Review of Contemporary Philosophy
ISSN: 1841-5261, e-ISSN: 2471-089X
Vol 23 (2), 2024
Pp 6703 - 6715

Delirium: A Comprehensive Review for Nursing Diagnosis, Management, and Intervention Controls

[1-]Hnan Nassir Hossin Mobarkyi,[2-]Lajwa Talaq ,[3-]Mona Mohamad Farahan Alhoyan Alshahariy,[4-]Mousaed Addh Aoued Alotibi ,[5-]Moneaa Hasher Abdulali Alotaibi,[6-]Hanan Eid Rashed Alghanami ,[7-]Samirah Mahal Hamad Alanazi,[8-]Sarah Mohammad Abdul Rahman Alotaibi,[9-] Anoud Mohammed Alotaibi ,[10-] Sami Sabih T Alshararisasalsharary,[11-] Abdulaziz Tabshan Nughaymish Alsharari,[12-]Ahmed Jadullah Luwayfi Alsharari,[13-]Nada Saleh Alhosini,[14-]Mohammed Gharib Al-Harbi,[15-]Mufleh Aqeel Mufleh Al-Anazi

[1] Ksa, Ministry Of Health, Abu Hajar Primary Care Center
[2] Ksa, Ministry Of Health, Dawadmi General Hospital
[3] Ksa, Ministry Of Health, Tabarjal General Hospital
[4] Ksa, Ministry Of Health, Primary Health Care In 3rd Cluster
[5] Ksa, Ministry Of Health, Hospital Nafy
[6] Ksa, Ministry Of Health, Maternity And Children's Hospital In Tabuk
[7] Ksa, Ministry Of Health, Al Nahda Primary Health Care Center
[8] Ksa, Ministry Of Health, Al-Dawadmi General Hospital
[9] Ksa, Ministry Of Health, Al-Dawadmi General Hospital
[10]Ksa, Ministry Of Health, Al-Jouf Health Pool
[11]Ksa, Ministry Of Health, Al-Jouf Health Pool
[12]Ksa, Ministry Of Health, Al-Jouf Health Pool
[13]Ksa, Ministry Of Health, Al-Dawadmi General Hospital
[14]Ksa, Ministry Of Health
[15]Ksa, Ministry Of Health, Al Nahda Health Center Tabuk

Abstract:

Background: Delirium is an acute neuropsychiatric syndrome characterized by altered attention, consciousness, and cognitive function, often affecting elderly individuals. It arises from underlying medical conditions and is associated with significant morbidity, mortality, and healthcare costs. The condition is multifactorial, with predisposing and precipitating factors contributing to its onset. Despite its clinical importance, delirium is frequently underdiagnosed, particularly in its hypoactive form, leading to delayed intervention and poor outcomes.

Aim: This review aims to provide a comprehensive overview of delirium, focusing on its diagnosis, management, and intervention strategies. It emphasizes the importance of early detection, multidisciplinary collaboration, and evidence-based approaches to improve patient outcomes.

Methods: The review synthesizes current literature on delirium, including its pathophysiology, risk factors, diagnostic criteria, and management strategies. It highlights the use of validated assessment tools such as the Confusion Assessment Method (CAM) and discusses non-pharmacologic interventions, including the Hospital Elder Life Program (HELP). Pharmacologic treatments are explored in specific contexts, such as hyperactive delirium and substance withdrawal.

Results: Delirium is a complex condition requiring a multifaceted approach for effective management. Non-pharmacologic interventions, such as environmental modifications, reorientation strategies, and sleep promotion, are foundational. Pharmacologic treatments, primarily antipsychotics, are reserved for severe

cases. Early detection and prevention are critical, as delirium is associated with prolonged hospital stays, increased mortality, and significant healthcare costs.

Conclusion: Delirium is a serious yet often preventable condition that necessitates a proactive, interprofessional approach. Early identification, targeted interventions, and continuous monitoring are essential to mitigate its impact. While pharmacologic treatments have limited roles, non-pharmacologic strategies remain the cornerstone of management. Future research should focus on refining diagnostic tools and exploring effective pharmacologic options.

Keywords: Delirium, neuropsychiatric syndrome, hypoactive delirium, hyperactive delirium, Confusion Assessment Method (CAM), Hospital Elder Life Program (HELP), antipsychotics, multidisciplinary care, early detection, non-pharmacologic interventions.

Received: 13 October 2024 **Revised:** 27 November 2024 **Accepted:** 08 December 2024

Introduction:

Delirium, also known as an acute confusional state, is a complex neuropsychiatric syndrome that predominantly affects elderly individuals. It is characterized by an acute onset of altered attention, consciousness, and cognitive function, leading to a diminished ability to focus, sustain, or shift attention. This condition typically develops over a short period and exhibits fluctuations in severity throughout the day. Its clinical presentation varies, often involving psychomotor disturbances such as hyperactivity, hypoactivity, or a combination of both. Additionally, patients commonly experience significant disruptions in sleep duration and architecture, further complicating the clinical picture [1]. By definition, delirium arises due to an underlying medical condition and cannot be attributed to any preexisting, evolving, or established neurocognitive disorder. The etiology of delirium is multifactorial, encompassing various precipitating factors that disrupt the physiological homeostasis of a vulnerable individual. Common causes include substance intoxication or withdrawal, adverse drug reactions, infections, surgical procedures, metabolic disturbances, unrelieved pain, and even minor conditions such as constipation or urinary retention. The diagnostic process remains challenging, particularly in cases of hypoactive delirium, as its clinical manifestations are often subtle and easily overlooked [1]. Delirium represents a serious and frequently preventable medical condition that is associated with substantial healthcare costs, increased morbidity, and elevated mortality rates [2]. Given its significant clinical and economic burden, emphasis should be placed on prevention, early detection, and targeted intervention. A multidisciplinary approach is essential for optimizing patient outcomes, requiring collaboration among healthcare professionals to ensure effective evaluation, timely management, and comprehensive patient-centered care. This discussion explores the assessment and treatment of delirium while underscoring the importance of interprofessional teamwork in enhancing clinical outcomes.

