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DOI: 10.15225/PNN.2022.11.2.5 JNNN 2022;11(2):74–82 **Review**

Delirium and Evidence-Based Nursing Practices: Covid-19 Pandemic Updates

Delirium i praktyki pielęgniarskie oparte na dowodach naukowych: Aktualne informacje o pandemii Covid-19

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Abstract

Delirium is a complex neuropsychiatric syndrome characterized by an acute onset of cognitive, attention, disorientation and change in the level of consciousness. Delirium is a serious health problem that is common at all ages and medical conditions in many places from the emergency department to the operating room. Delirium symptoms can develop within hours or days and last longer than a month. Nurses have important roles in diagnosing delirium and managing the process with evidence-based practices in patient care. Delirium screening and diagnostic measurement tools used for delirium risk classification and diagnosis should be used by nurses who care for the patient day and night. High mortality in the delirium table, a long stay in the intensive care unit or in the hospital lead to high maintenance costs. The prevalence rates of delirium in patients with Covid-19 have increased. The triggering factors that cause delirium in the Covid-19 pandemic may be social distance and social isolation, deep sedation practices, high fever, prolonged mechanical ventilation, delayed extubation due to aerosol propagation anxiety, inadequate pain assessment, psychological perceptions (mass death), multiple organ dysfunctions. It is known that the application of the ABCDEF (Assessing Pain, Both Spontaneous Awakening and Breathing Trials, Choice of Drugs, Delirium monitoring/management, Early exercise/mobility, and Family Empowerment) care package is effective in the management of delirium. It is recommended to use the ABCDEF care package for delirium management in Covid-19 patients. In this review, evidence-based practices are included in the prevention of delirium and nursing care in the coronavirus (SARS-CoV-2) pandemic affecting the whole world. **(JNNN 2022;11(2):74–82)**

Key Words: delirium, care package, Covid-19, evidence-based nursing practices

Streszczenie

Delirium to złożony zespół neuropsychiatryczny charakteryzujący się ostrym początkiem zaburzeń poznawczych, uwagi, dezorientacji i zmianą poziomu świadomości. Delirium to poważny problem zdrowotny, występujący w każdym wieku i w każdym stanie zdrowia, w wielu miejscach — od oddziału ratunkowego po salę operacyjną. Objawy delirium mogą pojawić się w ciągu kilku godzin lub dni i trwać dłużej niż miesiąc. Pielęgniarki odgrywają ważną rolę w diagnozowaniu delirium i zarządzaniu procesem, stosując w opiece nad pacjentem praktyki oparte na dowodach naukowych. Testy przesiewowe i diagnostyczne wykorzystywane do klasyfikacji ryzyka delirium i diagnozowania powinny być stosowane przez pielęgniarki, które opiekują się pacjentem w dzień i w nocy. Wysoka śmiertelność w grupie chorych z delirium, długi pobyt na oddziale intensywnej terapii lub w szpitalu prowadzą do wysokich kosztów utrzymania. Częstość występowania delirium u pacjentów z Covid-19 wzrosła. Czynnikami wyzwalającymi delirium w pandemii Covid-19 mogą być: dystans społeczny i izolacja społeczna, praktyki głębokiej sedacji, wysoka gorączka, przedłużona wentylacja mechaniczna, opóźniona ekstubacja z powodu lęku przed rozprzestrzenianiem się aerozolu, niewłaściwa ocena bólu, percepcja psychologiczna (masowa śmierć), dysfunkcje wielonarządowe. Wiadomo, że stosowanie pakietu opieki ABCDEF (ocena bólu, próby spontanicznego przebudzenia i oddychania, wybór leków, monitorowanie/zarządzanie w przypadku delirium, wczesne ćwiczenia/mobilność i wzmocnienie pozycji rodziny) jest skuteczne w postępowaniu w przypadku delirium. Zaleca się stosowanie pakietu opieki ABCDEF w leczeniu delirium u pacjentów z Covid-19. W niniejszym

przeglądzie uwzględniono oparte na dowodach naukowych praktyki w zapobieganiu delirium i opiece pielęgniarskiej w pandemii koronawirusa (SARS-CoV-2) dotykającej cały świat. **(PNN 2022;11(2):74–82)**
Słowa kluczowe: delirium, pakiet opieki, Covid-19, praktyka pielęgniarska w oparciu o dowody

Introduction

The term delirium was used for the first time by Celsus in De Medicina based on the concept of "de lira" in critically ill patients such as patients with wound infections and head injuries. Delirium is a complex neuropsychiatric syndrome characterized by an acute onset of cognitive, attention, disorientation and a change in the level of consciousness. It can develop at any age and in any medical condition and requires urgent intervention. Delirium is a syndrome that is reversible if emergency intervention is taken and can be prevented by risk assessment [1,2]. The development of delirium increases the length of hospital stay, health care costs and mortality rates [3,4].

