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How does direct volunteering affect the onset of Alzheimer's Dementia in elderly patients with preexisting cardiac comorbidities?

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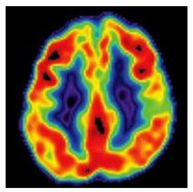
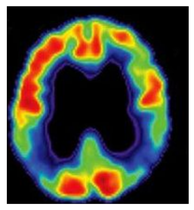
Abstract

Alzheimer's Dementia is a disease that affects memory, thinking, and behavior. The Alzheimer's Association reported Alzheimer's is the sixth-leading cause of death in the United States, and a cure does not exist. Donepezil, a cholinesterase inhibitor drug, is frequently prescribed to treat Alzheimer's disease. Still, patients must continuously take the medication for years to receive any measurable improvement in quality of life after developing Alzheimer's Dementia. Further, research shows prolonged use of Donepezil can lead to other health problems, such as QTc prolongation, for cardiac disease patients. Therefore, the effectiveness of non-drug interventions, such as volunteering to prevent the disease's onset, is gaining popularity. The purpose of this study is to review the scientific literature to explore the benefits of various types of volunteering, such as physical, social, and cognitive activities, and their effect in delaying the onset of Alzheimer's Dementia in elderly patients with preexisting cardiac comorbidities.



Normal Brain

Severe Cognitive Decline



Alzheimer's Brain

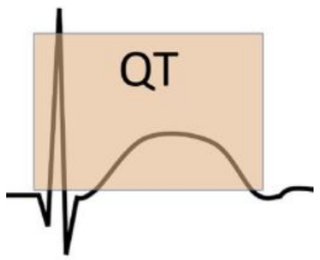
Introduction

Alzheimer's Dementia is currently being treated with a drug-based cholinesterase inhibitor (chemicals that prevent the breakdown of neurotransmitters). This drug improves the quality of life for those who develop the disease. In an analysis about the long-term effect of medication, it was found that after medication intake is halted, the quality of life of patients declines once again. This implies that cholinesterase inhibitors will only be effective if they are continually used. Individuals with vascular danger factors (hypertension, diabetes, and cardiac comorbidities) give off an impression of being at higher risk for dementia than those without co-existing health factors (Middleton, 2010). Studies have reiterated that people who have cardiac issues cannot take the medication continually. Long term use of cholinesterase inhibitors causes QTc prolongation. QTc prolongation is when after each heartbeat, the system must recharge itself to be prepared for the next heartbeat. In QTc prolongation, the heart's electrical system takes much longer than normal to recharge between each beat. Considering the ineffectiveness of cholinesterase inhibitors for those with risk factors, researchers have called for more effective treatments for improving the quality of life for patients after developing Alzheimer's Dementia.

Purpose of study

This review proposes and reviews volunteering as a non-drug intervention to prolong the onset of Alzheimer's Dementia in elderly patients with preexisting cardiac comorbidities. Two aspects of research were reviewed: the effectiveness of cholinesterase inhibitors for patients with preexisting cardiac comorbidities and the effectiveness of engaging in volunteering to improve cognitive score and reduce the onset of Alzheimer's Dementia.

Long-term use of Donepezil (cholinesterase inhibitor)



QT Prolongation (A heart rhythm disorder)

Discussion

There is an urgent need to identify lifestyle activities that reduce functional decline and Dementia associated with population aging (Anderson, 2014). Future research should focus on finding out a timeline and appropriate measures one should take after being found to be at high risk for Alzheimer's Dementia. Primary research must be conducted to remove the barrier of the undesirable effects of current drug-based treatment including, the impact for those with preexisting cardiac comorbidities, QTC prolongation, and unavailability of a viable treatment that has a long-term effect without having to continually take the drug. Non- drug interventions like volunteering should be integrated or recommended when one is found to be at high risk before heading directly to the standard medication-based treatment for Alzheimer's Dementia. The reason volunteering would be preferred over solely the latent benefits of having a job or other work would be that there would be no external stress or commitment that comes with having a full-time or part-time job. This recommendation can be provided by physicians and other trained individuals depending on the specific patient's condition. Overall, this review also suggests that volunteering as an activity should be integrated into daily life early, to reap the benefits of improvement of quality of life.

Conclusion

To balance the potential challenges of the drug-based treatment, non-drug interventions like volunteering in earlier life have proven to assist in prolongation of the onset of the disease. Many articles have concluded that volunteering increases cognitive functioning.The results of various research projects indicated that older adults who continuously volunteered, reported a decrease in their cognitive complaints about time, whereas no such associations were found for others. The review of the literature related to volunteering as a non-drug intervention to prolong the onset of Alzheimer's Dementia in elderly patients with preexisting cardiac comorbidities has thus far shown cognitive improvement and long-term potential. Based on this analysis, it is being proposed that volunteering should be used as a non-drug intervention for those with cardiac comorbidities and have a high risk of developing Alzheimer's Dementia. The findings of this study may be included in preventive precautions taken for patients with underlying issues and at high risk of developing Alzheimer's Dementia.

Regular Volunteering

Increased Cognitive Scores

Notable Works Cited

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