Nursing Diagnosis:

Delirium presents with a range of neuropsychiatric symptoms that significantly impact a patient's cognitive and behavioral functioning. One of the primary manifestations is acute confusion, characterized by impaired awareness, disorientation, memory deficits, and an inability to concentrate or process information effectively. This cognitive dysfunction often leads to agitation, where patients exhibit excessive restlessness, purposeless movements, and difficulty maintaining composure. Additionally, emotional disturbances such as anger and irritability are commonly observed, manifesting as hostility, frustration, and unprovoked verbal or physical aggression [1]. Psychological distress is another critical feature, with many patients experiencing anxiety and paranoia, leading to heightened fear, mistrust, and suspicion toward caregivers and their environment. In severe cases, patients may become belligerent, displaying combative behavior and resistance to medical interventions. Wandering is also frequently noted, where patients move aimlessly, increasing their risk of falls and injury. Sleep disturbances, including insomnia and fragmented sleep patterns, further exacerbate cognitive impairment and behavioral symptoms [2]. Patients with delirium may also demonstrate refusal of treatment, either due to an inability to comprehend the necessity of medical care or as a result of delusional thinking. Their lack of awareness of reality impairs judgment

and contributes to poor decision-making regarding their health. In contrast, some individuals exhibit somnolence, characterized by excessive drowsiness and reduced responsiveness, which may hinder timely medical evaluation and intervention. These symptoms necessitate comprehensive nursing assessment and intervention to ensure patient safety and optimal management strategies [3].

Causes of Delirium:

Delirium arises due to stressors affecting central nervous system function in vulnerable individuals. The precise pathophysiology remains unclear, with no singular etiology identified. Multiple theories attempt to explain its pathogenesis, suggesting that any given case is likely to result from a complex interplay of physiological disruptions. The widely accepted multifactorial model posits that delirium develops when a susceptible patient with predisposing factors encounters precipitating insults or stressors [3]. Risk factors for delirium are classified into predisposing and precipitating factors. Predisposing factors increase a patient's baseline vulnerability. Advanced age, particularly over 70 years, represents a major risk. Dementia, often undiagnosed, significantly heightens susceptibility. Additional risk factors include functional impairments, male sex, sensory deficits such as poor vision or hearing, and mild cognitive impairment. Chronic alcohol use disorder and laboratory abnormalities, such as electrolyte imbalances, have also been linked to increased delirium risk [4].

Precipitating factors act as immediate triggers. Medication-related side effects account for approximately 39% of delirium cases [5]. Psychoactive and anticholinergic drugs are among the most common culprits. To mitigate medication-induced delirium, healthcare professionals rely on established guidelines such as the 2019 Updated AGS Beers Criteria for Potentially Inappropriate Medication Use in Older Adults, which identifies drugs associated with harmful side effects in the elderly [6]. Additionally, tools such as ACBcalc.com assess cumulative anticholinergic burden and suggest alternatives with lower anticholinergic activity [7]. Other significant precipitating factors include surgical procedures, anesthesia, hypoxia, unrelieved pain, infections, and acute medical illnesses. In highly vulnerable patients, including those with advanced dementia, even minor stressors such as constipation, dehydration, sleep deprivation, urinary retention, or minor medical interventions can provoke delirium. Although delirium is typically transient, its persistence varies based on underlying conditions. A systematic review revealed that in hospitalized patients, delirium continued until discharge in 45% of cases and remained present one month later in 33% of cases [8]. These findings highlight the importance of early identification, prevention, and management strategies to reduce the long-term impact of delirium on patient outcomes.

Risk Factors for Delirium:

Delirium exhibits a higher prevalence in the elderly population, particularly as a common postoperative complication. Studies indicate that the incidence of delirium can range from 10% to 20% following major elective surgeries and may rise to 50% after high-risk procedures such as cardiothoracic and hepatic surgeries. The occurrence of postoperative delirium is associated with a 7% to 10% increase in 30-day mortality rates and leads to an extended hospital stay, often by two or three days [9]. Beyond surgical contexts, delirium is prevalent in the general population, contributing to significant healthcare burdens. Delirium leads to increased healthcare utilization, with affected patients experiencing more frequent complications and poorer overall outcomes. The economic impact of delirium is substantial, with estimates suggesting that delirium-related healthcare costs total approximately $164 billion annually. These figures highlight the widespread and growing financial strain on the healthcare system due to delirium [10]. In addition to its economic and clinical consequences, delirium also significantly influences long-term patient outcomes. Research indicates that delirium in patients presenting to the emergency department is linked to a 70% increased risk of mortality within six months. Furthermore, patients who experience delirium in the intensive care unit (ICU) face a two- to four-fold higher risk of overall mortality compared to those who do not develop delirium [10]. These findings underscore the critical need for effective identification, prevention, and management strategies to mitigate the adverse impact of delirium on both patient health outcomes and healthcare resources. The high mortality rates and prolonged hospital stays associated with

delirium necessitate comprehensive interventions, particularly in vulnerable populations such as the elderly and those undergoing high-risk surgeries.

Assessment of Delirium:

Delirium is a critical clinical condition that can serve as an indicator of an underlying life-threatening illness. Each episode of delirium requires thorough evaluation to identify its root cause and facilitate timely management. The assessment process is multifaceted, involving a detailed patient history, comprehensive physical examination, laboratory tests, and possibly imaging studies. The selection of diagnostic tests depends on the clinical information obtained from the history and physical exam, emphasizing the multifactorial nature of delirium. Given that delirium can result from a combination of predisposing and precipitating factors, a structured approach is essential for its accurate diagnosis and management.