The physiopathology of delirium is not known exactly, and there are various underlying mechanisms. The reticular activating system (RAS) is mainly responsible for the mechanism of delirium development. It has also been reported to be caused by many pathological mechanisms such as neurotransmitter imbalances (dopamine, serotonin, beta endorphin, histamine, gamma amino butyric acid-GABA, etc.), cerebral hypoperfusion, hypoglycemia and infections The mechanisms that cause delirium cause widespread functional disorders in the brain, especially in the cognitive area, motor functions, circadian rhythm and sleep-wake cycle. Therefore, delirium requires immediate intervention [2,5]. The rate of delirium development is higher in patients requiring critical care; because they have deterioration in many areas [6].

Although delirium is common, it is diagnosed insufficient and late. The variability of delirium mechanisms also causes risk factors to change from one environment to another. Delirium risk factors are classified as predisposing and initiating risk factors. Factors that increase susceptibility to delirium may include the following: Aging, cognitive impairment or dementia, previous stroke, depression, chronic kidney and lung failure, fluid and electrolyte imbalances, malnutrition, alcohol and smoking, visual and hearing disorders, surgical interventions, anesthetic and sedative agents, physical restraint practices and long-term hospitalization [7,8]. The risk factors that initiate delirium may be drugs, immobilization, physical restrictions, and social isolation [9].

The symptoms of delirium can be confused with the symptoms of many diseases. The most common symptoms are space-time-space orientation disorders, the deterioration in attention and focus, fluctuations in consciousness, restlessness, abnormal responses to visual and auditory stimuli, sleep disturbance, delusions, mood changes, increase/decrease in psychomotor activities, deterioration in sleep patterns, delusions, mood changes and deterioration in short memory [10–12].

Delirium is classified according to its symptoms. Symptoms vary depending on the level of psychomotor activity and alertness. These are: Hyperactive type, hypoactive type and mixed type. The most common type in intensive care units is hypoactive and mixed type delirium [10–12]. Patients with hypoactive delirium are lethargic and have predominantly reduced motor activity. This type of delirium is very difficult to define. Depression symptoms are common. Symptoms such as unresponsiveness, apathetic, feeling of worthlessness, decreased verbal response and thinking about death are observed. Usually, hyperactive delirium patients have visual hallucinations, aggressive and/or agitated behavior, and signs of restlessness. Unless a validated screening tool for hypoactive delirium is used, the patient's symptoms are misinterpreted as fatigue or depression. Therefore, the diagnosis of delirium can be overlooked [10,12]. Mixed type delirium is accompanied by both hypoactive and hyperactive manifestations throughout the course of the disease. It is the most common mixed type of delirium. Symptoms change with the day-night cycle. Patients are calm and relaxed during the day, while at night they are more agitated and show aggressive behavior [10–12]. Another classification is called sedation-associated delirium. Symptoms of delirium appear when sedative medication is administered, but symptoms begin to subside rapidly within 2 hours after sedation [13].

The incidence and prevalence rates of delirium are different [14]. It affects approximately two to three million patients per year. It is reported that the incidence of delirium after hospitalization in elderly patients is approximately 11–25% [15]. Emergency departments play an important role in the health care of the aging population. Delirium is observed in 8–10% of elderly patients admitted to the emergency department [16,17]. Delirium is also one of the most common complications in terminal patients in palliative care. It is reported that the incidence of delirium in palliative care cancer patients has increased from 13% to 93% [18,19]. Delirium is commonly seen in surgical complications. Delirium usually occurs in the days after surgery (usually between the 2nd and 5th days). The incidence of postoperative delirium is about 2–3%, but it is observed that this rate reaches 50–70% in high-risk patient groups [20–22].

