

DELIRIUM AS A PROGNOSTIC MARKER IN HOSPITALIZED PATIENTS: EVALUATION OF SUBSEQUENT QUALITY OF LIFE

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Resume: **INTRODUCTION** Delirium is a transient, acute-onset disorder marked by cognitive fluctuations and a decreased ability to focus, affecting primarily hospitalized elderly patients. It results from the interplay between individual vulnerabilities and situational stressors like medical procedures or hospital settings. The incidence of delirium is rising, driven by the growing number of elderly in the population and their increased exposure to hospital environments. Factors such as isolation and prolonged hospitalization play significant roles in its development. Diagnostically, delirium is identified through symptoms like disorganized thinking, disturbances in attention, and perceptual inaccuracies. **OBJETIVE** Analyze and describe the main aspects of the last years. **METHODS** This is a narrative review which included studies in the MEDLINE – PubMed (National Library of Medicine, National Institutes of Health), COCHRANE, EMBASE and Google Scholar databases, using as descriptors: “Delirium” AND “Intensive Medicine” AND “Geriatrics” “Palliative Care” in the last 10 years. **RESULTS AND DISCUSSION** Delirium significantly impacts long-term cognitive and physical health, often leading to reduced quality of life and increased dependency on healthcare resources. Recognized as a predictor of severe neurological disorders such as dementia and stroke, the persistent cognitive impairments highlight the importance of proactive management strategies. Early interventions, including pharmacological and multidisciplinary care, can mitigate symptoms and reduce long-term adverse effects. Non-pharmacological approaches like environmental modifications and cognitive therapies also play a crucial role in preventing and managing symptoms, thereby maintaining cognitive function and emotional well-being. The psychological

aftermath, including anxiety, depression, and PTSD, necessitates integrated psychological support for comprehensive recovery. Despite these advancements, significant research gaps remain, particularly in understanding the pathophysiological mechanisms linked to poor outcomes, underscoring the need for targeted therapies. Additionally, delirium incurs considerable socio-economic costs, with longer hospital stays and frequent rehospitalizations, amplifying the economic burden on healthcare systems. Familial and caregiver support is essential to manage the increased care demands post-delirium, while routine screening and modern technologies like AI and telemedicine could enhance early detection and personalized care. Furthermore, patient education and international research are vital for improving global management practices and outcomes for delirium patients.

CONCLUSION Delirium not only presents acute medical challenges but also leads to long-term cognitive, psychological, and physical impairments, significantly reducing quality of life. Effective management through early intervention, multidisciplinary care, and the use of modern technologies is crucial for improving patient outcomes and reducing healthcare burdens. The economic and societal impacts of delirium necessitate comprehensive healthcare policies that include caregiver support and public health initiatives focused on prevention and education. Continued research and global collaboration are essential for developing more effective treatments and understanding the complex pathophysiology of delirium.

Keywords: Delirium; Intensive Medicine; Geriatrics, Palliative Care.

INTRODUCTION

Delirium is an acute neuropsychiatric condition characterized by a rapid onset of confusion, which often fluctuates in intensity throughout the day.¹ This disturbance primarily affects attention, awareness, and cognitive processes, differentiating it from chronic neurocognitive disorders such as dementia. Delirium often results from a combination of the patient's vulnerability due to underlying medical or neurological conditions and precipitating factors such as infections, medications, or dehydration¹. The transient nature of delirium, with symptoms that can resolve with proper treatment, distinguishes it from more permanent cognitive impairments². However, it can cause significant distress to patients and caregivers due to its sudden and sometimes severe manifestations².

In terms of epidemiology, delirium is notably prevalent among hospitalized patients, particularly the elderly, who are especially susceptible due to their reduced physiological reserve and higher likelihood of comorbidities³. Recent epidemiological studies indicate that delirium occurs in 15-53% of hospitalized older adults and the incidence is even higher among those in intensive care or undergoing major surgery⁴. The increasing trend in delirium incidence is partly due to the growing population of older adults worldwide and the corresponding increase in exposure to hospital environments and invasive procedures⁴. Behavioral factors, such as the stress of hospitalization, isolation from familiar surroundings, and prolonged immobility, are crucial in the development of delirium, highlighting the need for preventative strategies that address these modifiable risks⁵.

The clinical signs of delirium are diverse and encompass various cognitive, perceptual, and emotional symptoms⁶. Patients may

experience a sudden deterioration in their cognitive function, evidenced by poor memory, disorganized thinking, and a noticeable inability to concentrate⁷. Perceptual issues may include visual or auditory hallucinations and delusions, which can be particularly distressing. Emotionally, patients might exhibit uncharacteristic behavior ranging from agitation and irritability to depression and withdrawal⁸. The diagnosis of delirium requires a careful clinical evaluation, including a comprehensive assessment of the patient's medical history, physical examination, and cognitive testing. The Confusion Assessment Method (CAM) remains the gold standard for diagnosing delirium in both research and clinical settings, offering a structured approach to identify the hallmark features of this complex syndrome⁹.

OBJETIVES

Analyze and describe the main aspects of delirium as a prognostic marker in hospitalized patients of the last years.

SECUNDARY OBJETIVES

1. To assess the long-term impacts of delirium on quality of life in patients post-recovery from the acute phase of delirium.
2. To explore the prognostic significance of delirium episodes in predicting long-term clinical outcomes.
3. To evaluate the healthcare interventions that impact the prognosis and quality of life in patients with a history of delirium.
4. To identify gaps in the current literature and suggest directions for future research

METHODS

This is a narrative review, in which the main aspects of delirium as a prognostic marker in hospitalized patients in recent years were analyzed. The beginning of the study was carried out with theoretical training using the following databases: PubMed, sciELO and Medline, using as descriptors: "Delirium" AND "Intensive Medicine" AND "Geriatrics" "Palliative Care" in the last 10 years. As it is a narrative review, this study does not have any risks.