Types of Delirium

Delirium manifests in various forms, and understanding these variations is essential for appropriate diagnosis and treatment. Broadly, delirium can be categorized into three primary presentations:

1. **Hyperactive Delirium**: This form is characterized by heightened agitation and sympathetic nervous system activity. Patients may display symptoms such as restlessness, hallucinations, delusions, and, in some cases, combative or uncooperative behavior. Hyperactive delirium is often noticeable, and patients may present with a visible sense of distress or confusion, which can guide clinicians towards a diagnosis.

2. **Hypoactive Delirium**: In contrast, hypoactive delirium presents with increased somnolence and reduced arousal, resulting in a lethargic state where patients may appear drowsy, disoriented, or unresponsive. This type of delirium is particularly dangerous due to its tendency to go unrecognized or misinterpreted as mere fatigue or depression. Hypoactive delirium is associated with significantly higher rates of morbidity and mortality, underscoring the need for heightened vigilance.

3. **Mixed Presentation**: Some patients exhibit a combination of both hyperactive and hypoactive symptoms, fluctuating between these two states. This mixed presentation may complicate the diagnosis, as it can manifest unpredictably, making it challenging to identify the specific form of delirium affecting the patient [3].

Additionally, there are two other notable types of delirium that require specialized attention:

1. **Delirium at the End of Life**: Also known as terminal delirium, this form occurs in the final hours or days of a patient's life. It is typically seen in patients with advanced illness and is often associated with profound changes in cognition and perception.

2. **Delirium Due to Substance Intoxication or Withdrawal**: In this case, delirium is precipitated by substances such as alcohol or drugs, including withdrawal from these substances. This variant is particularly relevant in cases of alcohol withdrawal delirium, where the abrupt cessation of alcohol intake leads to severe cognitive disturbances.

Diagnostic Criteria for Delirium

The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5), provides explicit criteria for diagnosing delirium. These criteria include:

- A disturbance in attention and awareness that develops acutely and fluctuates in severity.
- At least one additional cognitive disturbance, such as memory impairment, disorientation, or language deficits.
- The disturbances cannot be better explained by preexisting dementia or another cognitive disorder.
- The disturbances do not occur in the context of a severely reduced level of arousal or coma.
- There must be clear evidence of an underlying organic cause or causes [11].

In addition to these core criteria, delirium often presents a range of secondary features, including alterations in the sleep-wake cycle, perceptual disturbances, delusions, emotional lability, and inappropriate or unsafe behaviors. Identifying these features is essential for confirming the diagnosis and guiding treatment.

Key Elements in the Evaluation

A comprehensive history is crucial in the assessment of delirium, particularly in identifying the underlying causes and any potential contributing factors. It is essential to gather information from caregivers or individuals familiar with the patient's baseline cognitive and functional status, especially in cases where delirium may be complicated by preexisting conditions such as dementia. A structured history should address several key areas:

- **Medication Changes**: A review of recent medication changes is essential, as drug-related causes account for up to 39% of delirium cases. The introduction of psychoactive or anticholinergic medications is particularly concerning, as these drugs can precipitate or exacerbate delirium [12].

- **New Symptoms**: A thorough inquiry into any recent symptoms—such as fever, cough, headache, dysuria, pain, changes in eating habits, or bowel and urinary habits—can provide important clues to potential underlying causes such as infections or metabolic disturbances.

- **Environmental or Situational Factors**: Sleep deprivation, changes in the patient's environment (e.g., hospitalization), and psychological stressors should be explored, as these factors can contribute to the onset of delirium.

- **History of Falls**: A history of falls is significant, particularly if the patient is anticoagulated or has experienced head trauma. In such cases, brain imaging and X-rays may be necessary to rule out injury and guide further management.

Physical Examination

A systematic head-to-toe physical examination is necessary to identify any underlying medical conditions that could be contributing to the delirium. This should include assessments of the cardiovascular, pulmonary, neurological, abdominal, musculoskeletal, and skin systems. Vital signs should also be closely monitored, as deviations from normal ranges may point to systemic issues such as infection, dehydration, or metabolic abnormalities. The physical examination should be targeted based on the findings from the history. For example, if an infection is suspected, a focused examination may be warranted to evaluate for signs of sepsis or other infectious causes. If the patient has a history of falls, particular attention should be paid to neurological and musculoskeletal assessments to detect any injuries that may have resulted from trauma.

Laboratory Tests and Imaging

Laboratory tests and imaging studies are guided by the clinical findings from the history and physical examination. Routine blood work should be performed to assess common causes of delirium, such as electrolyte imbalances, renal or hepatic dysfunction, or infections. Specific tests may include a complete blood count (CBC), comprehensive metabolic panel (CMP), blood cultures, urinalysis, and chest X-rays, depending on the suspected etiology. Imaging studies, such as CT or MRI of the brain, may be indicated in cases where structural abnormalities (e.g., stroke, hemorrhage, or tumor) are suspected, particularly in patients with a history of falls or head trauma. Imaging can also be helpful in ruling out other potential causes, such as intracranial hemorrhage or hydrocephalus. Delirium is a multifactorial syndrome that requires a comprehensive and systematic approach for accurate diagnosis and management. By conducting a thorough history, performing a detailed physical examination, and utilizing targeted laboratory tests and imaging, clinicians can identify the underlying causes of delirium and guide effective treatment strategies. Early recognition and intervention are critical, as delirium is associated with increased morbidity, mortality, and healthcare costs. Proper management, including the identification and treatment of precipitating

factors, is essential to improving patient outcomes and minimizing the long-term consequences of this often-overlooked condition.

