

Preventing Alzheimer's Through the Use of Dietary Supplements

Abstract

Alzheimer's disease is a neurodegenerative disorder typically found in the elderly population and can lead to symptoms of memory loss, confusion, and loss of cognitive abilities. This study analyzes the dietary supplements that can and can not prevent this disorder from progressing and worsening. Additionally, the study looks at confounding variables that may make it difficult to see whether these diets are beneficial for Alzheimer's patients. It also describes what programs can be implemented in order to educate people about the dietary supplements that can help those with Alzheimer's disease.

Supplements Found To Help

In a study titled, Diet May Help Prevent Alzheimer's Disease, Fiori examined whether the MIND diet has an effect on decreasing the risk of developing Alzheimer's. The MIND diet stands for Mediterranean-DASH Intervention for Neurodegenerative Delay diet, and includes green leafy vegetables, other vegetables, nuts, berries, beans, whole grains, fish, poultry, olive oil, and wine. The study was conducted based on research into the positive and negative effects of these nutrients on health. The results showed that for people who followed the MIND diet strictly, their risk was reduced by more than half. It also revealed that the length that the diet was followed for impacted the risk for development of Alzheimer's.

Larrieu et al examined the impacts of consumption of wine, seafood, and Vitamin A and E on developing dementia in a population of 182 subjects between the years 2004 and 2012. The researchers studied older subjects of age 65 and above in southwestern France in the Personnes Agees QUID cohort, which studies cognitive and functional aging, and conducted logistic regression on multiple different subsamples to identify a potential relationship between

nutritional effects and dementia. The study found that moderate drinkers, those who ate seafood at least once a week, and individuals who consumed high amounts of Vitamin E of 15 mg had a decreased risk for dementia.

Supplements with No Found Benefits

Morris et al conducted a study to determine the effects of a higher consumption of vegetables and fruits on regressions in cognitive function caused by age. The study population consisted of those ages 65 and older and surveyed their vegetable and fruit consumption via a food frequency questionnaire. The researchers also examined their participants' cognitive skills, like memory and recall, with multiple tests given at baseline, three years after, and six years after the launch of the study and calculated the average z-score of the tests for the results. The results showed that those with a higher intake of vegetables were seen to have a less significant decrease in cognitive skill while there was no statistically significant change caused by fruit consumption.

Shah reviewed the effects of the Mediterranean diet and other supplemental diets on slowing the progression of Alzheimer's disease. This study was conducted through research, acquired from various articles based on the search term "Nutrient Alzheimer's", on previous studies of the effects of nutrients on the disease. They examined large cohorts and mainly used the search term "Nutrient Alzheimer's" to find studies. It was found that many studies did not see a significant effect of consumption of vitamin C, beta carotene, and flavonoids on helping with the progression of the disease. However, it did find that vitamin E may impact the progression which is consistent with the aforementioned findings of Larrieu et al.

Confounding Variables

Gustafson et al conducted a study in 2015 to identify the relationship between nutrient deficiency and Alzheimer's disease. However, the author mentions obesity may be affecting

weight loss for Alzheimer's patients and therefore, is a confounding variable because it could be changing the nutrient deficiency for these patients. Thus, there would need to be further research on whether obesity is also affecting the risk for Alzheimer's disease. This study was conducted by observing epidemiological data and researching those at a risk for or have Alzheimer's disease. The researchers used brain imaging technology and longitudinal epidemiological data. The results show that there is a large amount of data suggesting a relationship between nutrient deficiency and impact on Alzheimer's disease. However, it is said more research needs to be done to assure this conclusion.

Gaps in the Literature

Obesity can play a major role in affecting or causing Dementia and Alzheimer's disease. Nowadays, obesity has become a common issue in the population to the point that it has been declared an epidemic. It is known that obesity, or an increase in adipose tissue, leads to narrowing of the blood vessels. This problem can decrease blood flow to the brain, which can cause ischemias. One of the hormones that flows in the blood, leptin, has an important function in memory and learning. However, with obesity, this leptin does not flow to the brain sufficiently, and therefore, becomes a risk factor for developing Alzheimer's disease.