Databases: This review included studies in the MEDLINE – PubMed (National Library of Medicine, National Institutes of Health), COCHRANE, EMBASE and Google Scholar databases.

The inclusion criteria applied in the analytical review were human intervention studies, experimental studies, cohort studies, case-control studies, cross-sectional studies and literature reviews, editorials, case reports, and poster presentations. Also, only studies writing in English and Portuguese were included.

RESULTS AND DISCUSSION

Delirium is recognized as a significant predictor of long-term cognitive and physical decline in patients who have recovered from its acute phase¹⁰. Research indicates that the impact on cognitive abilities persists, often resulting in reduced quality of life and increased dependency on healthcare resources¹⁰. Episodes of delirium are not merely transient disturbances; they serve as a prognostic marker for serious future health outcomes¹¹. Patients with a history of delirium have been shown to have a higher risk of developing severe neurological disorders such as dementia and stroke, which highlights the need for proactive management strategies to improve patient outcomes¹¹.

The importance of timely and effective management of delirium cannot be overstated and demonstrate that early pharmacological intervention, when integrated with multidisciplinary care, can significantly enhance long-term cognitive and functional outcomes for patients¹². Such interventions can help not only in mitigating the immediate symptoms of delirium but also in reducing the long-term adverse effects associated with the condition¹². Moreover, the psychological impact of delirium is profound, with many patients experiencing long-lasting effects such as anxiety, depression, and post-traumatic stress disorder (PTSD)¹³. These conditions can severely affect their overall quality of life and ability to reintegrate into their usual daily activities¹³. Integrated psychological support and counseling are crucial in post-delirium care, addressing these psychological sequelae to support a more comprehensive recovery¹⁴.

Despite advances in clinical practice, significant gaps remain in our understanding of the pathophysiological mechanisms underlying delirium and its connections to poorer long-term outcomes¹⁵. Current research is focused on identifying the specific biological pathways that are disrupted during and after delirium episodes, which could lead to targeted therapeutic interventions that might prevent the long-term consequences of the disorder¹⁶.

Non-pharmacological interventions have also gained attention for their role in both preventing and managing delirium¹⁷. Environmental modifications, such as ensuring adequate lighting and noise control, along with cognitive therapies, are effective in reducing the incidence and severity of delirium^{17,18}. These interventions help maintain cognitive function and emotional well-being, thereby enhancing the prognosis for patients¹⁸.

The socio-economic impact of delirium

is considerable, with increased healthcare costs and extensive use of medical resources, including longer hospital stays and more frequent rehospitalizations. Other studies have highlighted the economic burden associated with delirium, emphasizing the need for efficient management strategies that could potentially reduce these costs¹⁹. The familial and caregiver burden is another critical aspect of the aftermath of delirium¹⁹. Families often face significant emotional and financial strain as they adjust to the increased care needs of a loved one who has experienced delirium²⁰. This situation is exacerbated by the potential long-term health implications of the condition. Supportive care and resources for caregivers are essential to help them manage this burden and ensure the provision of sustained care for patients²⁰.

Screening for delirium is an effective measure that can lead to earlier diagnosis and management, thereby improving the prognosis and reducing the incidence of long-term complications²¹. Implementing routine screening tools in hospital settings is a practical approach that has been shown to effectively reduce both the immediate and prolonged impacts of delirium. The integration of modern technologies such as artificial intelligence (AI) and telemedicine into the management of delirium presents a promising avenue for enhancing care delivery²¹. AI, for instance, can aid in the early detection of delirium and facilitate more personalized care plans based on individual patient data²².

Patient education is a critical component of delirium management, with studies showing that informed patients and families are better equipped to recognize the early signs of delirium and seek timely treatment. Educational programs can significantly reduce the incidence and severity of delirium, particularly in at-risk populations^{21,23}. Internationally, there is

considerable variation in how delirium is managed across different healthcare systems. A global perspective is crucial to understand and adopt best practices that can be applied universally to improve outcomes for patients with delirium²³. Comparative international research can provide valuable insights into effective strategies and approaches that could be adopted more widely²³.

CONCLUSION

Delirium not only presents as a critical medical emergency but also exerts profound and enduring effects on cognitive, psychological, and physical health outcomes. The evidence clearly establishes delirium as a significant predictor of future neurological disorders, reduced functional independence, and overall diminished quality of life. Effective management of delirium, incorporating both pharmacological and non-pharmacological interventions, is crucial for mitigating these long-term adverse effects. The integration of early intervention strategies, multidisciplinary care, and robust post-discharge support can significantly improve the prognosis for patients experiencing delirium. Additionally, the role of modern technologies and patient

education in early detection and management cannot be overstated, as these tools are vital for enhancing patient outcomes and reducing the burden on healthcare systems.

Moreover, the societal and economic burdens underscore the necessity for healthcare policies that support comprehensive delirium management programs, which include caregiver support and public health initiatives aimed at delirium prevention and education. As the research progresses, further studies are needed to close the gaps in our understanding of the pathophysiological links between delirium and long-term outcomes, fostering the development of more effective therapeutic approaches.

Delirium demands a concerted effort from healthcare providers, researchers, and policymakers to improve patient care and outcomes. Adopting best practices from global perspectives and continuous research into innovative management strategies will be essential in addressing the challenges posed by this complex clinical phenomenon. Through such collaborative and informed approaches, we can hope to enhance the quality of life and long-term health of patients affected by delirium.

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