Depression and Cognitive Disorders in the Elderly: A Literature Review

Alvino Triyuangga[1], Erikavitri Yulianti[2], Novira Widajanti[3], Andini Dyah Sitawati[4]

[1]*Alvino.triyuangga-2020@fk.unair.ac.id*
[1]*Faculty of Medicine, Airlangga University, Surabaya 60132, Indonesia*
[2]*Department of Psychiatry, Dr. Soetomo General Hospital, Airlangga University Hospital, Airlangga University, Surabaya 60132, Indonesia*
[3]*Department of Internal Medicine, Dr. Soetomo General Hospital, Airlangga University Hospital, Airlangga University, Surabaya 60132, Indonesia*
[4]*Department of Psychiatry, Dr. Soetomo General Hospital, Airlangga University Hospital, Airlangga University, Surabaya 60132, Indonesia*

Abstract

Depression is a mood disorder that causes persistent feelings of sadness and loss of interest. Meanwhile, cognitive comes from the Latin cognitio which means thinking, namely a person's ability to understand the world from complex functions such as arithmetic abilities, orientation to time and place, orientation to individuals, abstract thinking patterns, and the ability to focus. To determine someone's impaired cognitive function, they need to have an MMSE (Mini Mental State Examination).

The prevalence of depression is experienced by 3.8% of the population worldwide, including 5.0% among adults and 5.7% among older adults or the elderly. Research shows that more than half or 50 to 80% of people who experience MCI will suffer from dementia within the next 57 years.

Keywords: Depression, Cognitive Disorders, Elderly

1. Introduction

Depression is a mood disorder that causes persistent feelings of sadness and loss of interest. Depression along with anxiety is a major health problem that is reaching epidemic levels in the United States. According to the National Institute of Health (NIH), depression affects 38 million Americans every year. Depression causes individual pain, family discord, failure in relationships and education, loss of work productivity and death. Suicide cases due to ongoing untreated depression have tripled among adolescents since 1955 and are increasing at higher rates among the elderly (Amen et al., 2003).

Impaired cognitive function in the elderly is characterized by a decrease in memory, language ability, executive ability (planning, executing, evaluating actions, and concentration ability). Other cognitive disorders are also indicated by loss of arousal, impaired attention, disturbances in mood, perception and personality (Birle et al., 2020).

The prevalence of depression is experienced by 3.8% of the population worldwide, including 5.0% among adults and 5.7% among older adults or the elderly (WHO, 2021). Depressive symptoms often occur in dementia patients with a prevalence of around 30% (Lyketsos et al., 2002). The level of depression will influence how badly impaired cognitive function an individual experiences, research has revealed a relationship between symptoms of depression or major depression and cognitive dysfunction in older people (Shimada et al., 2014).

2 Depression and Cognitive Disorders

2.1 *Definition of Depression*

Depression is a mood disorder characterized by persistent feelings of sadness and loss of interest. The American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5), classifies depressive disorders into various categories, including major depressive disorder, persistent depressive disorder (dysthymia), premenstrual dysphoric disorder, and depression due to other medical conditions. Common features across all depressive disorders include a pervasive sense of sadness, emptiness, or easily irritable mood, accompanied by significant somatic and cognitive changes that substantially impact an individual's functional capacity (Chand et al., 2022).

The estimated prevalence of severe depression is higher in low to middle-income countries compared to high-income countries. Epidemiological data indicates that major depressive disorder is the most commonly occurring type of depressive disorder. Severe depression, or major depressive disorder, demonstrates high prevalence and persistence in numerous countries, rendering it a significant mental health concern warranting attention (Kessler et al., 2013).

2.2 *Diagnosis of Depression*

Diagnosing depression relies on a comprehensive evaluation of a patient's history and physical symptoms rather than laboratory tests (Chand et al., 2022). Depression encompasses a range of mental health issues marked by an individual's diminished interest, low mood, and various emotional, physical, cognitive, and behavioral symptoms. Predicting mood changes based solely on clinical observation of depression levels is challenging. Therefore, assessing depressive symptoms by their severity levels is crucial (Lewinsohn et al., 2000).

Identifying severe depression involves evaluating not only its severity but also considering persistence, the presence of additional symptoms, and the extent of functional and social impairment. Higher severity levels of depression are associated with increased morbidity and adverse consequences (Kessing, 2007).

