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Integrate Literature Review of Delirium on the Elders

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Abstract

Delirium is a common problem for elderly hospitalized patients and those transferred from one place to another. The risk of delirium increases considerably with age. This article provides an integrated review of the literature on delirium in elderly patients; on the basis of this review, the characteristics of elderly delirium can be defined as follows: acute confusion with fluctuating changes in consciousness, orientation, attention, perceptions, emotion, thinking, sleeping patterns, and behaviors, which could develop and disappear in a short period. The related factors of elderly delirium include demographic and physical factors, as well as cognitive, functional, psychosocial, and other factors. Furthermore, scales for assessing elderly delirium include the short portable mental status questionnaire, mini-mental status examination, Confusion Assessment Method-ICU (CAM-ICU), delirium observation screening scale, NEECHAM Confusion Scale, Groningen Frailty Indicator, and Hasegawa's Dementia Scale-Revised. Although the CAM-ICU has the least items and affords the fastest assessment, it lacks the items to measure orientation, perceptions, emotions, sleeping patterns, and behaviors, which are the characteristics of elderly delirium identified in the integrated literature review. Based on the literature review findings, the authors recommend that future studies should develop a comprehensive delirium assessment scale for elderly patients, including the related factors and defining characteristics, thus enabling health care professionals to care for and manage delirium problems effectively and efficiently. Moreover, the authors suggest developing an assessment scale to distinguish between the three problems (delirium, dementia, and depression) and reduce misdiagnosis rates, which would result in reduced hospitalization times, death rates, cost to the health care system, and patients being transferred to nursing homes.©

Keywords: Delirium; Elderly; Hospitalized patients; Cognitive

Introduction

Delirium is a common problem for elderly hospitalized patients and those who have transferred from one medical institution to another. The prevalence of delirium is 1% to 2% in those aged 65 years and older, rising to 10% in those aged older than 85 years, and rising further to 22% in elderly patients with dementia with prevalence ranging from 1.4% to 70% depending on diagnostic criteria in long-term care. Overall, the risk of delirium increases considerably with age and cognitive decline in all groups [1]. Additionally, a study reported that the prevalence of delirium superimposed on dementia ranged from 22% to 89% of hospitalized and community populations aged 65 years and older with dementia [2]. Nevertheless, 65% of doctors and 43% of nurses could not identify the delirium problems of hospitalized elderly people [3]. Factors contributing to the under-recognition of delirium by registered nurses in acute care settings were determined to include the fluctuating nature of delirium, the effect of delirium education on its recognition, communication barriers, inadequate use of delirium assessment tools, lack of conceptual understanding of delirium, delirium as a burden, and the similarity of delirium and dementia [4]. Therefore, the purpose of this article is to provide an integrated review of the available literature on delirium in elderly populations.

Literature Review

The integrated review of delirium in elderly patients includes definitions of the characteristics, related factors, assessment scales, and consequences of elderly delirium, with major emphasis on the findings from the literature.

Definitions of the characteristics of elderly delirium

Delirium is characterized by acute confusion with changes in perception, attention, cognition, and sensation in complex mental status [5]. The mental status of the patient is suddenly changed to be insensitive toward time, places, and individuals [6]. Additionally, delirium is a type of neural disturbance combined with psychiatry, rendering it a reversible acute illness with changes in attention, cognition, mobility, activities, sleep cycles, and conscious confusion [7-9]. Furthermore, delirium occurs in a short period accompanied by daily changes in cognitive behavior and psychological symptoms such as inattention, short memory, insomnia, sleep disturbances, irritable behavior, delusion, and illusion [10]. Finally, clear consciousness toward the environment might decrease along with consistent or transferred attention, altered perception of orientation and memory, verbal disturbances, and perceptual confusion manifesting as delusion; these symptoms could develop in a short period and disappear for 1 day [4,11]. The fluctuating processes of consciousness, cognition, memory, orientation, and verbalization lasting from a few hours to a few days can be divided into four types of delirium: overacted (irritable and aggressive), low reacted (delayed response and low psychomotor), combined (both symptoms), and unspecific [1,12].

Related factors of elderly delirium

The related factors of elderly delirium include demographic and physical factors, as well as cognitive, functional, psychosocial, and other factors. Demographic and physical factors are age, gender, hospitalized days, institutionalization, trauma history, surgery, heart and lung illness, hypertension, diabetes, chronic kidney failure, gastrointestinal diseases, urinary and genital illness, metabolic disorders, central nervous system illness, peripheral vascular disease, stroke, dementia, malnutrition, fever, low albumin, low oxygen, dehydration, electronic imbalance, azotemia, infection, convulsion, and multiple or pain medications

[1,2,4,5,7-9,11-18]. Specifically, 3% to 5% of elderly people who have had hip and knee surgeries would experience acute confusion or delirium for a specific period. Therefore, insufficient pre-surgery assessments and post-surgery complications are factors related to elderly delirium [6,19]. The functional, cognitive, psychosocial, and other factors are decreases in energy, activities of daily living and instrumental activities of daily living, and cognition, as well as increases in sleep disturbances, depression, social isolation, long-term bed rests, environmental over-stimulus, catheter use, and need for restraint [2,5,7-10,14,16,17].

