Recognising and effectively managing delirium in palliative care

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Workshop overview

- Introduction
- What is delirium?
- Epidemiology and prevention
- Detecting delirium and assessing the patient
- Management: non-pharmacological, pharmacological and implications for nursing
- Communication, ethical decision making and practice
- Taking action for optimal delirium care
ACSQHC

What is delirium?

What are the delirium sub-types?
Simple definition

Delirium is an acute alteration of mental state that is related to a physical cause.
DSM-5 diagnostic criteria for delirium

A. Disturbed Attention and Awareness

B. Disturbance develops over a short period of time, is a change from Baseline, tends to fluctuate in severity over the course of the day

C. An additional disturbance in Cognition

D. A and C are not better explained by another pre-existing, established or evolving neurocognitive disorder (i.e. Dementia) nor in context of severely reduced level of consciousness, such as coma

E. Evidence of an Etiological cause
Cognitive changes

- Memory deficit
- Disorientation
- Language
- Visuospatial ability
- Perceptual disturbances
  - Illusions
  - Hallucinations
  - Delusions

American Psychiatric Association, 2013
Other symptoms

- Lethargy
- Mood changes: fear, anxiety, depression
- Sleep-wake disturbance
  ... can also occur but are not required for a diagnosis
Subtypes

Hypoactive: low arousal

Hyperactive: high arousal

Mixed: fluctuating between both
# Delirium Risk Factors

<table>
<thead>
<tr>
<th>Predisposing factors</th>
<th>Precipitating factors</th>
<th>Additional risk factors in patients with cancer</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥65 years</td>
<td>Polypharmacy</td>
<td>Prior delirium</td>
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<tr>
<td>Advanced illness</td>
<td>Metabolic disturbance</td>
<td>Benzodiazepines</td>
</tr>
<tr>
<td>Prior cognitive impairment</td>
<td>Low albumin</td>
<td>Opioids</td>
</tr>
<tr>
<td>Multiple co-morbidities</td>
<td>Prolonged hospital stay</td>
<td>Corticosteroids</td>
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<tr>
<td>Sensory impairment</td>
<td>Indwelling catheter</td>
<td>Bone metastases</td>
</tr>
<tr>
<td>Diminished function/performance status</td>
<td>Drug intoxication</td>
<td>Liver metastases</td>
</tr>
<tr>
<td>Current hip fracture</td>
<td>Dehydration</td>
<td>Haematological malignancies</td>
</tr>
<tr>
<td>Impaired nutrition</td>
<td>Infection</td>
<td>Metastases to brain or meninges</td>
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<td>Hypoxia</td>
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<td>Pain</td>
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<td>Anemia</td>
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<td>Emotional stress</td>
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<td></td>
<td>Environment</td>
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<td></td>
<td>Use of physical restraints</td>
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<tr>
<td></td>
<td>Drug or alcohol withdrawal</td>
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</tbody>
</table>

References: (Ahmed, Leurent, & Sampson, 2014; Canadian Coalition for Seniors’ Mental Health, 2010; Caraceni, 2013; Clinical Epidemiology and Health Service Evaluation Unit Melbourne Health, 2006; National Clinical Guideline Centre for Acute and Chronic Conditions, 2010).
Delirium outcomes

- Increased:
  - Falls
  - Development of pressure areas
  - Mortality
  - Length of hospital stay
  - Nursing home admission
  - Further cognitive decline
  - Costs to the health care system (2 ½ x)

- Reversal of delirium reverses many of these outcomes

Delirium reversibility

- Delirium occurring in inpatient palliative care settings is highly reversible
  - 49% of all episodes
  - 56% if first episode
  - 26% if repeated episode within same admission.