As related to the Gustafson et. al study, it is uncertain whether these obese patients have developed their risk for Alzheimer's disease from their weight or from the nutritional deficiency studied. Therefore, further research must be implemented in order to determine the connection or lack thereof between obesity and developing Alzheimer's disease. Some of the factors that need to be examined include whether obesity leads to a decrease of leptin, whether leptin resistance is a cause of dementia, and if obesity or nutritional deficiency impacts more the risk of developing Alzheimer's disease. Also, it is imperative to consider the types of food that lead to obesity.

Considering the relationship between obesity and cognitive diseases is important because many people nowadays are suffering from this health problem. It is important to see how impactful obesity is as a factor of increasing the risk of developing Alzheimer's disease as the condition is severely detrimental. If obesity is in fact a leading factor, possibly more than nutritional deficiency, then we must raise awareness for the cognitive impacts of obesity and teach people how to prevent obesity and subsequently, Alzheimer's disease. Moreover, obesity and nutritional deficiency are linked. As eating many fatty and heavy foods can cause obesity, it can also lead to not getting the proper amounts of all nutrients necessary for the body because of the different foods that are missing in the diet. Therefore, both obesity and nutritional deficiency should be further researched and explored as to whether they cause a risk for Alzheimer's disease and how much of an impact each of them have on this condition.

Moving Forward

As shown in the studies, the Mediterranean diet seems to be beneficial for Alzheimer's patients in providing the right nutrients and slowing the progression of the disease. In order to bring awareness to these patients on how this diet can help with their condition, a program could be implemented to assist many patients at once.

For Alzheimer's patients at cognitive care facilities, nursing homes, hospitals, or any health care facilities, a training system could be put in place for the cafeteria department. By educating them about the benefits of the Mediterranean diet and showing what specific foods are included in this diet, the staff could then make sure to provide these foods to patients and inform them about why it is recommended to follow this diet. Some of these foods include green leafy vegetables, other vegetables, nuts, berries, beans, whole grains, fish, poultry, olive oil, and wine.

This way, the program can reach many Alzheimer's patients by informing the different facilities and the facilities then reaching out to the patients they care for.

In order to reach those Alzheimer's patients who are cared for at home, advertisements through media and paper could be distributed. These brief ads could include the research on why the Mediterranean diet helps Alzheimer's patients and what this diet entails. This way, the caregivers or family are able to easily understand the diet and its benefits, and with the information being concise, are more likely to try this diet. Through these programs, the majority of Alzheimer's patients can be directly or indirectly educated and have the opportunity and access to this mediterranean diet.

When it comes to the confounding variable of obesity, there can also be ways to reduce the impact. The most important thing is to educate Alzheimer's patients about why and how obesity is affecting their condition. Teaching them about the decrease in blood flow and the leptin resistance caused by obesity will allow them to better understand the risks and be more convinced to try and reduce their obesity. The main way this can be done is through limiting foods that have a great impact on causing obesity. These can include highly sugary foods, heavy fatty foods, and large amounts of processed foods. Additionally, eating more healthy foods like vegetables, fruits, nuts, and whole grains can greatly assist. Especially when following the Mediterranean diet, most of these healthy foods are already included, making it a little easier for the patients. Also, trying to exercise daily, even if in small amounts, can help with losing weight.

Moreover, it is important for even those not diagnosed with Alzheimer's disease to understand how obesity can lead to developing this condition. Therefore, not only do obese Alzheimer's patients need to be educated, but in general, obese people should be informed of the effects. This way, obese people can try and prevent this risk of developing Alzheimer's disease

through altering their diet to reduce certain fatty and sugary foods and exercising more. Especially since they may be uneducated about the fact that their weight could cause severe health problems for them in the future.



PREVENTING ALZHEIMER'S THROUGH THE USE OF DIETARY SUPPLEMENTS

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Alzheimer's disease is a neurodegenerative disorder typically found in the elderly population and can lead to symptoms of memory loss, confusion, and loss of cognitive abilities. This study analyzes the dietary supplements that can and can not prevent this disorder from progressing and worsening. Additionally, the study looks at confounding variables that may make it difficult to see whether these diets are beneficial for Alzheimer's patients. It also describes what programs can be implemented in order to educate people about the dietary supplements that can help those with Alzheimer's disease.