive care units and frequently attend professional nursing development programs, which is why they are the right place to study post-training clinical experiences.

Participants and Sampling

Purposive sampling was used to recruit the participants. The registered participants were eligible nurses within the ICU who had undergone the structured CAM-ICU educational intervention and were engaged in delirium screening in their respective units. The nurses working in high-level administrative roles or in probation were eliminated so that the participants experienced direct and uninterrupted bedside duties. Six ICU nurses were willing to take part.

The sixth interview was deemed to be the point of data saturation. Thereafter, the data did not instigate any additional codes or substantive themes. Adequacy in qualitative research is not about the numbers, but the information richness and depth of the accounts made (Lincoln & Guba, 1985). Instead of pursuing the goal of statistical representation, qualitative inquiry focuses on informational adequacy and meaning (Creswell & Poth, 2018). The saturation is a term that defines the point at which the analysis does not bring novel thematic information through interviews (Hennink *et al*., 2016; Saunders *et al*., 2018).

The sample was a reasonable sample of ICU experience at both hospitals, and there was a variation in age, gender, and years of experience. This increase in diversity contributed to the higher credibility and contextual applicability of the results (Polit & Beck, 2021). Similar numbers of participants have been cited in their respective qualitative research in the study of ICU nurses' learning and behavioural adaptation when handling cognitively impaired and delirious patients (Hanifa *et al*., 2023).

Data Collection

The data was collected by using individual semi-structured interviews that were carried out about one month after the educational intervention was finished. The timing enabled the participants to put the CAM-ICU tool into practice and then give a reflection on their experiences.

The interview guide was created to ask open-ended questions that would help in probing how nurses felt their knowledge, confidence, and clinical use of delirium screening had changed. Barriers to normal practice and recommendations on how the behavior of screening can be maintained were also addressed through interviews.

The length of each interview was between 30 and 45 minutes, was audio-taped with permission, and transcribed word-for-word. The semi-structured style was helpful in providing homogeneity to the participants and also flexibility in elaboration and exploration of any emerging idea.

Examples of guiding questions were:

What was the effect of the CAM-ICU training on your delirium assessment knowledge?

What is your confidence rating in doing delirium screening before and after the training?

What are your challenges with the implementation of CAM-ICU into everyday practice in the ICU?

Prior to collecting the data, the two senior qualitative nursing researchers reviewed the interview guide to make sure that it was clear, relevant, and in line with the study objectives.

Participant Demographics

This study involved six ICU nurses. Most of them (n = 5) were women between the ages of 26 and 40 years. All the participants had gone through the CAM-ICU training and were engaged in delirium screening in their units. Their experience of working in the ICU was between 1 and 15 years, with both junior and senior nurses of the two hospitals involved.

Table 1: Demographic Characteristics of Participants (n = 6)

Participant	Age (years)	Gender	ICU Experience (years)	Hospital
N1	26	Female	1	A
N2	30	Female	5	A
N3	33	Female	8	A
N4	36	Female	10	B
N5	40	Female	15	B
N6	28	Male	3	B

Note: Participants were recruited from two private tertiary hospitals located in Johor, Malaysia

Data Analysis

Thematic analysis was applied in the six-phase model by Braun and Clarke (2006) to analyze the data. The procedure was initiated by repeatedly reading the transcripts to gain familiarity. Preliminary codes were then produced by hand to ensure that there was close interaction with the data. Codes were then grouped into potential themes, which were then discussed and revised through the research team's discussion. Themes were then categorically identified and labelled, and the ultimate analytic narrative was created.

Manual coding helped to immerse in the data and perform a subtle interpretation of the accounts made by participants. Thematic analysis is a flexible, but systematic method of determining patterns in qualitative data and is broadly applied in nursing and health studies (Nowell *et al*., 2017).

Trustworthiness

Various measures were used in order to increase rigor and transparency. Member checking, extended involvement with the data, and peer debriefing helped to build credibility. Themes were summarized, and initial interpretations were presented to the participants to ensure that their experiences were reflected appropriately (Lincoln & Guba, 1985; Polit & Beck, 2021).