- Reversibility associated with psychoactive medication, electrolyte imbalance, infection

- Irreversibility more common with hypoxia, subsequent delirium episodes and organ failure

- Dichotomy within population
  - Imminently dying irreversible delirium
  - Easily reversible delirium

Prevalence and incidence

• Palliative care inpatient units:
  – On admission: 13-42%
  – During admission: 26-62%
  – Near death: 58-88%

• Older people:
  – On admission: 10-15%
  – During hospital stay: 5-40%

• Intensive Care Units: 70%

• Post hip surgery:
  – Develops in 40-56%

• Long-term care: 40%
Epidemiology – PC inpatient units

Prevalence ranges from 28% - 88%, increasing with advancing illness

Hosie, Davidson, Agar, Sanderson, Phillips. 2013, Delirium prevalence, incidence and implications for screening in specialist palliative care inpatient settings: A systematic review. Palliative Medicine
Delirium 24-hour point-prevalence in two Australian palliative care units

- Negative delirium screen: 19%
- Positive delirium screen, did not meet DSM-5 diagnostic criteria for delirium: 15%
- Positive delirium screen and met DSM-5 diagnostic criteria for delirium: 66%
Delirium in an adult acute hospital population: predictors, prevalence and detection

Daniel James Ryan,¹ Niamh Annmarie O'Regan,¹ Ronán Ó Caoimh,¹ Josie Clare,² Marie O'Connor,³ Maeve Leonard,⁴ John McFarland,⁵ Sheila Tighe,⁶ Kathleen O'Sullivan,⁷ Paula T Trzepacz,⁸,⁹ David Meagher,⁴ Suzanne Timmons¹

ABSTRACT

Background: To date, delirium prevalence and incidence in acute hospitals has been estimated from pooled findings of studies performed in distinct patient populations.

Objective: To determine delirium prevalence across an acute care facility.

Design: A point prevalence study.

Setting: A large tertiary care, teaching hospital.

Patients: 311 general hospital adult inpatients were assessed over a single day. Of those, 280 had full data collected within the study’s time frame (90%).

Measurements: Initial screening for delirium was performed using the spatial span forwards and months backwards test by junior medical staff, followed by two independent formal delirium assessments: first the Confusion Assessment Method (CAM) by trained geriatric medicine consultants and registrars, and, subsequently, the Delirium Rating Scale-Revised-98 (DRS-R98) by experienced psychiatrists. The diagnosis of delirium was ultimately made using DSM-IV (Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition) criteria.

Results: Using DSM-IV criteria, 55 of 280 patients (19.6%) had delirium versus 17.6% using the CAM. Using the DRS-R98 score for independent diagnosis, 20.7% had full delirium, and 8.6% had subsyndromal delirium. Prevalence was higher in older patients (4.7% if <50 years and 34.8% if >80 years) and particularly in those with prior dementia (OR=15.33, p<0.001), even when adjusted for potential confounders. Although 50.9% of delirious patients had pre-existing dementia, it was poorly documented in the medical notes. Delirium symptoms detected by medical notes, nurse interview and patient reports did not overlap much, with inattention noted by professional staff, and acute change and sleep-wake disturbance noted by patients.

Conclusions: Our point prevalence study confirms that delirium occurs in about 1/5 of general hospital inpatients and particularly in those with prior cognitive impairment. Recognition strategies may need to be tailored to the symptoms most noted by the detector (patient, nurse or primary physician) if formal assessments are not available.

INTRODUCTION

Delirium is a complex neuropsychiatric syndrome, commonly encountered across all healthcare settings, and associated with adverse outcomes including more prolonged hospitalisation, institutionalisation and increased mortality, independent of age, prior cognitive functioning and comorbidities. In a recent study, mortality was shown to increase by 11% for every additional 48 h of active delirium, highlighting the need for timely detection and treatment. However, delirium is misdiagnosed, detected late or missed in over 50% of cases across healthcare.
What are the elements of delirium prevention care?