Evaluation:

Detection is the first step in evaluating and treating delirium. This syndrome develops over hours to days, and early recognition is crucial for effective intervention. Despite its clinical significance, delirium is frequently missed, with studies estimating that up to 60% of cases go unrecognized. The difficulty in identifying delirium varies based on its presentation. Hyperactive delirium is easier to detect because patients often exhibit agitation, hallucinations, or disruptive behavior. In contrast, hypoactive delirium is more subtle and frequently overlooked. Patients with hypoactive delirium may appear withdrawn, lethargic, or socially disengaged. Caregivers may provide clues to its presence through observations such as "they are sleeping more than usual," "they haven't eaten much in the last few days," or "I'm worried they are depressed; they just stay in their room all day." These signs highlight the need for systematic screening, as failure to detect hypoactive delirium can lead to delayed intervention and poor outcomes.

In clinical settings, several tools have been developed to facilitate the detection of delirium. One of the most widely used and validated tools is the Confusion Assessment Method (CAM). The CAM has demonstrated high sensitivity, ranging from 94% to 100%, and specificity between 90% and 95% in diagnosing delirium [13]. The CAM criteria require the presence of an acute change in mental status with a fluctuating course, inattention, and either disorganized thinking or an altered level of consciousness. This structured assessment tool has been adapted for specific patient populations, including the CAM-ICU, which incorporates nonverbal tasks to assess delirium in ventilated patients. Modifications have also been made for use in emergency departments and nursing homes, ensuring its applicability in various healthcare settings [13]. Despite the effectiveness of CAM, clinical vigilance remains essential, as delirium may still go unrecognized in complex cases. Subjecting a delirious patient to extensive medical evaluations can be distressing and may exacerbate symptoms. Therefore, clinicians should prioritize the most probable diagnostic considerations when ordering tests. As an initial step, laboratory investigations such as a complete blood count, arterial blood analysis (if appropriate), a complete metabolic panel, and urinalysis are commonly recommended. Additional diagnostic tests, including chest radiography, electrocardiography, and bladder scanning, may help identify underlying conditions contributing to delirium. More specialized investigations, such as lumbar puncture, electroencephalography, and toxicology studies, are reserved for select cases where infections, seizures, or substance-related causes are suspected. In cases of suspected sepsis of unclear origin, blood cultures should be obtained. While brain imaging may be indicated in some situations, such as when stroke or intracranial hemorrhage is a concern, it is not routinely required. Clinicians should also assess untreated sources of pain, including constipation, as these can contribute to delirium [14]. A targeted diagnostic approach minimizes unnecessary interventions while ensuring timely identification of underlying causes.

The diagnosis of delirium is primarily clinical, relying on patient history, physical examination, and validated assessment tools. Although research has explored the use of biomarkers for delirium detection, none have been validated for routine clinical application. Studies have investigated the potential role of inflammatory markers, cortisol, interleukins, and C-reactive protein, but these biomarkers lack sufficient specificity and sensitivity to replace traditional diagnostic methods [15]. The search for reliable biomarkers continues, but until such markers are clinically validated, delirium diagnosis will remain dependent on clinical expertise and structured assessment tools. A comprehensive evaluation of delirium requires early detection, standardized assessment methods, and a focused diagnostic strategy. The Confusion Assessment Method remains a cornerstone in diagnosing delirium across different patient populations. A systematic approach to medical evaluation helps identify underlying causes while minimizing unnecessary testing. While research into biomarkers for delirium detection is ongoing, current diagnostic practices rely on clinical assessment. Timely recognition and management of delirium can improve patient outcomes and prevent complications associated with delayed intervention.

Medical Treatment and Management of Delirium:

Medical management of delirium primarily relies on non-pharmacologic interventions, as there are no FDA-approved medications for its treatment or prevention. Prevention remains the most effective approach, emphasizing the identification of at-risk patients and implementing strategies to mitigate modifiable risk factors. Non-modifiable risk factors include advanced age and pre-existing neurodegenerative disorders such as dementia. Modifiable risk factors encompass medication effects, infections, environmental disturbances, and sensory deprivation. The American Geriatrics Society endorses the Hospital Elder Life Program (HELP), an interdisciplinary initiative designed to reduce delirium incidence in elderly patients. This program incorporates multiple strategies, such as minimizing environmental disruptions, ensuring adequate sleep, and enhancing sensory input through the use of eyeglasses and hearing aids. Orientation aids, including clocks and calendars, help patients maintain awareness of their surroundings. Encouraging early morning wake times, adequate hydration, and regular mobilization are key components. The program also seeks to minimize restrictive devices such as urinary catheters and IV lines, which hinder movement. Therapeutic activities, including music therapy, are recommended when appropriate. These interventions have been demonstrated to be cost-effective, reducing the incidence of delirium while lowering the risk of falls by 42%. Additionally, HELP has led to substantial economic savings, reducing hospital costs per patient by $1,600 to $3,800 (2018 U.S. dollars) and long-term care costs by over $16,000 per patient in the year following a delirium episode [16].

Although nonpharmacologic strategies form the foundation of delirium management, pharmacologic interventions are occasionally necessary in specific situations. Delirium secondary to substance withdrawal often requires targeted pharmacologic treatment, such as benzodiazepines for alcohol withdrawal. In cases of terminal delirium, medications may be administered to alleviate distress and ensure comfort. Importantly, no pharmacologic treatments are recommended for hypoactive delirium. Hyperactive delirium, particularly when patient behavior poses a risk to themselves or others, may necessitate pharmacologic intervention. However, the primary focus remains on treating the underlying cause of delirium, such as administering antibiotics in the case of infection. For hyperactive delirium with severe agitation, antipsychotic medications serve as the first-line treatment unless contraindicated by comorbidities. Commonly prescribed antipsychotics include haloperidol, quetiapine, and risperidone [17]. The selection of an antipsychotic agent depends on the patient's medical history and potential side effects. For instance, quetiapine is preferable in patients with Parkinson’s disease, whereas haloperidol should be avoided due to its dopamine-blocking effects. Dosages should be carefully adjusted based on patient response and discontinued as soon as symptoms resolve. Regular electrocardiogram (ECG) monitoring is essential, as antipsychotic medications can prolong the QTc interval, increasing the risk of cardiac arrhythmias.