Assessment scales of elderly delirium

The assessment scales [1,2,4,5,7-12,14-16] used to measure elderly delirium include medical diagnosis systems such as DSM-III-R, DSM-IV, and DSM- IV-TR, as well as cognitive assessment scales such as the short portable mental status questionnaire (SPMSQ) [20], the mini-mental status examination (MMSE) [21], the confusion assessment method-ICU (CAM-ICU) [22,23], the Groningen Frailty Indicator (GFI) [24] and Hasegawa's Dementia Scale-Revised (HDS-R) [25].

The SPMSQ is a 10-item examination with reliability and validity in distinguishing demented subjects from cognitively intact subjects when administered through face-to-face interviews [20]. The MMSE is a 30-point questionnaire used extensively in clinical and research settings to measure cognitive impairment, which takes 5 minutes to 10 minutes and examines functions including orientation, attention, registration, calculation, recall, language, ability to follow, and simple commands [21]. The CAM-ICU includes four items: (1) mental status in the acute stage or changed; (2) inattention; (3) disorganization; and (4) level of consciousness, with a score of 1, 2, 3, or 1, 2, 4 serving as a delirium indicator [3]. The CAM-ICU has been validated, and its pooled sensitivity was 80.0% and specificity was 95.9% after a systematic review and meta-analysis of nine studies [26]. Both the Delirium Observation Screening (DOS) scale and NEECHAM Confusion Scale were reported to exhibit high sensitivity (0.89 to 1.00) and specificity (0.86 to 0.88); however, nurses rated the DOS scale as significantly easier than the NEECHAM Confusion Scale for practical use [27]. Furthermore, both the GFI and HDS-R can be used to assess delirium problems in elderly patients after vascular and digestive surgeries [24,25].

Consequences of elderly delirium

The consequences of elderly delirium include post-surgery complications, decreased physical and cognitive functions, accidental falls, longer hospitalization, and increased payment for hospitalization. Moreover, delaying the time of delirium might increase the incidence of illness, patients' dependence, the needs of nursing homes, and death rates because of the heavy burden on the health care system and society [1,4,5,7,9,10,14,16,18,19]. In addition, a study reported that urinary tract infection (UTI) rates in elderly patients with delirium ranged from 25.9% to 32% compared with 13% in those without delirium; in patients with UTI, delirium rates ranged from 30% to 35%, compared with 7.7% to 8% in those without UTI [11]. Furthermore, elderly patients with delirium might perceive that negative things are happening and feel hostile toward the hospital. Seventy-five percent of elderly patients with delirium might experience pain, anxiety, and social isolation, which present obstacles to independence [17]. Finally, family members might feel uneasy during the period of delirium, caused by their relative's physical and psychological difficulties [6].

Discussion and Conclusion

After the integrated review, the characteristics of elderly delirium can be defined as follows: acute confusion with fluctuating changes in consciousness, orientation, attention, perceptions, emotions, thoughts, sleeping patterns, and behaviors, which could develop and disappear in a short period. The related factors include demographics and physical factors, as well as cognitive, functional, psychosocial, and other factors. Furthermore, the scales for assessing elderly delirium include the SPMSQ, MMSE, CAM-ICU, DOS, NEECHAM, GFI, and HDS-R. However, the SPMSQ and MMSE are mainly used to diagnose dementia in elderly patients, with emphasis on cognition tests; by contrast, the GFI and HDS-R are mainly used to diagnose post-surgery delirium in elderly patients. Although the DOS scale is preferred by clinical nurses compared with the NEECHAM, the CAM-ICU (4 items) has fewer items and affords faster assessment than the DOS scale (13 items). Nevertheless, the four items of the CAM-ICU focus on mental status, attention, thought, and consciousness; the tool does not contain items pertaining to orientation, perceptions, emotion, sleeping patterns, and behaviors. The consequences of elderly delirium include post-surgery complications, decreased physical and cognitive functions, accidental falls, longer hospitalization, and increased payment for hospitalization. In addition, delaying the time of delirium might increase the incidence of illness, patients' dependence, the needs of nursing homes, and death rates because of the heavy burden on the health care system and society.

Based on the literature review findings, the authors recommend that future studies should develop a comprehensive delirium assessment scale for elderly patients, including the related factors and defining characteristics, thus enabling health care professionals to care for and manage delirium problems effectively and efficiently. Additionally, delirium problems in elderly patients are similar to the symptoms of dementia and depression [2,8,15] which might confuse health care professionals and create further difficulties in caring for elderly patients with 3D (delirium, dementia, depression). Therefore, the authors also suggest developing a 3D assessment scale to distinguish between the three problems and reduce misdiagnosis rates, which would result in reduced hospitalization times, death rates, cost to the health care system, and patients being transferred to nursing homes.

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