Are these feasible in palliative care settings and populations?
Delirium prevention

• Multicomponent non-pharmacological delirium prevention interventions:
  – Reduce delirium incidence
  – Prevent falls
  – Trend toward decreased length of hospital stay and admission to long term care

Delirium prevention in palliative care

- Only one study to date
- Interventions targeting:
  - Physicians (written notice on selective delirium risk factors and inquest on intended medication changes)
  - Patients and their family (orientation to time and place, information about early delirium symptoms)
- Outcomes: No difference in delirium incidence, severity, duration, or patient mortality
- Minimal nursing interventions

Morning tea
Delirium under-recognition

- Delirium is under-recognised across care settings if a screening tool is not used
- Under-recognised in palliative care practice
- Symptom screening systems commonly used in Australian palliative care services do not include delirium
- Delirium under-recognition does not align with: “...early identification and impeccable assessment...” (WHO 2002)

Delirium screening & diagnostic tools

- **Rationale and required features**
  - Facilitate earlier recognition and/or diagnosis of delirium by non-psychiatric health professionals
  - Must be reliable, valid, reproducible
  - Also useful if they are brief, low burden, with easily memorised components

- **Delirium tools**
  - Single Question in Delirium (SQiD) (Sands et al 2010)
  - Nursing Delirium Screening Scale (NuDESC) (Gaudreau et al 2005)
  - bCAM (Han 2013)
  - RADAR (Voyer 2015)
Case Study - Mrs Jones

Mrs Jones is admitted to your palliative care unit. She is widowed, aged 81, lives alone and her diagnoses include: Stage IV lung cancer (large lung mass, liver metastases, bone metastases), chronic renal failure (creatinine on admission of 164), hypertension, osteoarthritis and vision impairment (macular degeneration).

She was admitted for symptom management, as she has escalating chest wall pain (NRS 7-8). She has a son and daughter, but she is unaccompanied by any family or friends at admission. Medical and nursing admission processes are completed. Mrs Jones was independent with ADLs prior to admission. She shares a four-bed room with 3 other female patients.

Her opioid and adjuvant doses are increased after admission. Her medications include:

- Oxycodone 3mg po Q4h since admission (2.5mg QID at home)
- Dexamethasone 4mg
- Gabapentin 100mg tds since admission (100mg nocte at home)
- Paracetamol 1g QID
- Coloxyl with sema 2 BD
- Temazepam 10mg nocte (using regularly for last 5 years)
- Atorvastatin
- Metoprolol 12.5mg BD

By day 4 her pain appears to be improving – as although she is not able to give you a NRS today you notice that yesterday the NRS was 3-4. However, she isn’t eating a great deal, has not had her bowels open since admission and has urinary frequency.

Mrs Jones is a quiet, cooperative lady who displays no signs of agitation, but is noted to be a little vague in her verbal responses. She interacts only occasionally with the other patients in the room. She sleeps for intervals during the day, and is sometimes slow to rouse. Night staff report that she is awake for periods of time each night. When awake, she sits quietly and watches what is happening in the room.

Her son visits her each evening after he finishes work. On the evening of the 4th day of admission, he speaks to the nurse on duty and tells her that his mother has told him that she can see a dead man in the corner of the room, and that it has been there since she arrived on the ward. He also reports that his mother is not as clear in her speech and thinking as is usual for her.

The nurse speaks to Mrs Jones about this. Mrs Jones says she has been wondering why no one has talked about this man and that she was too frightened to report what she was seeing, in case people thought she was ‘crazy’. She reveals that she finds the sight of the dead man very disturbing, and is worried she is ‘losing her marbles’. She also reports she is finding it harder to concentrate and remember simple things.
Case Study: Mrs Jones

– Identify predisposing delirium risk factors
– Identify precipitating delirium risk factors
– Apply SQiD, RADAR, NuDESC, bCAM
– Apply DSM-5
– Conduct a comprehensive assessment: identify the elements
SQiD

- A single question: ‘Do you think [name of patient] has been more confused lately?’ is put to friend or family.
When you gave the patient his/her medication...