Despite ongoing research, no pharmacologic agent has been definitively proven to prevent delirium. Numerous studies have evaluated the efficacy of various medications, yet no single agent has demonstrated consistent benefit over placebo. The multifactorial nature of delirium likely contributes to these inconsistent findings. Melatonin, commonly used for sleep regulation, has been investigated for its potential role in delirium prevention. Some studies suggest a reduction in delirium incidence with melatonin use, while a large meta-analysis found no significant benefit. Similarly, cholinesterase inhibitors, which enhance cholinergic neurotransmission, have been assessed for delirium prevention and treatment. However, evidence supporting their efficacy remains limited, and their potential risks may outweigh any perceived benefits [2][17]. Multifaceted approaches combining nonpharmacologic interventions with targeted pharmacologic strategies when necessary offer the most effective means of managing delirium. Early identification of high-risk patients and implementation of preventive measures, such as those outlined in the HELP program, remain the primary strategies for reducing delirium incidence. While pharmacologic treatment is reserved for select cases, careful medication selection and monitoring are crucial in ensuring patient safety. Continued research is needed to refine existing management strategies and explore potential pharmacologic treatments that may improve delirium outcomes.

Nursing Management of Delirium

Effective nursing management is essential in preventing, identifying, and treating delirium. Nurses play a central role in monitoring patients, implementing non-pharmacologic interventions, ensuring patient safety, and supporting families. A holistic approach that combines environmental modifications, patient-centered care, and medical interventions is necessary to improve patient outcomes. A critical aspect of nursing care is assessing the patient's mood and behavior. Nurses should continuously observe changes in cognition, attention, and perception, as delirium can fluctuate throughout the day. Frequent assessment of mood can help distinguish between hypoactive and hyperactive delirium. Hypoactive delirium is often overlooked due to its subtle presentation, while hyperactive delirium may require immediate intervention due to disruptive behaviors. Additionally, monitoring a patient's neurologic status and vital signs can provide insights into the progression of delirium and identify potential underlying causes. Educating the family is a key component of nursing management. Family members often provide important clues about the patient's baseline cognitive function and any recent changes. Nurses should explain the symptoms of delirium, its potential causes, and management strategies. Involving families in care planning can help reduce distress and improve adherence to non-pharmacologic interventions. Providing reassurance and clear explanations can also alleviate anxiety among caregivers and promote collaboration in managing the patient's condition.

Creating a comfortable environment is essential in managing delirium. Ensuring a quiet, well-lit room with minimal distractions can help reduce agitation and confusion. Environmental modifications such as using clocks, calendars, and familiar objects can enhance orientation. It is also important to promote a structured daily routine to prevent disorientation and cognitive decline. Nurses should minimize unnecessary disturbances during the night to improve sleep hygiene, as sleep deprivation is a significant contributor to delirium. Reducing stress is another important aspect of nursing care. Delirious patients may experience heightened anxiety and paranoia, leading to agitation. Gentle and reassuring communication can help alleviate distress. Nurses should use simple language, maintain eye contact, and speak in a calm tone. Avoiding restraints and unnecessary invasive procedures can prevent worsening delirium. Monitoring electrocardiograms (ECG) is necessary for patients receiving medications such as antipsychotics, which may prolong the QTc interval and increase the risk of arrhythmias. Medication management is another key responsibility of nurses in delirium care. Administering prescribed medications, including antibiotics for infections or sedatives for withdrawal-related delirium, must be done with caution. Nurses should regularly evaluate the effectiveness of medications and monitor for potential side effects. Additionally, bowel and bladder care should be ensured to prevent discomfort, which can contribute to agitation. Constipation and urinary retention are common yet overlooked causes of delirium and should be promptly addressed [18].

Ensuring patient safety is a priority. Delirious patients, particularly those with hyperactive symptoms, are at an increased risk of falls. Continuous observation and fall prevention strategies, such as bed alarms and low beds, are essential. Nurses should ensure that patients are hydrated, as dehydration can exacerbate cognitive impairment. Monitoring intake and output provides valuable information about the patient's fluid balance and potential metabolic disturbances. Pain management is another important component of delirium care. Uncontrolled pain can worsen confusion and agitation. Regular pain assessments using appropriate pain scales should be conducted, and medications should be adjusted accordingly. Additionally, avoiding unnecessary maneuvers, such as frequent repositioning without cause, can help prevent distress. Re-orienting patients during interactions can help mitigate confusion. Providing verbal cues, reminding them of their location, and engaging in reality-based conversations can improve cognitive function. Ensuring the use of visual and hearing aids, if needed, can enhance sensory perception and reduce misinterpretations of the environment. Continuous monitoring and personalized care are fundamental to improving outcomes in patients with delirium. Nurses play a vital role in implementing evidence-based interventions that reduce the severity and duration of delirium while maintaining the patient's comfort and dignity.