There are differences in the incidence of delirium according to the area of operation and the type of surgical intervention. The incidence of postoperative delirium is 13% after general surgery, 29% after vascular surgery, and 50% after major abdominal surgery [23–25]. The incidence of delirium in patients treated in the intensive care unit has been reported to be between 70 and 87% [26]. Delirium is stated as a complication of Covid-19 infection [27]. Studies have shown that 20–30% of patients are admitted to the hospital with delirium or mental state changes during the COVID-19 pandemic. It is estimated that in severe cases this rate will increase to 60–70% [28]. The studies conducted show that there is a change in mental status in 7.5–9.4% of patients [28–30]. It is reported that the prevalence is 12–84% in delirium studies conducted in COVID-19 patients [31–33].

The main triggering factors causing delirium in the Covid-19 pandemic may be:

- firstly, the widespread central nervous system effect of the agent,
- social isolation caused by social distance and quarantine practices,
- deep sedation practices,
- high fever,
- long-term mechanical ventilation practices,
- delayed extubation due to concern that the aerosol will spread,
- inadequate pain assessment,
- psychological perceptions (mass death),
- multiple organ dysfunction may occur as a result of the inflammatory response it causes,
- in addition, it is expressed as the heavy working conditions caused by the pandemic and the inadequacy of health professionals in determining the risk of delirium, screening and applying non-pharmacological approaches [34–36].

Critical intensive care patients experience a variety of symptoms during their hospital stay, including pain, agitation, delirium, weakness, and sleep disturbance. In intensive care units, methods such as sedation, immobilization and social isolation are generally used for the management of these symptoms [35,36]. Delirium is a health condition that is difficult to diagnose unless measured with a validated scale. Nurses who provide 24-hour care to the patient should know the risk factors for delirium, diagnose delirium with the right tools, and actively participate in the management of delirium with evidence-based nursing practices [21,37–39]. In this review, it is aimed to summarize delirium prevention strategies and evidence-based nursing practices with the new type of coronavirus (SARS-CoV-2) process.

Delirium and Evidence-Based Nursing Practices: Covid-19 Update

The first step in the care of the patient with delirium should be to create a safe and therapeutic environment [40]. Early diagnosis reduces the incidence of morbidity in delirium. Patients should be evaluated regularly for the risk of delirium during admission to the clinic and during hospitalization. It should not be forgotten that delirium is a condition that can be reversed when emergency intervention is performed.

Risk Assessment and Delirium Diagnosis

It may not be possible to completely prevent the development of delirium in the patient. However, it has been reported that it is possible to identify patients at risk for delirium. For this it is necessary to take a comprehensive medical history of the patient. It is also necessary to use individual and environmental risk factors and appropriate assessment scales [41,42].

Diagnostic and Statistical Manual for Mental Disorders (DSM) criteria, which is an international guide in the diagnosis of delirium, is the gold standard. The diagnostic criteria for DSM-V delirium are given in the table below (Table 1).

Table 1. DSM-V Criteria for delirium

A. A disturbance in attention (i.e., reduced ability to direct, focus, sustain, and shift attention) and awareness (reduced orientation to the environment).
B. The disturbance develops over a short period of time (usually hours to a few days), represents a change from baseline attention and awareness, and tends to fluctuate in severity during the course of a day.
C. An additional disturbance in cognition (e.g., memory deficit, disorientation, language, visuospatial ability, or perception).
D. The disturbances in Criteria A and C are not better explained by another preexisting, established, or evolving neurocognitive disorder and do not occur in the context of a severely reduced level of arousal, such as coma.
E. There is evidence from the history, physical examination, or laboratory findings that the disturbance is a direct physiological consequence of another medical condition, substance intoxication or withdrawal (i.e., due to a drug of abuse or to a medication), or exposure to a toxin, or is due to multiple etiologies.
American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders: DSM-5™* (5th ed.). American Psychiatric Association, Washington 2013;596.

The use of the correct measurement tool ensures the prevention and early diagnosis of delirium in patients who are at risk [43,44]. It is necessary to identify the

etiological factors that cause delirium. Treatment should be initiated that will eliminate or reduce the factors that cause delirium. Treatment should be started that will eliminate or reduce the factors that cause delirium. Motor subtypes of delirium should be recognized. The neurological status of the patient should be frequently monitored. Nurses should make an assessment using a delirium rating scale when they first see confusion in the patient [40].