1. Was the patient drowsy?
2. Did the patient have trouble following your instructions?
3. Were the patient’s movements slowed down?

A RADAR screening is considered positive when at least one item is checked “Yes”

### NUDESC

**Date today:** ____/____/_____

<table>
<thead>
<tr>
<th>Features and descriptions</th>
<th>SYMPTOM RATING 0 - 2</th>
</tr>
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<tbody>
<tr>
<td>Symptom/time period</td>
<td>Midnight</td>
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<tr>
<td>DISORIENTATION:</td>
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<tr>
<td>Verbal or behavioural of not being orientated to time or place or misperceiving persons in the environment</td>
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<tr>
<td>INAPPROPRIATE BEHAVIOUR:</td>
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<tr>
<td>Behaviour inappropriate to place and/or for the person e.g pulling at tubes or dressings, attempting to get out of bed when that is contraindicated and the like</td>
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<tr>
<td>INAPPROPRIATE COMMUNICATION:</td>
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<tr>
<td>Communication inappropriate to place and/or for the person e.g incoherence, non-communicativeness, nonsensical or unintelligible speech</td>
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<tr>
<td>ILLUSIONS/HALLUCINATIONS:</td>
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<td>Seeing or hearing things that are not there, distortion of visual objects.</td>
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<td>PSYCHOMOTOR RETARDATION:</td>
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<tr>
<td>Delayed responsiveness, few or no spontaneous actions/words e.g when patient is prodded, reaction is deferred and/or the patient is unrousable</td>
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<td><strong>TOTAL SCORE (out of 10)</strong></td>
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Brief Confusion Assessment Method (bCAM) Flow Sheet

Feature 1 - Altered Mental Status or Fluctuating Course

- No
  - bCAM Negative
  - No Delirium

- Yes
  - Feature 2 - Inattention

Feature 2 - Inattention

- "Can you name the months backwards from December to July?"
  - 0 or 1 errors
    - bCAM Negative
    - No Delirium
  - > 1 errors
    - Feature 3 - Altered Level of Consciousness?

Feature 3 - Altered Level of Consciousness?

- Richmond Agitation Sedation Scale
  - Yes
    - DELIRIUM PRESENT
  - No
    - Feature 4 - Disorganized Thinking

Feature 4 - Disorganized Thinking

1) Will a stone float on water?
2) Are there fish in the sea?
3) Does one pound weigh more than two pounds?
4) Can you use a hammer to pound a nail?

Command: "Hold up this many fingers" (Hold up two fingers). "Now do the same thing with the other hand" (Do not demonstrate).

- Any Errors
  - bCAM POSITIVE
  - DELIRIUM PRESENT

- No Errors
  - bCAM Negative
  - No Delirium

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The Brief Confusion Assessment Method (bCAM) is adapted from:


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DSM-5 diagnostic criteria for delirium

A. Disturbed Attention and Awareness

B. Disturbance develops over a short period of time, is a change from Baseline, tends to fluctuate in severity over the course of the day

C. An additional disturbance in Cognition

D. A and C are not better explained by another pre-existing, established or evolving neurocognitive disorder (i.e. Dementia) nor in context of severely reduced level of consciousness, such as coma

E. Evidence of an Etiological cause
Elements of assessment

• Baseline:
  – Attention
  – Awareness
  – Cognition
  – Perception
  – Behaviour
  – Communication
  – Function

• Relevant history

• What recent changes have occurred?
Elements of assessment

• Physiological and pharmacological status:
  – Vital signs
  – Oximetry
  – Blood Sugar Level
  – Urinalysis
  – Bowel function
  – Laboratory findings
  – Medications: likely precipitants, recent changes
Elements of assessment