Reflexive journaling was observed in data collection and analysis to deal with the risk of researcher bias. The researcher wrote down the assumptions, clinical preconceptions, and emotional reactions to the stories of the participants. This reflexive process ensured the bracketing process and helped in ensuring the findings were not based on previous assumptions of the researcher, but rather on the participants (Lincoln & Guba, 1985).

Since the main researcher is an expert in ICU nursing and is well-versed in the delirium assessment, the concept of reflexivity was of special concern. Although this context and background made rapport and contextual awareness easy, I had to monitor the influence of interpretation consciously. Qualitative inquiry with reflexivity recognizes the possibility of researcher positionality in the interpretation of data (Berger, 2015). Frequent peer debriefing by two independent qualitative researchers also promoted critical analysis of coding decisions and theme building (Polit & Beck, 2021).

The transferability was facilitated by a clear description of the study setting, ICU environment, and the characteristics of the participants. Coding documenting a trail of auditing decisions, theme development, and analytic modification was kept for reliability. All these ensured the validity and openness of the findings of the study.

Ethical Considerations

The researchers obtained ethical clearance from the KPJ Healthcare University Research and Ethics Committee, Malaysia, for this study with reference number KPJUCNo. /RMC/SON/EC/2024/495/26.2.2024 on 26th February 2024.

Informed consent of all participants was obtained in writing before data collection. The management of the private hospitals involved gave their permission to conduct the study. All protocols were implemented within the guidelines of the ethical standards of the Declaration of Helsinki.

RESULTS

An analysis of the six interviews conducted using a thematic analysis identified four significant themes used to describe the experiences of nurses in assessing delirium after CAM-ICU education. The data familiarization, coding, and theme generation and refinement processes were used in the analysis within the six phases of Braun and Clarke (2006). Each theme is exemplified by direct quotes made by the participants.

Table 2: Process of Theme Development from Raw Data to Final Themes

Raw Participant Quote	Initial Code	Sub-Theme	Main Theme
'Sometimes patients are deeply sedated, and it is hard to assess.' (N2)	Difficulty assessing sedated patients	Barriers to accurate assessment	1. Challenges in delirium screening
'Delirium screening feels complicated when patients are restless.' (N5)	Complexity during agitation	Time constraint and workload burden	1. Challenges in delirium screening
'After the training, I feel more confident to use CAM-ICU.' (N1)	Increased confidence after training	Improved self-efficacy and awareness	2. Enhanced understanding of delirium importance
'Now I realize delirium can happen to anyone, not just old patients.' (N4)	Misconception corrected	Expanded clinical understanding	2. Enhanced understanding of delirium importance
'Encouragement from senior nurses motivates me to assess delirium.' (N6)	Peer motivation	Supportive team culture	3. Positive attitude shifts post-education
'The leader asks us to check delirium more now.' (N5)	Leadership reinforcement	Organizational encouragement	3. Positive attitude shifts post-education
'We need regular updates to keep remembering how to assess.' (N3)	Need for ongoing reinforcement	Desire for continuous learning	4. Recommendations for program sustainability
'There should be more integration into the routine charting.' (N4)	Integration into workflow	Embedding CAM-ICU in daily practice	4. Recommendations for program sustainability

Theme 1: Challenges in delirium screening

Though the participants claimed that they learned more after the training, they still faced real challenges as they tried to apply delirium screening in normal practice. The nature of the work, excessive workload, insufficient time, and complicated evaluation of sedated or agitated patients were also common descriptions.

One nurse explained:

"*Patients are at times heavily sedated, and it cannot be assessed. We have to get a lot of work done, and we have to put other things first*." (Participant 2)

The problem of screening unstable patients was also emphasized:

"*Delirium screening is a complex process when the patient is on intubation and agitated. Things are not always that simple*." (Participant 5)

These reports imply that knowledge could not be used alone to address structural and workflow barriers in the ICU setting.