There are many delirium measurement tools according to their intended use. For example, it may be for alertness, risk determination, diagnosis, evaluation, observation, or severity determination. The scales used to evaluate pre-delirium alertness are as follows: "Richmond Agitation and Sedation Scale (RASS)", "Ramsay Sedation Scale (RSS)", "Motor Activity Assessment Scale (MAAS)", "Riker Sedation Agitation Scale (SAS)" are used.

Some delirium screening and diagnostic scales are often used in the literature. For example:

a. The Confusion Assessment Method for The Intensive Care Unit (CAM-ICU),
b. The Intensive Care Delirium Screening Checklist (ICDSC),
c. The Delirium Detection Score (DDS),
d. The Neelon and Champagne (NEECHAM) Confusion Scale,
e. The Delirium Rating Scale (DRS) The Delirium Rating Scale-Revised-98 (DRS-R98),
f. Nursing Delirium Screening Scale (NuDESC) [45].

Cognitive Interventions to Prevent Delirium:

1. The clinic should be introduced to the patient, and it should be ensured that the patient stays in the same bed.
2. The patient should be called by name.
3. The patient should be informed about the place and time.
4. Communication should be direct, in simple and understandable terms.
5. The patient should be informed about current events.
6. The noise level should be minimized, sleep patterns and night-day cycles should be ensured. It is recommended to regulate sleep and physical activity.
7. It should be avoided to disappoint the patient by asking questions that the patient cannot answer.
8. Watches, televisions, photographs to be brought from home, personal belongings, etc. can be used in the patient's room for orientation. During each shift, caregivers should re-introduce themselves and re-orient the patient [40].

Providing a Safe Environment to Prevent Delirium

Environmental arrangement includes attempts to reduce heat, humidity, temperature, sound, treatment hours, and medical device noises.

1. The environment should be lighted according to the day-night cycle. Noise should be reduced (below 35 decibels during the day and 30 decibels at night). Room temperature should be 21–26±3 degrees and humidity should be 30–60%.
2. The patient should be helped to perform activities of daily living.
3. Patient safety should be ensured. The physical restraint of the patient should be minimized.
4. Depending on the health status of the patient, it should be recommended to use glasses, lenses, hearing aids, and prosthetic teeth.
5. Individual belongings of the patient should be brought and access to their belongings should be facilitated.
6. Stimulants such as sound and light for sleep patterns should be reduced. If necessary, eye patch and ear plugs should be worn. The number of medical interventions at night should be minimized [38, 46–48].

Nutritional and Hydration Support in the Prevention of Delirium

It is known that among the risk factors for delirium are malnutrition, dehydration, hypoglycemia, hyperglycemia, hyponatremia, hypernatremia, anemia, vitamin deciencies. In some studies, it has been reported that disorientation is less common in patients who take enough fluids. It has also been reported that the prevalence of agitation and hyperactive delirium is less in patients who take enough fluids [49,50].

1. Patients who are at risk of malnutrition should be recognized. The most used screening tool for the detection of nutritional deficiency or malnutrition risk ratios is the Nutritional Risk Screening 2002 (NRS-2002). In NRS-2002, patients are evaluated for body mass index, nutritional deficiencies, and disease severity.
2. Patients should be encouraged to self-feed.
3. Patients should open the packaging of foods themselves.
4. Water should be placed near the patient to support fluid intake.
5. The patient should be weighed frequently. The patient's oral, enteral, and parenteral nutritional adequacy should be evaluated regularly [48].

Nonpharmacological approaches are quite effective in the management of delirium. Interventions such as

regular pain assessment, sleep-wake cycle, early mobilization, avoidance of unnecessary invasive intervention and avoidance of sedative agents have become standard care in delirium. These interventions are known as the ABCDEF care package in delirium.

The ABCDEF bundle includes: A — Assess, Prevent, and Manage Pain; B — Both Spontaneous Awakening Trials (SAT) and Spontaneous Breathing Trials (SBT); C — Choice of analgesia and sedation; D — Delirium: Assess, Prevent, and Manage; E — Early mobility and Exercise, and F — Family engagement and empowerment.

The ABCDEF package consists of six elements that include evidence-based applications. It is reported that the incidence of delirium can be reduced from 70–75% to 50% with the application of the ABCDEF care package [36].

