

# Designing a Dementia Prevention Program for Young Adults

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## Abstract

*With the unique nature of the disease, a cure or treatment for dementia is many years away. Instead of treating dementia, research has focused on strategies to prevent dementia, through identifying risk factors. Targeting these risk factors has become a part of dementia prevention programs, which are currently being educated worldwide. However, these programs focus on middle to older age participants. To provide greater chances of prevention, this paper proposes a program that would be administered to young adults. While learning about the benefits of a healthier lifestyle, the participants not only will be experiencing the immediate effects of taking care of their bodies, but also prolonging the onset of dementia.*

## Introduction

The prevention of dementia is not like wearing a mask to prevent the spread of the flu or an infectious disease. Dementia is a term that is used to describe a variety of disorders that impact memory, fine motor skills, communication, and more. It is important to note that dementia can impact everyone differently, and the progression of the disease varies from person to person. Dementia impacts 50 million people, with 10 million new cases each year (WHO, 2020). There are multiple types of dementia including Alzheimer's disease, vascular dementia, frontotemporal dementia, mixed dementia, and Lewy body dementia. Unfortunately, there is no known cure for

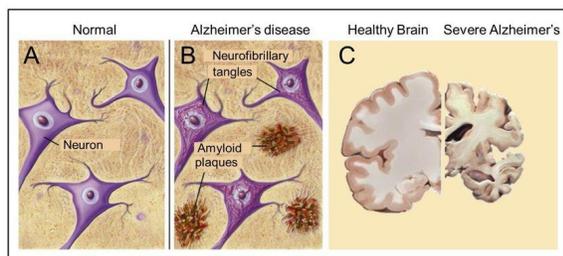
dementia, but some progress is being made to ease the severity of some symptoms. However, an overall healthy lifestyle has indicated that it can lessen the chances of developing dementia as one gets older. (Dhana et al. 2020). With an in-depth look into each type of dementia and the current state of treatment plans, the next few paragraphs will propose a workshop to educate college students on dementia prevention.

## What is Dementia?

Dementia has been used as a concept to describe being 'out of one's mind' since 2000 BC. The name of the disease was not given until 1797, as a Latin term, by a

French psychiatrist Philippe Pinel (Queensland Brain Institute, 2017). Alois Alzheimer, a German psychiatrist, was the first person to publish a case on dementia, specifically a 50-year-old woman with dementia symptoms. A German psychiatrist, Oskar Fischer, studied the brains of older people. He found the same ‘plaques and tangles’ as Alois Alzheimer did, which furthered the understanding of the condition. The plaques and tangles can be seen in Figure 1, which shows the comparison between a normal brain and an Alzheimer’s brain. The tangles and plaques block the neuron’s transportation system which causes the symptoms of Alzheimer’s (U.S. Department of Health and Human Services, n.d.). After years of continued research, there are multiple types of dementia that affect millions each year. These multiple types of dementia are broad but cause severe symptoms for all who are diagnosed.

Figure 1



## Types of Dementia

### *Alzheimer's Disease*

- Most common type of dementia.
- A progressive disease that impacts the brain, which causes memory loss, language impairment, and diminished everyday functioning.
- Starts to show symptoms anywhere between an adult's late 40's to 70's.
- As age progresses the symptoms worsen and continue to degenerate the brain.

### *Vascular Dementia*

- Caused by the lack of blood to the brain that requires oxygen and nutrients.
- Rare in the United States, as it only impacts approximately 200,000 people each year (Types of Dementia, 2021).
- It embodies similar symptoms as other types of dementia, with symptoms affecting memory and judgment.
- After a stroke or lack of oxygen, dementia starts quickly as more neurons die throughout the process.

### *Frontotemporal Dementia*

- An umbrella term for brain disorders that impact the frontal and temporal lobes of the brain.
- Impacts personality, behavior, and language, to varying degrees.

### *Lewy Body Dementia*

- Causes more than 200,000 cases per year in the United States.
- Results from protein deposits in nerve cells of the brain.
- The protein deposits impact chemicals in the brain which cause the symptoms associated with the disease.
- Impacts movement, like rigid muscles, and difficulty walking.

### *Mixed Dementia*

- Used to describe patients with two types of dementia, whether that be Alzheimer's and vascular, or other combinations.

## Risk Factors to Developing Dementia

As there are no cures or widespread treatments for dementia, researchers have been looking for solutions before the disease starts to progress within its patients. Through research, several risk factors were identified to prolong the onset of dementia. The risk factors include physical and cognitive inactivity, unhealthy eating, social

isolation, and increased stress levels (Kivimäki & Singh-Manoux, 2018). According to the Lancet Commission, “35% of dementia cases could be prevented if risk factors were eliminated; hence, a key recommendation of the Commission is to ‘be ambitious about prevention’ of dementia” (Kivimäki & Singh-Manoux, 2018). Currently, education programs on risk factors for developing dementia have been conducted, but the participants in these programs are middle age to older adults. The Finnish Geriatric Intervention Study to Prevent Cognitive Impairment and Disability (FINGER) is one example of these programs, conducting world-wide trials to educate on the risk factors of developing dementia. If these programs targeted young adults, the development of dementia, and even other diseases like heart disease or cancer could be reduced.

### **Prevention Programs**

Prevention programs can be developed through school systems, with the intention to implement these mindfulness strategies with school meals. Students often educate themselves on these issues through social media, seminars offered at their respective schools, and discussions with healthcare professionals. Not only would these programs prolong the onset of dementia, but participants would have a potential for weight loss, better mood, and more energy. Implementing these strategies would also provide control for high blood pressure, lessen the chances of the development of chronic illness, and potentially cause better sleep habits. The strategies that could be implemented include healthy eating, physical exercise, reducing stress, cognitive exercise, and maintaining social connections. Also included in the workshop would be examples of how to execute these strategies within the individual

participants’ lives, like mindfulness tips or ways to eat healthy while in college. This workshop could be implemented at Millersville University to undergraduate students, then based on participation and student interest, more programs could be run around the world. A collaboration from the FINGERS network would be ideal, due to their extended resources and opportunities for a longitudinal study. With some help from external resources, this program could have widespread results.

### **Conclusion**

Because of the COVID-19 pandemic and other concerns, it became difficult to fully execute the plans for this workshop. Instead, this project is a proposal for a program that should be implemented. To gain students’ interest, the program should focus on the immediate benefits of implementing the strategies. Unfortunately, young adults tend to ‘live in the moment’ and not worry about the consequences their choices could have on their future. Implementing this program could have widespread effects, like students educating their families or their friends on the benefits of these strategies. Overall, this knowledge can help to create a healthier society, while also reducing the chances for developing dementia.

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