Theme 2: Enhanced understanding of delirium importance

After the education process, the participants spoke of a significant change in their perception of delirium. According to them, they were more aware of its clinical value and the possible repercussions of the diagnosis being late.

As one nurse reflected:

"*Prior to this, I believed that delirium was a normal condition in ICU patients. Now I can see it is a warning that we have to take action on*." (Participant 4)

One more highlighted initial acknowledgement:

"Upon learning, I understand that delirium is extremely dangerous. When we identify early warning signs, we will be able to assist in avoiding more serious results." (Participant 1)

Such utterances show an enhanced conceptual grasp of delirium outside the accomplishment of tasks, showing that the routine assessment has been replaced by a deliberate clinical awareness.

Theme 3: Positive attitude shifts post-education

Participants also reported higher confidence and a greater sense of responsibility in the implementation of CAM-ICU assessments. The training was seen to have an effect on knowledge as well as professional motivation.

One participant shared:

"*I feel more confident now. Although it is not an easy task, I am aware of the ways I can evaluate appropriately.*" (Participant 3)

The other observed ripple effect in the team is:

"*Today, I would also recommend my teammates to utilize CAM-ICU on a daily basis. We remind each other.*" (Participant 6)

These stories demonstrate better self-efficacy and shared responsibility among the ICU staff.

Theme 4: Recommendations for program sustainability

Although the intervention was positively perceived, participants noted that a long-term intervention involves a continued need for reinforcement. Recommendations were made on the periodical refreshers, incorporation into the regular working process, and observable management support.

One nurse stated:

"*Through ongoing training, we should update our knowledge, particularly in cases when the new staff members come in*." (Participant 2)

The other highlighted form of leadership involvement:

"*It aids in situations when our nurse managers remind us and emphasize delirium evaluation during rounds*." (Participant 5)

The participants acknowledged that change can only be maintained through the institutional structures and not individual effort in itself.

Summary of Themes

In general, educational intervention was seen to be helpful in enhancing knowledge, awareness, and professional confidence regarding delirium screening. Nevertheless, the respondents repeatedly mentioned that organizational support, the integration of workflow, and continuous reinforcement in the clinical environment are the key components of long-term sustainability.

DISCUSSION

The current study examined ICU nurses' experiences with delirium screening following a structured CAM-ICU educational program. Although the training has undoubtedly enhanced the knowledge, self-confidence, and awareness, the results provide an indication that education on its own will not necessarily be transferred into regular screening behavior. The reality of the ICU workflow remained influential in prioritizing delirium assessment in day-to-day care. The discussion is formulated based on the four themes that are found in the analysis, which are challenges in screening delirium, increased knowledge on the significance

of delirium, attitude change after the educational session, and suggestions to maintain a practice change.

Challenges in delirium screening

Despite the fact that the participants claimed to have a better sense of delirium, they still claimed that there were practical challenges to implementing routine screening. Heavy work demands, understaffing, and competing clinical priorities were recurring themes. Nurses in the setting of high-acuity ICUs usually pay attention to the immediate physiological stabilization, and cognitive testing might be subordinated to it unconsciously.

The same barriers to their operation have been reported in the international ICU, in which high patient acuity and time pressure decrease the compliance with organized delirium assessment (Lange *et al*., 2023). Asian studies have also found that opposing clinical demands and workflow disruptions also affect the consistency of CAM-ICU implementation (Kang & Bae, 2024).

Emotionally and cognitively, these obstacles can be enhanced in a Malaysian view regarding the care of patients who are critically ill. Screening consistency may also be affected by psychological fatigue and stress because vigilance is impaired (Hanifa *et al*., 2023). The interviewees included in this research also speculated hierarchical practice in the ICU teams where delirium treatment is occasionally viewed as physician-dominated, and nurses may lack autonomy to instigate regular cognitive examination.

