

EPILEPSY AND PHYSIOLOGY

Many people believe epilepsy is a disease that has no cure, and it can stop one from achieving his or her goals in life. However, epilepsy is not a disease, but a disorder that occurs due to abnormalities in the brain wiring as a result of excessive electrical activities. It can also be traced back to the brain trying to repair itself after a head injury, or a stroke. Medically, it has been proven that there are many reasons why people suffer from this disorder, and the consequences can be devastating on individuals, families, and friends of people who suffer from epilepsy.

First of all, how and where does epilepsy originate from? Epilepsy is a brain disorder which has been in existence for over three thousand years, and it was also called “the falling sickness”. It can be traced back to the ancient Greeks and Egyptians who believed that people suffer from this disorder as a result of the gods and goddesses who are angry with people who disobey them. According to the ancient Roman, they also believed that epilepsy is a disorder caused by demonic attack, and it is contagious. (History of Epilepsy 2). However, the modern time neurologists have discovered that epilepsy is a neurological disorder that occurs in the brain as a result of abnormal brain wiring. According to the article posted on March 27, 2008 by the NIH, it was estimated that over two million people in the United States are affected by this disorder, and they are yet to get a cure.

One of the major short term causes of epilepsy is brain injury. This occurs when proper preventive measures such as wearing of seat belts in cars, wearing of helmets when playing harmful competitive games, or riding a motorcycle are not taken in to proper consideration. In addition, when children are allowed to hit their head on hard objects, this can lead to damage in the brain, or cause any form of brain injury. Another short term cause is that this disorder can also come into existence after one is recovering from a long time stroke. In an attempt of the brain trying to repair itself, it may unintentionally develop some abnormal nerve connections that lead to epilepsy, which may increase the risk of cognitive impairment. In addition, exposure to chemicals, and many other toxic materials can also lead to epilepsy in that some damages can be done to the brain as a result of poison inhaled from the chemicals (National Institute of Neurological Disorder and Stroke 4). Although it is commonly accepted that a remote cause can result in epilepsy, however, there is no agreement on how extensive the injury must be.

A major long term cause is genetic factors. Some types of epilepsy can be traced back to genes inherited from parents by their children. According to researches carried out, it was estimated that over 500 genes could contribute to the disorder. (National Institute of Neurological Disorder and Stroke 3). These defective genes can be as a result of improper development of enzymes that regulates the breaking down of protein in the body. It was also established that another gene which is altered in a severe form of epilepsy called “Lafora” can be linked to genes that help in breaking down of carbohydrates in the body. A second long term cause is lack of proper pre-natal care leading to brain disorder. A situation where the mother of an unborn child do not take

proper care of herself by taking some precautions before and during conception can lead to improper development in the brain of the fetus. On the other hand, deformities can also occur when the fetus has not yet fully developed his brain, and these deformities can be as a result of the mother of the unborn child engaging in activities such as smoking, alcoholism, taking of harmful drugs like cocaine, and bootleg drugs. Poor nutrition and oxygen is another important factor that may cause deformity in the brain of a baby. All these may lead to abnormalities in the genes that control development and it results to epilepsy.

Just as epilepsy has its causes, there are also consequences which are associated with it. One of the immediate effects of epilepsy is emotional instability. Someone who has epilepsy will always find it difficult to maintain a good emotional standing because of the embarrassment and frustration associated with the disorder. Emotional problems such as depression might set in as a result of the fear of the possibility of uncontrollable seizures that throws one off balance at any point. Also, “fear of death along with the physical anxiety of going into seizure often leads to significant emotional struggles” (The Emotional Effects of Epilepsy 1). In addition, it becomes a difficult thing for someone with this disorder to maintain a good relationship with friends and families who do not understand what it takes to live with this disorder. People living with epilepsy frequently encounter sexual difficulties, and one of the commonest sexual effects of epilepsy is the decrease or loss of desire.