The World Health Organization (WHO) declared the Coronavirus Disease 19 (COVID-19) pandemic in February 2020. There is a risk of delirium in Covid-19 patients for reasons such as induction of inflammatory mediators, multiple organ failure, use of sedative drugs, prolonged mechanical ventilation, or social isolation. The Covid-19 pandemic has increased the incidence of delirium [35,36]. It is important to use the ABCDEF care package created by the Society of Critical Care Medicine (SCCM) in the management of delirium for Covid-19 patients. The ABCDEF package is somewhat different from other evidence-based Intensive Care Unit (ICU) interventions. Secondly, it focuses on symptom assessment, prevention and management rather than the disease process. Therefore, it is especially important in the early stages of critical illness and is suitable for use with treatments [35,51–53]. The following are the updates related to the Covid-19 pandemic according to the ABCDEF package components.

A. Assessment and Management of Pain

Pain is a risk factor for delirium. At the same time, patients with delirium often have difficulty expressing pain [54].

- The use of pain scales is recommended for pain assessment in intubated or deeply sedated patients.
- Pain assessment should be performed and recorded using pain scales frequently.
- Analgesia should be provided by determining the source of pain.
- If pain is successfully managed, the patient may need less sedation [35,51–53,55].

Regular pain assessment should be performed in patients with suspected/definitive diagnosis of Covid-19 (especially in the prone position). Pain sources should be evaluated and pain management with analgesia should be provided. Neurovascular dysfunction should be considered in widespread pain. The obstacle to the implementation of this step is the practice of long-term high-dose opioid therapy to the Covid-19 patient [35, 51–53].

B. Both Spontaneous Awakening Trials (SAT) and Spontaneous Breathing Trials (SBT)

- Daily sedation should not be continuous in mechanically ventilated patients [56].
- The patient should be informed about the procedure to be performed.
- The patient should be given Semi-fowler position and gastric feeding should be interrupted in those with a high probability of extubation.
- T-Tube trial, Pressure support ventilation (PSV), Synchronized intermittent mandatory ventilation (SIMV) should be performed in the morning if the patient needs it.
- The patient should rest at night and not get tired [57].

Update of Covid-19: Sedation should be interrupted to conduct daily spontaneous awakening trials and spontaneous breathing trials. Spontaneous breathing tests should be performed. the parameters should be evaluated daily for sedation decapitation and spontaneous breathing attempts. Early extubation is recommended to reduce the spread of aerosol [35].

C. Choice of Drugs (The Choice of Sedation and Analgesia According to the Patient's Level of Pain-sedation-agitation)

Sedatives are applied to relieve the patient's anxiety, reduce the stress of mechanical ventilation, and prevent damage due to agitation. Pain, sedation, and agitation should be assessed using valid and reliable scales [35,51–53,55]. The Richmond agitation-sedation scale (RASS) and sedation-agitation scale (SAS) are widely used to assess the depth of sedation [58,59].

- The "Pain, Agitation, and Delirium (PAD)" guide published by the Intensive Care Medicine Association in 2013 was revised in 2018. This guideline recommends targeting light sedation levels or using daily wake-up trials and minimizing benzodiazepines to improve short-term outcomes [56,58,60,61].
- The interactions of analgesics and sedatives should be evaluated. In critically ill patients, drug interactions can lead to organ dysfunction, hemodynamic imbalance, and unpredictable pharmacokinetic and pharmacodynamic adverse events due to drug accumulation [56,61].

Sedation should be adjusted according to ventilation requirements — the priority is on effective ventilation (Richmond agitation-sedation scale (RASS) score 4 should be taken for prone position). In pharmacological sedation, the use of strong sedatives should be avoided in a short time, it is recommended to use agents such as antipsychotics or alpha-2 agonists [35,51–53,55].

D. Assessment of Delirium (Monitoring of Delirium /Managing of Delirium):

- Validated measurement tools should be used to assess delirium.
- Noise in the environment should be reduced. For patients to sleep uninterrupted, sleep cycle should be arranged, and day-night rhythm cycle should be provided.
- Intensive Care Delirium Monitoring Checklist or Confusion Evaluation Method in Intensive Care should be used [35,51–53,55].