Such results indicate that the reinforcement of knowledge should be coupled with structural support. The individual competency gains may be insufficient to sustain a change in practice without having sufficient staffing, leadership engagement, and workflow integration.

Enhanced understanding of delirium importance

The second theme was associated with the observable change in the perception of delirium by the participants after the educational intervention. In some cases, a number of nurses explained that, before training, delirium was commonly perceived as a normal or inevitable constituent of severe illness. Following the intervention, it was, however, more perceived as a severe but preventable and reversible ailment that needs to be detected early.

This perceptual shift indicates that it is more than just a matter of mere learning. The participants showed a greater understanding of the implications of missed delirium and greater responsibility in the detection of early warning signs. Prior research has found that similar gains in clinical mindfulness using structured delirium education have been achieved (Kotfis *et al*., 2020). The results of quasi-experiments also demonstrated that an educational intervention could enhance the ability of nurses to recognize and their confidence in using structured assessment means (Aldawood *et al*., 2023).

Notably, the change outlined by the participants seems to be in line with the knowledge and attitude variables of the Knowledge-Attitude-Practice (KAP) framework. Perception of urgency and professional accountability is likely to change as the level of understanding increases. According to the reflections of nurses in this study, the greater the awareness, the more readiness to act in case of any early signs of cognitive changes were noted (Yildirim *et al*., 2022).

In addition to cognitive change, the participants themselves said that they had stronger clinical judgment before and after training. The possibility to discuss, reflect, and practice seemed to enhance their sensitivity to the slightest behavioral changes. These results indicate the possibility of using experiential and structured methods of learning in order to develop a more proactive culture of resistant-to-delirium care in Malaysian ICUs.

Positive attitude shifts post-education

Besides the enhanced knowledge, the participants reported significant shifts in their attitude towards delirium screening. Prior to the intervention, screening was usually perceived as a secondary activity that was

competing with more urgent clinical duties. Following the training, nurses began to see the evaluation as a necessary monitoring of patients and not a voluntary process of recording.

This change of attitude seemed to be strongly connected with confidence. The more familiar participants became with the CAM-ICU, the more they said they were willing to initiate assessments and to influence their colleagues to undertake similar assessments. The alteration was not thus confined to individual behavior only, but also to peer influence at the unit level. Past qualitative studies also revealed that workload pressures often lead to a situation where delirium screening becomes a lower priority, even when the importance of this procedure is known (Lange *et al*., 2023). Similar implementation challenges have been cited in the Asian intensive care environments (Kang & Bae, 2024).

Nevertheless, the participants also admitted that a better attitude was not sufficient to eliminate practice barriers. Even in the skills of screening, emotional exhaustion, conflicting clinical needs, and doubt about complicated cases continue to have an influence. The nurses who have to deal with delirious patients tend to be exposed to a great amount of cognitive and emotional stress, which leads to less vigilant patient attendance in the busy shifts (Hanifa *et al*., 2023). Even with the enhancement of awareness through education, a lack of reinforcement in training may reduce long-term change in practice (Aldawood *et al*., 2023). One of the critical impediments to sustaining delirium screening protocols has also been recognized to be the limited institutional support (Alhalaiqa *et al*., 2023).

These results indicate that motivation and confidence are the antecedents of behavioral change that are necessary but not sufficient. Reinforcement in the organization is essential. Positive attitudes can be converted into practice by means of supportive leadership, acknowledgment of nursing responsibility, and interprofessional communication (Boehm *et al*., 2020). The participants were more enthusiastic in this research, which was associated with personal professional development and the emergence of team preparedness in the ICU team under supportive conditions.

Recommendations for program sustainability

Respondents continuously stressed that only one educational session was not adequate to integrate delirium screening into regular ICU practice in the long term. Although the knowledge and confidence level rose, nurses emphasized that the reinforcement should be provided further, with numerous reminders, and the managerial interest in the issue should be visible to ensure consistency.

