

# Multiple Sclerosis

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## **Abstract:**

Multiple Sclerosis, MS, is a chronic neurological disorder in the brain and spinal cord involving inflammation and demyelination of the central nervous system. At age 26, Patient X went to the doctor because he was experiencing vision problems and numbness in his legs. The doctor suspected that the patient could have MS. After the doctor ran several tests, patient X was diagnosed with MS.

## **Assignment:**

The goal of this assignment was to conduct research on a disease or disorder and create a case study of a patient who was diagnosed with it. This was for BBH 411W, short paper 1.

## **Disclaimer:**

The purpose of writing the writing is to fulfill course requirements for BBH 411W and to stand as a personal writing sample, but the findings should not be treated as generalizable research.

Multiple Sclerosis, also known as MS, is a very serious and common disease in the United States. MS is a chronic neurological disorder in the brain and spinal cord involving inflammation and demyelination of the central nervous system (Gilden, 2005). This disease can cause changes in the autonomic, motor, sensory, and visual systems. Before being diagnosed, common symptoms patients start to recognize include blurred vision, balance problems, numbness and tingling, fatigue, and muscle spasms (Compston, 2008). There are no tests that directly confirm MS, making the diagnosis difficult. However, there are a variety of ways to evaluate the physical, psychological, and sensory aspects impacted by MS. A patient can find out if they meet the criteria by having a MRI, cerebral fluid analysis, or a test to measure brain electrical activity (Compston, 2008).

The specific cause for MS is not known. Scientists are still conducting studies to figure out its exact etiology. MS is an autoimmune disease, which means the body's immune system attacks itself (National Multiple Sclerosis Society, 2015). Studies on demographics have shown that MS is 3x more common in women than men. Researchers believe certain hormone levels found in women increase their susceptibility to MS. It is also more common among Caucasians (Noonan et al, 2010). Some evidence has shown people who get more sun exposure are less likely to develop MS than people with less sun exposure. This evidence shows that exposure to Vitamin D from the sun may play a role in the development of MS. High vitamin D levels are thought to have protective factors against immune-mediated diseases (National Multiple Sclerosis Society, 2015). Genetics may also play a role in the development of MS. Having a relative with MS makes a patient more susceptible

to developing it (Gilden, 2005). All of these theories are currently being looked into and researchers are trying to conclude what immunologic, environmental, infectious, and genetic factors cause MS (National Multiple Sclerosis Society, 2015).

Patient X is a 28-year-old white male from Colorado, who was diagnosed with MS at age 26. He is student enrolled in a masters program at Temple University, located in Pennsylvania. He spends most of his time focused on school and studying. While attending Temple, he lives off campus and does a lot of commuting to class. Before being diagnosed, patient X had an unhealthy lifestyle. He was very inactive, ate fast food almost 4 times a week, consumed large amounts of alcohol on the weekends, and occasionally smoked cigarettes. He went to the doctor's office when he started to experience vision problems and numbness in his legs. Patient X had no previous history of neurological problems or family history of MS. The doctor performed a series of tests to evaluate if he met the criteria for MS. After examining the results, the doctor diagnosed him with MS. The doctor warned him that his case of MS might be severe.

Most patients get diagnosed with MS from ages 20 to 50. The prognosis may differ in severe cases, but in most cases patients experience a normal life span. Depending on the severity, a patient's quality of life can be affected. As the disease progresses, a patient may become disabled. They may eventually need to use a wheelchair, crutches, or a cane to move around. The type of prognosis varies from person to person (Simone et al, 2002). Patient X's MS progressed fast and left him disabled. At age 27, he started to lose his ability to walk. Now at age of 28, patient X needs a motorized wheelchair to get around. He is also losing the ability to use his

arms because of muscle stiffness. He needs assistance getting dressed, making meals, and transporting himself from his wheelchair. Patient X needs the help of a caregiver every morning and night to help him with tasks he cannot do himself. His prognosis is worse than most people with MS and it may leave him bedridden.

It is important to start to take treatment measures early on in the disease. Even though MS is a permanent disease, there are many different medical treatments to prevent relapse, relax muscles, prevent attack on myelin, and stop fatigue. Physical therapy is also recommended to stretch and strengthen the muscles. Using a mobility aid such as crutches may help with muscle weakness (Montalbon, 2007). Patient X takes many treatment measures for his MS. He takes Novantrone, a medication to reduce disability, goes to physical therapy, and takes muscle relaxants to help with the stiffness of his muscles. Patient X has also changed to a healthier lifestyle. He eats healthier, stretches everyday, stopped smoking, and sees his doctor many times a month to keep his MS in check. Eating healthier increased his energy, productivity, and mood. After he stopped smoking for about a month, he was able to breathe better and no longer experienced shortness of breath. Eating healthier and quitting smoking do not directly treat MS, but increase life expectancy and decrease the risk of further complications. A patient should consult with their doctor to figure out what treatment plan would be best for their MS.

## Works Cited

### Journal Articles

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### Websites

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