2.3 *Definition of Cognitive*

The term "cognitive" originates from the Latin word "cognitio," signifying thought. In this context, the concept of thinking refers to an individual's capacity to comprehend their surroundings through complex functions such as arithmetic skills, orientation in time and space, self-awareness, abstract thinking, and the ability to focus (Nugroho, 2008). Cognitive pertains to matters associated with cognition, which involves mental activities that enable an individual to be conscious of mental objects or perceptions. Cognition encompasses all aspects of receiving, thinking, and remembering (Dorland, 2008).

2.4. *Cognitive Disorders*

Cognitive dysfunction typically manifests across three stages: Forgetfulness, Mild Cognitive Impairment (MCI), and Dementia (Lumbantobing, 2007).

2.4.1 *Forgetfulness*

Forgetfulness is an early and prevalent stage, particularly among the elderly, with 39% of individuals aged 50–60 experiencing it, rising to 85% in those above 80. Also termed Begin Senescent Forgetfulness (BSF) or Age-Associated Memory Impairment (AAMI), this stage is characterized by slowed thinking, underutilized memory strategies, difficulty concentrating, unnecessary focus shifts, increased time for learning new things, and a heightened reliance on cues for recall (Hartono, 2006). Diagnostic criteria include difficulty recalling names, impaired memory recall, disrupted retrieval, recognition with cues, and a tendency to describe functions or forms more frequently than mentioning names (Hartono, 2006).

2.4.2 *Mild Cognitive Impairment (MCI)*

In the case of a patient exhibiting delayed memory impairment or difficulty recalling information even with provided cues, despite generally normal cognitive function, a diagnosis of Mild Cognitive Impairment (MCI) is warranted. Typically, individuals with MCI experience a decline in recent memory. However, it is essential to note that the diagnosis of MCI should not be applied to individuals with psychiatric disorders, clouded consciousness, or those taking medications affecting their central nervous system

In scientific terms, the identification of MCI involves observing delayed memory impairment despite overall normal cognitive function. This diagnosis excludes individuals with psychiatric disorders, altered consciousness, or the influence of medications impacting their central nervous system. This distinction is crucial for precise clinical assessment and appropriate management of cognitive health (Hartono, 2006).

2.4.3 *Dementia*

Clinical symptoms of dementia involve a decline in comprehension, marked by the loss of the ability to understand rapid speech, complex conversations, or abstract and sarcastic humor. Linguistic abilities are also affected, resulting in a diminished capacity to maintain the thread of a conversation, a loss of ideas being discussed, slowed language processing, and rapid naming impairment. Furthermore, in the realm of social communication, individuals may experience a loss of the ability to stay on topic, heightened sensitivity, increased irritability, a shift towards aggressive speech, and a perceived lack of politeness. Importantly, these symptoms occur without disturbances in the level of consciousness (Mardjono & Sidharta, 2008).

3. Recommendations therapy for cognitive function in elderly patients

The papers suggest that various therapies can be beneficial for cognitive function in elderly patients. The first paper by Ahmad Hamkani (2019) discusses the application of brain gym exercises in elderly dementia patients with memory disorders. The results showed an improvement in cognitive function (memory) in the patient, with a decrease in cognitive impairment and intellectual damage scores after the therapy. Similarly, a study by Aini Silfiyah (2019) also found that brain gym exercises could reduce dementia levels in elderly patients, moving from moderate to mild dementia categories. Another approach discussed is the use of music therapy.

A study by Moh. Supriyadi (2020) found that Mozart music therapy had a significant effect on reducing depression levels in elderly patients, which can often be associated with cognitive decline. The application of puzzle therapy was also found to be effective in a study by Andrika Levi (2019). The therapy led to an increase in cognitive function, as evidenced by an increase in the Mini-Mental State Examination (MMSE) score from 23 to 26. Lastly, a study by Budi Susilo Utomo (2012) found that relaxation therapy was effective in reducing depression scores and improving the quality of life in the elderly, which could indirectly contribute to better cognitive function.

4. Conclusion

The relationship between depression and cognitive function is complex, and there are individual variations in its manifestation. Additionally, the role of factors such as age, gender, and depression severity may influence the dynamics of this relationship. In treating individuals with depression and impaired cognitive function, a holistic approach that considers psychological and neurobiological aspects is important. The therapies such as brain gym exercises, music therapy, puzzle therapy, and relaxation therapy can be beneficial in improving cognitive function and reducing cognitive impairment in elderly patients.

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