Some of the respondents indicated that refresher training should be done occasionally, especially when there is a new employee. They were worried that in the case of the absence of constant reinforcement, the skills and motivation might reduce overtime. This relates to the literature of broader implementation that suggests that ensuring the change in practice is sustainable involves repetitive exposure, feedback, and reinforcement of practice change, and not a one-time training intervention (Barr *et al*., 2024).

It was also considered critical to be integrated into the existing workflow processes. Respondents explained how integrating the use of CAM-ICU documentation into the normal nursing chart or electronic health records is a method to popularize screening as a usual element of nursing practice. Accountability and minimizing the chances of the screening being missed when the staff is short, or patients are acute, are enhanced by integrating screening on a system level (Barr *et al*., 2024). The same results have been mentioned in the quality improvement programs in the ICU, which show that the integration of the workflow and the involvement of leaders can positively impact the long-term compliance with evidence-based tools (Lieow *et al*., 2019).

Another critical factor was leadership support. Nurse managers reminded nurses about the importance of delirium screening and reinforced them during clinical rounds, which they claimed helped legitimize delirium screening as a priority, not an optional activity. This is consistent with the implementation research that highlights the fact that structured frameworks like the ABCDEF bundle are more sustainable when the multidisciplinary coordination and expectations are reserved (Pun *et al*., 2019).

Notably, the participants have identified that sustainable change needs a competent individual and alignment with the organization. Knowledge and attitudes are fortified with the help of educational interventions, but permanent behavioral change will rely on cultural acceptance, integration, and monitoring systems that instill accountability. The recent scopes also highlight the fact that a long-term delirium approach in a multi-component format that includes education, involvement of leaders, and implementation planning is necessary (Zhao *et al*., 2024).

Combined, these results imply that systematic learning programs can be considered as the basis to change practice, although their sustainability can be achieved through the integration of delirium screening into institutional processes and not with the help of personal motivation alone. A comprehensive intervention to promote the use of education, redesign workflow, involvement of the leadership, and sustained assessment might thus be required to achieve uniform practices of delirium screening in the Malaysian ICUs.

Limitations

The sample size of six participants is rather small, which might not be suitable for extrapolating the study to the broader context of the ICU settings. Since only the private hospitals were used as the source of the data, the reported experiences might not be similar to the experiences of nurses employed in the public or rural healthcare setting. It is suggested that future studies with bigger sample sizes and different contexts of ICUs should be conducted to increase the generalizability and applicability of the results.

CONCLUSION

This research examined the experiences of ICU nurses in the context of a designed educational intervention to enhance the process of delirium diagnosis with the help of the CAM-ICU tool. The results show that the intervention increased the knowledge, attitude, and confidence of nurses to conduct delirium screening as a routine clinical activity. Such advances indicate that formal education can reinforce knowledge and involvement in delirium screening among ICU nurses.

The attitudinal changes were found to be positive and played a significant role in justifying the incorporation of delirium screening into routine practice. The higher degree of confidence and motivation made the nurses have more ownership over the assessment tasks. Nevertheless, the presence of consistent clinical and organizational obstacles, such as workload issues, time management, and the problem of sedation, as well as the institutional hierarchy, still affected the consistency of implementation.

The results indicate that educational interventions cannot provide long-term practice change unless they are supported by an organization. To achieve sustainable improvement, there should be consistency between personal competency building and systemwide plans, like leadership involvement, workflow consolidation, and ongoing professional development. Enhancing these factors can help justify the ongoing implementation of the delirium assessment as a standard part of the ICU nursing practice.

Recommendation

Future research ought to focus on the retention of knowledge, attitudes, and clinical skills over a long period after the implementation of educational interventions. The study is suggested to be expanded into multi-centre research that will encompass both private and publicly funded hospitals to enable a wider comparison between the healthcare settings. The inclusion of interdisciplinary views can also contribute to better comprehension of practices of delirium management. Long-term and mixed-method designs are also required to assess the long-term impacts on patient outcomes and organizational performance.

Conflicts of Interest

The authors declare no conflicts of interest in relation to this study.

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