- Potential investigations:
  - Full blood count
  - Biochemistry – calcium, albumin, magnesium, phosphate, creatinine, urea, electrolytes, liver function tests (ALT, AST, bilirubin, alkaline phosphatase), glucose
  - Thyroid function tests
  - Blood culture
  - Oxygen saturation or arterial blood gases
  - Urine culture
  - Chest X-ray
  - Electrocardiogram

Canadian Coalition for Seniors’ Mental Health. (2010). *Guideline on the Assessment and Treatment of Delirium in Older Adults at the End of Life.*
Elements of assessment

• Safety: re-assess falls and other risks
• Level of distress, impact and meaning of delirium symptoms for patient and family
• What is the patient’s illness trajectory and phase?
• What are the patient’s wishes and goals of care?
• Interdisciplinary assessment and communication
• Further investigation as appropriate
Key determinants of management

The assessed situation, needs and wishes of the individual patient
Issues for management

• Reversibility
• Patient goals of care and phase of illness
• Maintaining patient and staff safety
• Communication
• Addressing distress
  – Functional change
  – Hypoactive and cognitive symptoms
  – Sleep
  – Perceptual disturbance
• Adequate pain and symptom management balanced with managing psychoactive medication load
Treat underlying causes, if appropriate

• Modify medications contributing to delirium whenever possible:
  – Opioids, benzodiazepines, corticosteroids, anticholinergics, psychotropics
  – Consider necessity, duplication, interactions, schedule, minimally effective dose
• Manage pain using safest interventions
• Approximately 70% drug induced delirium episodes are reversible

Treat underlying causes, if appropriate

- If infection is suspected, start antibiotics promptly
- Ensure adequate oxygenation and electrolyte balance
- Ensure hydration; monitor fluid intake and urinary output
- Monitor elimination patterns
- Monitor nutrition and skin integrity
- Correct sensory deficits (e.g., hearing aids, eyeglasses).
- Support normal sleep patterns and avoid routine use of sedatives

Canadian Coalition for Seniors’ Mental Health. (2010). *Guideline on the Assessment and Treatment of Delirium in Older Adults at the End of Life*
Environmental interventions

- Avoid unnecessary room transfers
- Consistent staffing
- Re-orientation strategies (e.g., clocks, calendars)
- Appropriate lighting to reduce misinterpretations and promote sleep
- Provide objects familiar to the older person to reduce disorientation
- Ensure safe environment for the patient and for others
- Appropriate music
- Comfortable noise levels

Canadian Coalition for Seniors’ Mental Health. (2010). *Guideline on the Assessment and Treatment of Delirium in Older Adults at the End of Life*
Communication-behavioral management

- Use clear and simple communication
- Communicate compassion, understanding and reassurance
- Avoid confrontation and use distraction to minimize agitation
- Consider the need for language interpreters
- Provide patient and family with information about delirium
- Identify triggers for agitation
- Use least restrictive measures for safety - restraints to control wandering or prevent falls is not justified
- Encourage presence of a family member/friend or consider a sitter
- Mobilise the patient, as appropriate

Canadian Coalition for Seniors’ Mental Health. (2010). *Guideline on the Assessment and Treatment of Delirium in Older Adults at the End of Life*
Pharmacological interventions

• Important to note:
  – Benzodiazepines should be avoided in patients at risk of delirium
  – There is evidence that antipsychotics increase the severity of delirium symptoms in palliative care patients

Delirium in the last days of life

• Comprehensive assessment continues to be vital
• Communication needs of the family intensify
• Consider Mrs Jones:
  – Recovered from first episode of delirium and went home for three months
  – Now re-admitted, Phase 4, AKPS 20, drowsy, mumbled speech, unintelligible speech, restlessly moving in the bed, moaning.
Taking action for optimal delirium care

• Strategies for change
‘Everyone thinks of changing the world but none thinks of changing himself’

Leo Tolstoy
ADKAR Change Management Model

https://www.slideshare.net/syedarh/adkar-change-management-model-17701652?from_m_app=ios
Overall findings of The DePAC project