Update of Covid-19: The delirium picture in patients with Covid-19 infection may be due to the direct effect of SARS-CoV-2 or to physiological changes caused by prolonged hospitalization (pain, sleep disorders, constipation, urinary retention). In addition, sleep disorders and rhythm disorders are observed in most Covid-19 patients. Sleep disturbance is a modifiable risk factor, but it is also a consequence of delirium itself [62]. There is a vicious circle between sleep disturbance, Covid-19 infection, and delirium.

The diagnosis of delirium may be endangered due to the sedation application and the inadequacy of the number of nurses per patient during the hospitalization of these patients in the intensive care units. At the same time, sleep disorders in these patients prevent the implementation of the delirium diagnosis and objective evaluation routine [63]. Sensory inputs should be increased by non-pharmacological methods. Since the patients constantly see the health personnel with personal protective equipment, the health personnel should introduce themselves. If the patient uses hearing aids and glasses; they should be supported to wear them. At the same time, the patient should be monitored in terms of anosmia caused by covered. At the same time, the patient should be followed up for anosmia [35,51–53,55].

E. Early Mobilization (Early Exercise/Mobility)

Early mobilization allows early recovery of the patient. it is also a simple and effective method that reduces and prevents complications.

- In-bed active-passive ROM exercise should be applied daily for patients who cannot sit in a chair or cannot be mobilized.
- Key indicators for safely initiating rehabilitation/ mobilization include stability in cardiovascular, respiratory and neurological status. These parameters should be evaluated in terms of suitability for mobilizatio [64].
- Invasive equipment used should be removed as early as possible to reduce the patient's physical restraint [37].
- It is important to ensure adequate nutrition and hydration of the patient in the early period.
- Multidisciplinary physiotherapy should be provided to patients undergoing invasive mechanical ventilation [35,51–53,55].

COVID-19 update; It is difficult to implement early mobilization in patients with COVID-19 infection in intensive care units. Different ventilation strategies and neurologic complications may restrict the mobilization of patients. The rapid increase in the number of Covid-19 cases has led to both an increase in the need for intensive care units and an increase in the length of hospitalization of the patients. The lack of a sufficient number of personnel to ensure that this need is addressed delays the mobilization of patients [52]. In addition, deep sedation hinders the rehabilitation of the patient [65]. This step of the care package applied to other patients may not be applied to patients with COVID-19 infection. A surgical mask can be used during the mobilization of extubated patients [60]. Further studies are needed to develop an effective approach to the early rehabilitation of patients with COVID-19 infection.

F. Family Engagement and Family Empowerment:

- The foundation of a good relationship is trust.
- Social distancing affects the occurrence of delirium. Therefore, the continuity of communication of patients and their relatives can be provided by teleconference or telephone [35,51–53,55].
- Relatives of patients should be informed about their patients via televideo or telephone.

In the Covid-19 pandemic, visitors are restricted to protect both the patient and family members from contamination. Appropriate patients and their relatives should be encouraged to make daily phone or video calls [35,51–53,66,67].

Conclusions

Delirium is associated with a bad prognosis in critically ill patients and requires urgent diagnosis and intervention [35]. Although a high incidence of delirium has been reported in COVID-19 patients, its diagnosis is often overlooked [68]. Delirium is overlooked, especially during the epidemic period, due to strict isolation measures, increased workload of caregiver healthcare professionals, and confusion with other neuropsychiatric conditions. A multidisciplinary approach is required to prevent delirium and to provide effective management. In addition, it is recommended to use the ABCDEF care package for delirium, which consists of evidence-based practices [39,52]. Using a care package in delirium management reduces the length of hospital stay, morbidity, mortality, and care/treatment costs, and increases the quality of life of patients after discharge [36,52]. The use of personal protective equipment by nurses-physicians who provide care for Covid-19 patients, limited communication, strict isolation measures, and the use of new medications may cause a fluctuation in mental status [69]. This condition makes it more difficult to diagnose and manage delirium, which is difficult to diagnose and often overlooked. It is important to identify and prevent the risk factors associated with the development of delirium and to reduce the rates and complications of delirium. Nurses, as caregivers' day and night, may be the first to notice fluctuations in the patient's mental status. In the prevention of delirium, it is important to carry out risk assessment with the right scales and routinely, to organize in-service training programs to increase the awareness and skill levels of nurses about screening and assessment of delirium, to know evidence-based practices in delirium management and to follow up-to-date information.

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