When to Seek Medical Help for Delirium:

Recognizing the warning signs of delirium is critical for timely intervention and preventing complications. Certain symptoms indicate the need for immediate medical attention, as they may signify a worsening condition or an underlying medical emergency. Fever is a significant concern in patients with delirium, as it may indicate an infection such as pneumonia, urinary tract infection, or sepsis. Infections are common triggers of delirium, particularly in older adults and immunocompromised patients. A persistent or high fever requires urgent evaluation to identify and treat the underlying cause. Altered mental status is a hallmark of delirium, but if symptoms become progressively worse or the patient exhibits severe confusion, hallucinations, or disorientation, medical intervention is necessary. Sudden and extreme changes in cognition may indicate worsening brain dysfunction due to metabolic imbalances, infections, or neurological conditions. Unresponsiveness is a medical emergency requiring immediate evaluation. If a delirious patient becomes unresponsive or difficult to arouse, it may indicate severe metabolic derangements, stroke, or drug toxicity. Emergency medical assistance should be sought to assess the patient's airway, breathing, and circulation.

Unstable vital signs, including severe hypertension, hypotension, tachycardia, or respiratory distress, suggest an acute medical crisis. Delirium often arises due to systemic dysfunction, and significant changes in vital signs may point to conditions such as sepsis, heart failure, or acute respiratory distress. Immediate medical evaluation is needed to stabilize the patient and address the underlying cause. Paranoid thoughts can lead to severe agitation and distress in delirious patients. If a patient exhibits intense paranoia, believes they are in danger, or expresses fear of those around them, intervention is necessary. Delirium-related paranoia can result in self-harm or aggression, necessitating close monitoring and medical assessment. Combative behavior poses risks to both the patient and healthcare providers. If a delirious patient becomes aggressive, refuses care, or exhibits violent tendencies, seeking medical help is crucial. Such behavior may indicate severe agitation or an escalating medical condition that requires pharmacologic or environmental interventions to ensure safety. Recognizing these warning signs and seeking medical help promptly can prevent complications and improve patient outcomes. Family members and caregivers should remain vigilant and communicate any concerns to healthcare professionals for timely intervention [18].

Monitoring and Care for Patients with Delirium:

Effective monitoring is essential for managing delirium and preventing complications. A structured approach ensures that patients receive optimal care while minimizing distress and promoting recovery. Assessing mood and behavior helps track fluctuations in cognition and emotional state. Delirium symptoms often fluctuate, making frequent assessments necessary to determine whether the condition is improving or worsening. Observing signs of anxiety, agitation, or withdrawal guides appropriate interventions. Educating the family is crucial in delirium management. Family members play a key role in recognizing early signs of deterioration, providing reassurance, and maintaining a familiar presence to reduce confusion. Teaching them about the condition, potential triggers, and effective communication techniques helps create a supportive environment.

Making the patient comfortable minimizes stress and enhances recovery. Ensuring proper body positioning, adjusting room temperature, and using soft lighting contribute to a calming environment. Providing familiar objects, such as photographs or a personal blanket, helps maintain orientation. Monitoring the neurologic exam and vital signs provides essential information on the patient's status. Frequent assessment of cognitive function, level of consciousness, and responsiveness helps detect changes in delirium severity. Checking blood pressure, heart rate, respiratory rate, and oxygen saturation ensures early detection of complications. Ensuring the room is quiet reduces overstimulation, which can exacerbate confusion. Keeping noise levels low, limiting background distractions, and avoiding frequent room changes promote a stable and calming environment. Diminishing stress through structured routines, minimizing sudden movements, and avoiding unnecessary interventions helps prevent agitation. Encouraging familiar daily activities and maintaining consistent caregivers contribute to patient comfort.

Monitoring ECG is necessary, especially for patients receiving antipsychotic medications that may prolong the QTc interval. Regular cardiac monitoring helps prevent drug-induced arrhythmias and other cardiac complications. Communicating gently with the patient and reorienting when able supports cognitive function. Speaking in a calm, clear tone and using simple phrases helps the patient process information. Providing frequent reminders of time, place, and situation maintains awareness and reduces disorientation. Administering prescribed medications as ordered ensures that pharmacologic treatment, when necessary, is given appropriately. Careful dosing and monitoring for side effects, especially for sedatives and antipsychotics, help prevent complications. Providing bowel and bladder care prevents discomfort and complications such as urinary retention or constipation, which can worsen delirium. Ensuring regular toileting schedules and addressing any incontinence maintains hygiene and dignity. Ensuring patient safety includes fall prevention strategies, such as bed alarms, proper side rail use, and close supervision. Delirious patients are at high risk of injury due to impaired judgment and coordination.

Checking labs helps identify metabolic imbalances, infections, or other underlying causes contributing to delirium. Regular monitoring of electrolytes, kidney function, and infection markers guides treatment decisions. Ensuring hydration is essential, as dehydration is a common and reversible cause of delirium. Encouraging fluid intake, monitoring urine output, and administering IV fluids when necessary maintain adequate hydration. Promoting sleep hygiene supports cognitive recovery. Encouraging a consistent sleep schedule, reducing nighttime disturbances, and using nonpharmacologic sleep aids help regulate circadian rhythms. Ensuring the patient has no pain prevents unnecessary distress. Assessing signs of discomfort and providing appropriate analgesia improves overall well-being. Ensuring the use of visual and hearing aids if needed helps maintain sensory input. Poor vision and hearing contribute to confusion and disorientation. Making sure the patient wears glasses and hearing aids enhances communication and awareness. A structured monitoring approach improves patient outcomes by addressing risk factors, preventing complications, and promoting recovery from delirium [19].

Coordination of Care in Delirium Management:

Delirium is a significant concern in hospitalized and outpatient settings, contributing to increased morbidity and mortality. Effective management requires a coordinated, interprofessional approach to ensure timely diagnosis and intervention.

Interprofessional Team Approach

Managing delirium involves multiple healthcare professionals:

- **Geriatricians, Neurologists, Psychiatrists, Internists, and Intensivists** assess and diagnose delirium, address underlying causes, and determine appropriate treatment plans.
- **Nurses** play a critical role in early detection, continuous monitoring, and communication with the healthcare team. They assess patient status, provide supportive care, and implement interventions to reduce distress.
- **Physical and Occupational Therapists** enhance mobility, encourage activity, and help prevent functional decline.
- **Pharmacists** review medications, discontinue or adjust those that may contribute to delirium, and assist in managing withdrawal symptoms when necessary.

