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The Mind is Forgetful, Health is Not

Alzheimer’s disease is linked to dementia, it is recognized as a common form of this mental state. Alzheimer’s is the loss of cognitive process ability in coherent ways. It impairs retention on multiple levels: memory, thought, and behavior. As a result, it causes interference with a person’s daily life activities. It limits the mind and direction of thought.

Alzheimer's is linked primarily to old age due to the mental fragility and anatomy an older person exhibits vs a younger individual. Common age for Alzheimer's diagnosis is usually on people over the age of 65. The Alzheimer’s Association reports that one out of 10 adults over the age of 65 have Alzheimer's (10 %). Over 5.5 million Americans living in the United States are affected by Alzheimer’s disease. 5.3 million people over the age of 65 and approximately 200,000 are under the age of 65 are estimated to be affected by this disease. The ration is high for older individuals but is not limited to affecting younger folk.

Alzheimer's follows a pattern in terms of disease progression on an individual, mental and physical. It is a slow progressing disease that has three general stages (Mild, Moderate and Severe). Though memory loss is most associated with Alzheimer's, the intersectionalities of this disease are vast and irreversible. Unlike memory loss due to old aging, Alzheimer’s camouflages itself within an individual in the likes of appearing as such. It advances over time and “rewires” one’s brain way before signs of the disease become noticeable.

Ways to differentiate natural memory loss vs Alzheimer’s is that people who are aging typically forget things but tend to remember them later on. This goes back and forth, it is a process. Alzheimer's only goes in one irreversible direction. Memory loss in aging adults is different from Alzheimer's in the way that they are aware of their forgetfulness not subject to it. The line is difficult to draw when similarities clash and age becomes an unreliable factor.

Aging adults experience loss of memory in different ways one of Alzheimer’s does. Examples for aging adults include not being able to remember detailed conversations/events, names of acquaintances, and occasionally forgetting something (importance varies) vs someone with Alzheimer’s and them not being able to recall recent conversations/events, not recognizing/remembering the name of family members, and demonstrating unawareness of this loss. The primary reason for these examples are to highlight awareness of memory loss. People with this disease lose awareness and focus of their past experiences, common information (relevance/connection to them) and of their immediate surroundings.

Heather Snyder, a Senior Associate Director for the Alzheimer’s Association, shares in her article, “Alzheimer’s Vs. Normal Aging: How to tell the difference,” a contrasting comparison between memory loss due to old age and Alzheimer’s. She says, “Memory loss due to aging is like forgetting to pay a monthly bill. While Alzheimer’s is forgetting how to pay your bill or how to manage your budget.” Again, awareness is highlighted and noted to be the biggest divide between these two groups.

This disease is hereditary, it can be passed down genetically. There exists a higher likelihood for one to be diagnosed with Alzheimer’s if a family member has been diagnosed previous. This is a growing statistic.

This statistic has had great impact on my legacy. I have a long family history of family members diagnosed with this neurological disorder. My great grandfather passed away from Alzheimer’s disease on March 7, 2007. By the time his decline in health was noted, he was already in moderate decline. This disease slowly ate away his mental state, he lost his identity.

The origin of Alzheimer’s is something scientists continue to question to this day. Development and cause are primary questions but also the possible cure to this disease are topics that scientists hope to answer one day. With a disease like Alzheimer’s, the complexity paired with our current technology are not sufficient yet to solve. Also, correlate it with the human mind and brain, we are brought to square one.

The human brain is a very complex organ that is made up of over 100 billion nerve cells. These cells, also known as neurons, are all connected and form a communication network. One’s ability to perform stems from the wiring of our brains. Some of these jobs involve the ability to think, hear, smell, touch, see, and etc.

Like every other cell in the body, nerve cells operate by receiving glucose and oxygen as a fuel source for there cellular activities, each neuron in the brain has a specific shape that determines its job, they also generate energy in order to send and receive electrical signals throughout the body and brain. As a cell in the body metabolizes (chemical reactions to maintain life) they produce waste products that are secreted by the cell into the body’s internal environment and out to the external environment.

We have yet to comprehend Alzheimer’s and its causes but experts believe this disease is a mixture of genetics, lifestyle and environment factors which have an influence on the brains development over time.