A long term effect of epilepsy is it can stop one from having a fulfilling social life. Another long term consequence of epilepsy is that the abnormalities developed in the brain, activates a version of the gene that builds resistance to drugs. This may prevent the

effectiveness of medications in the body because the brain has developed some anti bodies to drugs. There are other side effects such as learning disabilities, low self esteem, and increase in the number of seizures as a result of the type of medications used by people suffering from the disorder. In addition, there is a law preventing people with epilepsy from driving, and this is a limitation on the social life of people suffering from the disorder (The Emotional Effect of Epilepsy 3). Despite all of these causes and the effects of the disorder there are possible solutions, depending on what extent one is will to go and get help.

After the research has been conducted, there many suggested and proven solutions out of which the following are chosen to be the best. The best of all the solutions is the adoption of the help of therapists and control diet which has no side effects on the patient, but helps the individual and the family of people suffering form the disorder to get a lasting solution to the predicament. Another solution is the use of medications. This solution has a lot of side effects on both the individual and family of persons suffering from the disorder. Although many people believe that the having a surgery to remove the part of the brain affected seem to be the best solution, however, the consequence of this solution is the worst of all. All of these solutions are good, but the help of a therapist and the adoption of control diet is the best of all the workable solutions.

First of all, the best way of helping a patient suffering from epilepsy is the adoption of the help of a therapist and selection of diets call the “ketogenic diet”. The therapist helps the patient discover the type of epilepsy by checking the medical records and background. Having discover what type of epilepsy, then the therapist takes a

step further by educating the patient on the signs to watch out for when a seizure is about to occur and tells the patient what to do in order to stop, or prevent the seizure from occurring. In addition, the cost of employing the help of a therapist and control diet is less expensive compared to the use of drugs and surgery. A recent posting at Ninds.nih.gov, for example, show a study of group of 150 children whose parents adopted the use of a control diet; 90 percent of the children were seizure free after the adoption of the “ketogenic diet”. In this case, patients are place strictly on diets that are high in fats and low in carbohydrates, and these helps the body to break down fatty food easily instead of carbohydrate. As a result, the brain has less work to do. To me, these seem to be a very good result compared to the use of medication that one has to continue to use for as long as the seizure continues. Therapists also educate families of people suffering from epilepsy to be loving, supportive, and positive about life. The effectiveness of therapists and control diet is the best in that it less expensive and stress free for both individuals suffering from the disorder and their families compared to the use of medications. (The New England Journal of Medicine 1).

Another solution is the use of drugs; many people adopt this solution because it is within their reach. Although the treatment of epilepsy with the use of drugs seems to be the oldest of all the solutions to the disorder, researchers have proved it not to be the best solution. Despite more than a dozen medications are currently approved for the treatment of epilepsy, the fact remains that these drugs have it side effects. Some of the side effects are weight gain, dizziness, and the worst of all is some people experience continues seizures after taking some medications. Finding the right medication and the right dosage can be complex. Patient has to visit the doctors regularly and these cost more. The use of

drugs can also cause the patient some emotional pain like depression. Furthermore, there are some epileptic drugs that cause a further damage on the neurons which might lead to slurring of speech, double vision, and change in mood (Epilepsy Foundation¹). Even though, people take this medication, it seems not to work too well with their body; therefore, they feel discouraged because it is not working as expected.

The last solution is the surgery. This is consider to be the least of the available solutions because is very expensive and complicated. Epileptic surgery has to do with the brain and the slightest mistake made during the process might cost the person his or her life, or it might cause a further damage to the brain that can lead to mental retardation to the individual involved. Also, this takes more time and money because patient has to be under observation in the hospital for some time before the surgery and after the surgery has taken place (National Institute of Neurological Disorder and Stroke 10). Regardless of the cost involved in this method of treating people who are epileptic, the fact remains that surgery is the most dangerous of all the solutions.

In conclusion, epilepsy is a disorder that has many possible causes which are head injury, genetic factors, and improper pre-natal care. Each of these causes has effects that are associated to it. This disorder can only be control by surgery, drugs and help from the therapists which is the cheapest and the most effective of all the solutions. Thus, the condition does have some impact on the daily life of people with epilepsy, their families, and their friends. Despite all the causes and effects, the fact remains that the disorder can not stop one from achieving his or her goals in life.

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