Key Non-Pharmacologic Interventions

The primary treatment for delirium focuses on prevention and non-pharmacologic strategies:

- **Environmental Modifications**: Keeping the patient's room quiet, well-lit during the day, and dark at night supports circadian rhythms and reduces agitation.
- **Sleep Promotion**: Minimizing nighttime disturbances, limiting unnecessary procedures, and avoiding caffeine or stimulants in the evening improves rest.

- **Reorientation Strategies**: Providing clocks, calendars, and frequent reminders of time and place helps reduce confusion. Family involvement further supports patient awareness.
- **Mobility and Nutrition**: Encouraging movement and ensuring proper nutrition prevents complications such as muscle weakness and dehydration.

Role of Medications in Delirium Management

There are no FDA-approved medications specifically for treating or preventing delirium. However, pharmacological interventions may be necessary in specific situations:

- **Substance Withdrawal-Associated Delirium**: Managed with appropriate withdrawal protocols.
- **End-of-Life Delirium**: Medications may provide comfort when non-pharmacologic measures are insufficient.
- **Severe Hyperactive Delirium**: When patients pose a danger to themselves or others, antipsychotic medications such as haloperidol may be considered under close supervision.

The Hospital Elder Life Program (HELP)

The HELP initiative has demonstrated effectiveness in reducing delirium incidence, falls, and healthcare costs. Its key components include:

- Identifying at-risk patients early.
- Reducing environmental stressors.
- Enhancing reorientation strategies.
- Promoting mobility and activity.

Importance of Communication and Team Coordination

Open communication among healthcare providers ensures that patients receive targeted, individualized care. Nurses must promptly report changes in mental status, and all team members should collaborate to implement appropriate interventions. At the end, The prognosis for patients with delirium remains uncertain. While some recover fully with appropriate intervention, others—especially those with underlying cognitive impairment—may experience prolonged effects or increased mortality risk. A proactive, team-based approach enhances patient outcomes.

Conclusion:

Delirium is a critical medical condition that poses significant challenges to healthcare systems worldwide. Its acute onset, fluctuating nature, and varied presentations make it a complex syndrome to diagnose and manage effectively. This review underscores the importance of early detection and intervention, as delayed recognition often leads to worsened outcomes, including prolonged hospital stays, increased morbidity, and higher mortality rates. The multifactorial etiology of delirium necessitates a comprehensive approach that addresses both predisposing and precipitating factors, ranging from advanced age and preexisting cognitive impairment to infections, medication side effects, and environmental stressors. The cornerstone of delirium management lies in non-pharmacologic interventions, which have proven effective in reducing its incidence and severity. Programs like the Hospital Elder Life Program (HELP) exemplify the success of structured, multidisciplinary strategies in preventing delirium, particularly in elderly patients. These interventions focus on minimizing environmental disruptions, promoting sleep hygiene, enhancing sensory input, and encouraging mobility and nutrition. Such approaches not only improve patient outcomes but also reduce healthcare costs, highlighting their economic and clinical value. Pharmacologic treatments, while limited in scope, play a role in specific scenarios, such as managing hyperactive delirium or addressing substance withdrawal. However, their use must be carefully monitored due to potential side effects, particularly in vulnerable populations. The lack of FDA-approved medications for delirium prevention or treatment underscores the need for continued research into safe and effective pharmacologic options. A coordinated,

interprofessional approach is essential for optimal delirium management. Nurses, physicians, therapists, and pharmacists must collaborate to ensure timely diagnosis, implement evidence-based interventions, and monitor patient progress. Family involvement is also crucial, as caregivers often provide valuable insights into the patient's baseline cognitive function and any recent changes. In conclusion, delirium remains a significant healthcare burden, but its impact can be mitigated through early detection, preventive measures, and a holistic, team-based approach. Future efforts should focus on refining diagnostic tools, exploring innovative treatments, and raising awareness among healthcare providers and caregivers. By prioritizing delirium prevention and management, we can improve patient outcomes, reduce healthcare costs, and enhance the quality of care for vulnerable populations.

References:

1. Mart MF, Williams Roberson S, Salas B, Pandharipande PP, Ely EW. Prevention and Management of Delirium in the Intensive Care Unit. Semin Respir Crit Care Med. 2021 Feb;42(1):112-126.
2. American Geriatrics Society Expert Panel on Postoperative Delirium in Older Adults. American Geriatrics Society abstracted clinical practice guideline for postoperative delirium in older adults. J Am Geriatr Soc. 2015 Jan;63(1):142-50.
3. Maldonado JR. Delirium pathophysiology: An updated hypothesis of the etiology of acute brain failure. Int J Geriatr Psychiatry. 2018 Nov;33(11):1428-1457.
4. Ford AH. Preventing delirium in dementia: Managing risk factors. Maturitas. 2016 Oct;92:35-40.
5. Alagiakrishnan K, Wiens CA. An approach to drug induced delirium in the elderly. Postgrad Med J. 2004 Jul;80(945):388-93.
6. By the 2019 American Geriatrics Society Beers Criteria® Update Expert Panel. American Geriatrics Society 2019 Updated AGS Beers Criteria® for Potentially Inappropriate Medication Use in Older Adults. J Am Geriatr Soc. 2019 Apr;67(4):674-694.
7. Fadare JO, Obimakinde AM, Aina FO, Araromi EJ, Adegbuyi TA, Osasona OE, Agbesanwa TA. Anti-Cholinergic Drug Burden Among Ambulatory Elderly Patients in a Nigerian Tertiary Healthcare Facility. Front Pharmacol. 2021;12:580152.
8. Marcantonio ER. Delirium in Hospitalized Older Adults. N Engl J Med. 2017 Oct 12;377(15):1456-1466.
9. Jin Z, Hu J, Ma D. Postoperative delirium: perioperative assessment, risk reduction, and management. Br J Anaesth. 2020 Oct;125(4):492-504.
10. Hshieh TT, Inouye SK, Oh ES. Delirium in the Elderly. Clin Geriatr Med. 2020 May;36(2):183-199.
11. Iglseder B, Frühwald T, Jagsch C. Delirium in geriatric patients. Wien Med Wochenschr. 2022 Apr;172(5-6):114-121.
12. Sachdev PS, Blacker D, Blazer DG, Ganguli M, Jeste DV, Paulsen JS, Petersen RC. Classifying neurocognitive disorders: the DSM-5 approach. Nat Rev Neurol. 2014 Nov;10(11):634-42.
13. Wei LA, Fearing MA, Sternberg EJ, Inouye SK. The Confusion Assessment Method: a systematic review of current usage. J Am Geriatr Soc. 2008 May;56(5):823-30.
14. Catic AG. Identification and management of in-hospital drug-induced delirium in older patients. Drugs Aging. 2011 Sep 01;28(9):737-48.
15. Ryan SL, Kimchi EY. Evaluation and Management of Delirium. Semin Neurol. 2021 Oct;41(5):572-587.
16. Michels M, Michelon C, Damásio D, Vitali AM, Ritter C, Dal-Pizzol F. Biomarker Predictors of Delirium in Acutely Ill Patients: A Systematic Review. J Geriatr Psychiatry Neurol. 2019 May;32(3):119-136.
17. Hshieh TT, Yang T, Gartaganis SL, Yue J, Inouye SK. Hospital Elder Life Program: Systematic Review and Meta-analysis of Effectiveness. Am J Geriatr Psychiatry. 2018 Oct;26(10):1015-1033.
18. Hawkins SB, Bucklin M, Muzyk AJ. Quetiapine for the treatment of delirium. J Hosp Med. 2013 Apr;8(4):215-20.
19. Lee, S., Howard III, M. A., & Han, J. H. (2023). Delirium and delirium prevention in the emergency department. *Clinics in geriatric medicine*, *39*(4), 535.

الخلفية: الهذيان هو متلازمة عصبية نفسية حادة تتميز باضطراب في الانتباه والوعي والوظيفة الإدراكية، ويؤثر غالبًا على كبار السن. ينشأ نتيجة حالات طبية كامنة، ويرتبط بزيادة معدلات المراضة والوفيات وتكاليف الرعاية الصحية. تتعدد العوامل المسببة للهذيان، حيث تساهم العوامل المهيئة والمحفزة في ظهوره. على الرغم من أهميته السريرية، فإن الهذيان غالبًا ما يكون غير مشخّص، خاصة في شكله منخفض النشاط، مما يؤدي إلى تأخر التدخل وسوء النتائج.

الهدف: تهدف هذه المراجعة إلى تقديم نظرة شاملة حول الهذيان، مع التركيز على تشخيصه وإدارته واستراتيجيات التدخل. كما تسلط الضوء على أهمية الاكتشاف المبكر، والتعاون متعدد التخصصات، والنهج القائمة على الأدلة لتحسين نتائج المرضى.

المنهجية: تعتمد هذه المراجعة على تحليل الأدبيات الحديثة حول الهذيان، بما في ذلك الفيزيولوجيا المرضية، وعوامل الخطورة، ومعايير التشخيص، واستراتيجيات الإدارة. كما تستعرض استخدام أدوات التقييم المعتمدة مثل طريقة تقييم الارتباك(CAM) ، وتناقش التدخلات غير الدوائية مثل برنامج المستشفى لحياة كبار السن (HELP). كما يتم تحليل العلاجات الدوائية في سياقات محددة مثل الهذيان مفرط النشاط وحالات الانسحاب من المواد.

النتائج: يعد الهذيان حالة معقدة تتطلب نهجًا متعدد الأبعاد للإدارة الفعالة. تعتبر التدخلات غير الدوائية، مثل تعديلات البيئة، واستراتيجيات إعادة التوجيه، وتعزيز النوم، أساسية في العلاج. أما العلاجات الدوائية، خاصة مضادات الذهان، فيتم اللجوء إليها فقط في الحالات الشديدة. يعد الاكتشاف المبكر والوقاية أمرًا بالغ الأهمية، حيث يرتبط الهذيان بإطالة فترة الإقامة في المستشفى، وزيادة معدلات الوفيات، وارتفاع تكاليف الرعاية الصحية.

الخاتمة: يعد الهذيان حالة خطيرة، ولكنها قابلة للوقاية في كثير من الأحيان، وتتطلب نهجًا استباقيًا متعدد التخصصات. يعد الاكتشاف المبكر، والتدخلات المستهدفة، والمراقبة المستمرة عناصر أساسية للتخفيف من تأثيره. بينما تلعب العلاجات الدوائية دورًا محدودًا، تظل الاستراتيجيات غير الدوائية حجر الأساس في الإدارة. ينبغي أن تركز الأبحاث المستقبلية على تحسين أدوات التشخيص واستكشاف خيارات علاجية دوائية فعالة.

الكلمات المفتاحية: الهذيان، المتلازمة العصبية النفسية، الهذيان منخفض النشاط، الهذيان مفرط النشاط، طريقة تقييم الارتباك(CAM) ، برنامج المستشفى لحياة كبار السن(HELP) ، مضادات الذهان، الرعاية متعددة التخصصات، الاكتشاف المبكر، التدخلات غير الدوائية.