Neurocognitive Disorders: Understanding the Impact on Brain Function.

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Introduction

Neurocognitive disorders (NCDs) are a group of conditions that involve significant impairment in cognitive functions, including memory, attention, reasoning, and decision-making. These disorders can affect a person's ability to perform daily activities and impact their quality of life. NCDs are most commonly associated with aging, but they can also occur due to various factors such as brain injury, infection, substance abuse, or genetic conditions [1].

As the global population ages, the prevalence of neurocognitive disorders, particularly in the elderly, is increasing, making it an important area of research and healthcare focus. Alzheimer's disease, Parkinson's disease, and vascular dementia are among the most well-known neurocognitive disorders, but there are many other conditions that can result in cognitive decline [2]. Understanding these disorders, their causes, and available treatments is essential for improving the care and support of affected individuals. Alzheimer's disease is the most common form of dementia and is characterized by progressive memory loss, confusion, and changes in behaviour. It is caused by the accumulation of amyloid plaques and tau tangles in the brain, which disrupt communication between brain cells and lead to their death. The symptoms of Alzheimer's disease begin subtly but worsen over time, leading to severe cognitive impairment and the inability to care for oneself [3, 4].

Vascular dementia occurs when blood flow to the brain is disrupted, often due to a stroke or series of mini-strokes. The lack of oxygen and nutrients to the brain cells can cause cognitive decline, memory problems, and difficulty with motor skills. Symptoms may vary depending on which part of the brain is affected, but they often include confusion, poor judgment, and difficulty with planning and decision-making [5].

Parkinson's disease primarily affects movement, but as it progresses, it can also lead to cognitive decline. Parkinson's disease dementia is characterized by memory impairment, difficulty with executive functions (such as problem-solving), and changes in mood and behaviour. This condition typically develops later in the disease, after motor symptoms like tremors and rigidity have appeared [6].

Frontotemporal dementia (FTD) is a group of disorders caused by the progressive degeneration of the frontal and temporal lobes of the brain. These areas are responsible for personality, behaviour, and language. FTD often presents with changes in behaviour, such as socially inappropriate behaviour, impulsivity, and a lack of empathy, or difficulties with language and speech. Unlike Alzheimer's, FTD typically affects younger individuals, often between the ages of 45 and 65 [7].

Lewy body dementia is characterized by the presence of abnormal protein deposits called Lewy bodies in the brain. These deposits affect cognitive functions, movement, and mood. Symptoms of Lewy body dementia include fluctuating cognition, visual hallucinations, Parkinsonism (tremors and rigidity), and sleep disturbances [8]. The disorder can be difficult to diagnose because its symptoms overlap with those of Alzheimer's and Parkinson's disease. Mild neurocognitive disorder (MND) refers to a noticeable decline in cognitive abilities that is greater than what is expected with normal aging, but not severe enough to interfere significantly with daily life. People with MND may experience memory problems, difficulty concentrating, and issues with executive function, but they can still perform most daily activities. MND may increase the risk of developing more severe neurocognitive disorders, such as Alzheimer's disease [9].

Diagnosis of neurocognitive disorders typically involves a thorough medical history, cognitive tests, brain imaging (such as MRI or CT scans), and sometimes genetic testing. Early diagnosis is important for managing symptoms and providing appropriate care .Several medications are used to treat symptoms of neurocognitive disorders. For example, cholinesterase inhibitors, such as donepezil, are often prescribed for Alzheimer's disease to help improve memory and cognitive function. Medications may also be used to address mood changes, anxiety, and depression that often accompany neurocognitive disorders [10].

Conclusion

Neurocognitive disorders are complex conditions that affect the brain's ability to function properly, leading to significant cognitive, emotional, and behavioral changes. While these disorders are more common in older adults, they can affect individuals of all ages and have a profound impact on the lives of both patients and their families.

References

1. Evans TM, Bira L, Gastelum JB, et al. Evidence for a mental health crisis in graduate education. Nature Biotechnol. 2018;36(3):282-4.

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***Received:** 03-Mar-2025, Manuscript No. AAJMHA-25-162720; **Editor assigned:** 05-Mar-2025, Pre QC No. AAJMHA-25-162720 (PQ); **Reviewed:** 11-Mar-2025, QC No. AAJMHA-25-162720; **Revised:** 25-Mar-2025, Manuscript No. AAJMHA-25-162720 (R); **Published:** 31-Mar-2025, DOI: 10.35841/aajmha-9.2.251*

***Citation:** Okafor. W. Neurocognitive Disorders: Understanding the Impact on Brain Function. J Ment Health Aging. 2025; 9 (2):251*

2. Dong L, Bouey J. Public mental health crisis during COVID-19 pandemic, China. Emerging infectious diseases. 2020;26(7):1616.
3. Hopkins C, Niemiec S. Mental health crisis at home: Service user perspectives on what helps and what hinders. Journal of psychiatric and mental health nursing. 2007;14(3):310-8.
4. Agar-Jacomb K, Read J. Mental health crisis services: What do service users need when in crisis? J Mental Health. 2009;18(2):99-110.
5. Hogan MF, Goldman ML. New opportunities to improve mental health crisis systems. Psychiatric Services. 2021 Feb 1;72(2):169-73.
6. Neophytou E, Manwell LA, Eikelboom R. Effects of excessive screen time on neurodevelopment, learning, memory, mental health, and neurodegeneration: A scoping review. International Journal of Mental Health and Addiction. 2021 Jun;19(3):724-44.
7. Murtaza SA. Digital heroin the impact of digital gadgets on developing minds an empirical study on growing children of Lahore. InInternational Conference on Management, Business & Technology (ICMBT) 2017 (pp. 303-309).
8. Liverpool S, Mota CP, Sales CM, et al. Engaging children and young people in digital mental health interventions: systematic review of modes of delivery, facilitators, and barriers. J Medical Internet Research. 2020;22(6):e16317.
9. Tso WW, Chan KL, Lee TM et al. Mental health & maltreatment risk of children with special educational needs during COVID-19. Child abuse & neglect. 2022:105457.
10. Michelle O, Dogra N, Levine D, et al. Digital media and child and adolescent mental health: A practical guide to understanding the evidence. Sage. 2021.

Citation: *Okafor. W. Neurocognitive Disorders: Understanding the Impact on Brain Function. J Ment Health Aging. 2025; 9 (2):251*