Mayo Clinic expands on Alzheimer negative effects. They found that Alzheimer’s disease kills off brain cells and as a result, the connections between the neurons shorten. This decreases the size of the brain and response to stimuli become clouded. It was shared that when doctors examined brain tissue from Alzheimer's patients, two abnormalities were found. Plaques and Tangles that are prime suspects in damaging and killing off brain cells. Plaques are deposits of protein fragments often called Beta-Amyloid that like to develop in spaces between connecting nerve cells. Tangles are protein fibers that are twisted around that build up inside nerve cells. Often called Tau.

Plaque tends to destroy brain cells by interfering with the cells communication system by blocking synapses signals from traveling from cell to cell. They can also trigger immune system cells that inflame and devour disabled brain cells.

In healthy cells, Tangles supports the internal cell by helping the transport system carry out nutrients and other essential materials throughout the cell. In dying nerve cells Tangles form twisted strands that disintegrates the transport system. The nerve cell eventually dies due to the lack of nutrients and essential materials being transported throughout the cell.

Plaque and tangle are developed in aging adults but those with Alzheimer’s tend to develop higher amounts than what is considered regular. The plaques and tangles first develop in areas that are important for memory/learning and will spread to different regions of the brain.

Cell development, protein production in the brain, strokes, high blood pressure, viral infections, altered blood lipoprotein composition, obesity, diabetes and high free radical levels are all various causes for Alzheimer’s Disease. Wardlaw says, “Preventive measures for Alzheimer’s disease focus on maintaining brain activity through lifelong learning, eating a diet rich in fruit and vegetables, and taking ibuprofen.” There are various causes, but only minimal preventive measures.

Currently, preventive measures for developing Alzheimer’s disease are being investigated. There are no major diets a person with Alzheimer’s disease can be on, but by doctor recommendation, good nutrition and exercise can ease some of the symptoms and help the person feel better.

Also, an increase in oxidative stress can cause major initiating to the neurodegeneration of Alzheimer’s disease. Meaning, that receiving enough antioxidant nutrients can help protect the body from the damages of free radicals, these are nutrients such as vitamin E, selenium and vitamin C.

It has been proven that adopting to a healthier eating habits can be beneficial for the body and the mind. adapting to a low saturated fat, trans fat, and cholesterol diet can reduce heart disease and may also be able to reduce the risks of developing a neurological disorder. Despite Alzheimer’s being hereditary, there are life choices that can place a person more vulnerable to being diagnosed with Alzheimer’s. This is why it is important for individuals to look outside the box for preventative measures. One of the options if for an individual to have a diet rich in Omega-3 fatty acids. This can reduce the risk of developing Alzheimer’s disease. Wardlaw says, “Dietary intakes of those with Alzheimer’s disease are poor, compared with those of a similar age without this disease.” Meaning that Alzheimer’s goes beyond just genetics.

Some preventative measures do not have sufficient evidence to be considered preventative, but there are recommendations by health professionals that are can be considered a possibility. For example, there is no evidence that suggests that exercise plays a preventive role against Alzheimer’s disease but regular physical activity has been proven to increase the endurance of cells and tissues against oxidative stress, it has also improved the rates of energy metabolism, and neurotropic synthesis which are all important in memory improvement, brain plasticity and neurogenesis. Sometimes the best counter to such a complex disease is to stay with the basic knowledge and fortify the body with known and reliable information. There is currently no cure for Alzheimer’s but there are treatment options available that may help with cognitive and behavioral symptoms.

In the brain, neurons build a network system to communicate, the process is done through synapsing, which is when tiny burst of chemicals (neurotransmitters) carry out information from one cell to another. Alzheimer’s disrupts this process. Treatment exists, not for Alzheimer’s but for some of the effects caused by this disease. There are currently two available drugs that can help support the communication networks that are disrupted by Alzheimer’s. These drugs do not cure or stop the rate of the disease from progressing but it can slow down the process.

Alzheimer’s is complex in its entirety. Technology has permitted us to understand the drawbacks and symptoms to this disease, but not the entirety of its effect on the human brain. We have yet to comprehend the human brain for what it is, but technology and medical research continue to evolve every day. My family’s legacy is familiar with Alzheimer’s, I myself am vulnerable to being diagnosed with it. I find that the efforts in place to further understand this disease are a step in the right direction. The statistic for people being diagnosed continues to grow, it is slowly eating away at people’s brain and mind. Which is why people must start taking into consideration their current health and take action to ensure they remain healthy. As mentioned previously, the best way to combat a complex disease is to turn to the basic platform for healthy health.

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