Genetic Link to Schizophrenia

Schizophrenia is a mental illness that is characterized by powerful hallucinations and delusions which can cause an inability to function. The illness also reduces the life expectancy of those suffering from it by up to 15 years (2). In the article "Researchers Identify New Genetic Link to Schizophrenia", which was published in *The Washington Post*, a new study about the genetic link to the illness is discussed. In the study, it was found that mutations in ten genes in the human genome can make a person 10, 20, or even 50 times more susceptible to developing the disorder (1).

The article goes on to discuss that this discovery can provide new therapies for those suffering from the disease. It is also noted that the research on the genetic link to schizophrenia is still in its early stages and it is unknown when or how the benefits related to this research can be used to help those suffering from the illness. Studies into the genetic link to schizophrenia would not be possible without the recent breakthroughs made in sequencing the human genome. Ten years ago, this type of breakthrough would not be possible.

The information in this article is supported by the review article "The 14-3-3 Protein Family and Schizophrenia". This article details the finding of multiple studies that have concluded there is a genetic link to schizophrenia. The article discusses that although there seem to be many different gene mutations that can lead to the disorder, further research has been able to pinpoint proteins that may specifically cause the disorder if a mutation occurs. Human DNA codes the proteins made by the cells of the body. If a mutation occurs on a gene, the code for the protein is altered, ultimately altering the shape and or function of the protein.

One of the studies highlighted in the review article was the 2017 study that showed those with intellectual handicaps such as autism spectrum disorder and schizophrenia had a higher number of mutations within the genome. The mutations were on the same set of genes for those with schizophrenia and autism spectrum disorder. The results of this study support the hypothesis that there is a genetic component for the manifestation of schizophrenia and other intellectual disabilities. Another study discussed in the article was a second complementary study with 320,400 people. The article then discusses in detail, a study that compared the same 14-3-3 proteins in mice that had their genome altered to mimic the mutations. The behavior of the mice that had the mutations were observed and found to be like the behavior of those with schizophrenia.

The article in *The Washington Post* relates to genetics because it is a study of the human genome and mutations within it that can cause schizophrenia and other intellectual disabilities. By studying the human genome, researchers have been able to discover the causes of disorders that make life more difficult. With this knowledge, further research is done into the effects of mutations in the human genome. Ultimately, treatment options will be catered to these mutations, increasing the quality of life for those who suffer from schizophrenia and other intellectual disabilities. Studies like the one discussed in the article help researchers better understand the way the human genome and the mutations that occur within it affect the function of the human body.

References

1. Bernstein, Larry. Researchers identify new genetic link to schizophrenia. *The Washington Post.* https://www.washingtonpost.com/health/2022/04/06/schizophrenia-genetic-link/ (2022).
2. Navarrete, M. Zhou, Yi. The 14-3-3 Protein Family and Schizophrenia. *Frontiers in Molecular Neuroscience.* 10.3389/fnmol.2022.857495 (2022).