**Epidemiology (QUANT)**
- Geriatric, advanced cancer population, at risk of delirium
  - Incidence: 3-45% (screened at least daily: 33-45%)
  - Prevalence:
    - 13-42% at admission
    - 26-62% during admission
    - 59-88% in weeks or hours before death
  - Hypoactive delirium most prevalent

**Systems (QUAL)**
- Reliant on but separated from wider organisational direction
- Need to build, adapt and integrate knowledge into systems
- Multidisciplinary approaches to practice and learning
- Patients and families not included and informed

**Nursing practice (QUAL)**
- Concern and compassion
- Symptoms recognised but not framed as delirium
- Comprehensive assessment not undertaken
- Brief, simple tools, point-of-care guidance and education requested
- Need to develop communication, define role and build leadership
<table>
<thead>
<tr>
<th>Level</th>
<th>Barriers</th>
<th>Current Enablers</th>
<th>Potential Enablers</th>
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</thead>
<tbody>
<tr>
<td>Patient and family</td>
<td>Delirium is challenging to recognise</td>
<td>Establishment of rapport and trust with the patient</td>
<td>Routinely engage patients and family in delirium recognition and assessment e.g. provide them with verbal and written information</td>
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<tr>
<td></td>
<td>Commonly used cognitive assessment tools are burdensome for patients</td>
<td>Seeking family knowledge of the patient</td>
<td>Develop brief, low burden tools and those incorporating family knowledge of the patient, and test their psychometric properties in the palliative care setting</td>
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<tr>
<td></td>
<td>Few delirium tools validated in the palliative care inpatient setting</td>
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<tr>
<td></td>
<td>Patients and families are not routinely engaged</td>
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<tr>
<td>Clinician</td>
<td>Time and workload pressures</td>
<td>Generalised awareness of the problem of delirium</td>
<td>Build on compassion, concern and awareness of the problem of delirium to:</td>
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<tr>
<td></td>
<td>Multidisciplinary rather than interdisciplinary approach:</td>
<td>Compassion and concern for patients</td>
<td>Adopt an interdisciplinary approach:</td>
</tr>
<tr>
<td></td>
<td>- Disconnected communication, practice and learning</td>
<td>Conducting assessment during delivery of care</td>
<td>- Connect communication, practice and education</td>
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<td>- Team meetings are infrequent and away from the bedside</td>
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<td>- Daily interdisciplinary delirium discussion at the bedside</td>
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<td>- Lack of respect for nurses' observations</td>
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<td>- Strengthen nurses’ communication skills</td>
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<td></td>
<td>- Undefined role and absent nursing leadership</td>
<td></td>
<td>- Clearly define nurses’ role and build leadership capacity</td>
</tr>
<tr>
<td></td>
<td>Gaps in knowledge, erroneous beliefs, imprecise communication and terminology, over-confidence of some nurses in their recognition capabilities</td>
<td></td>
<td>- Promote respect and value each disciplines’ role in delirium care</td>
</tr>
<tr>
<td></td>
<td>Few delirium education opportunities relevant to palliative care</td>
<td></td>
<td>Provide education resources using palliative care scenarios, deliverable locally and widely</td>
</tr>
<tr>
<td>System</td>
<td>Palliative care populations and end-of-life care recommendations are missing from almost all evidence-based delirium guidelines</td>
<td>One evidence-based clinical practice guideline for delirium care of older adults at the end of life</td>
<td>Inclusion of palliative care populations and end-of-life care recommendations in all delirium guidelines</td>
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<td></td>
<td>Minimal integration of delirium tools and point-of-care guidance</td>
<td>Hospital-wide delirium policy and guidelines, where present</td>
<td>Hospital wide guidelines, organisational direction and clinical care standards</td>
</tr>
</tbody>
</table>
Conclusion

Impeccable nursing care is the key to reducing the impact of delirium for palliative care patients and their families.
Thank you

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