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## Fatigue and Zika virus associated: Neurological diseases

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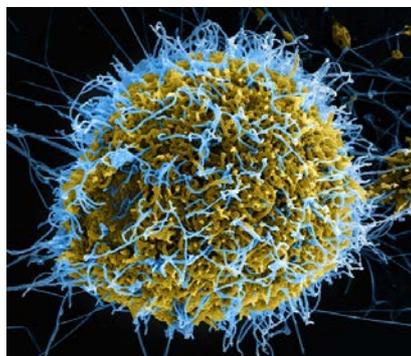
### Abstract

There are many types of diseases which are happening in the world. With the development of science and technology, we have developed a lot but we as a human being might have degraded our peace of mind because we are in the hurry of development and now we are more becoming money centric instead of quality of life centric. Neurological diseases are directly related to brain and its parts. Neurological disorder is related to seizure disorders like epilepsy, stroke, multiple sclerosis, neuromuscular disorders (myasthenia gravis), infections of the nervous system, including encephalitis, meningitis, or brain abscesses, spinal cord disorders, headaches etc. It is found that fatigue, Zika, Dengue all have a relationship with neurological disorder.

**Keywords:** Neurology disorder, Zika virus, fatigue

### Introduction

“It ought to be generally known that the source of our pleasure, merriment, laughter, amusement, as of our grief, pain, anxiety and tears, is none other than the brain”- Hippocrates

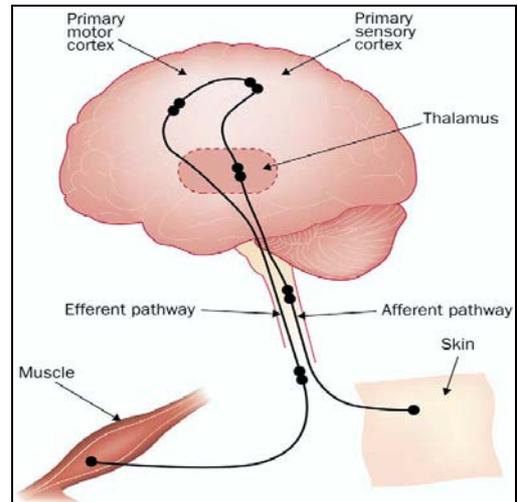
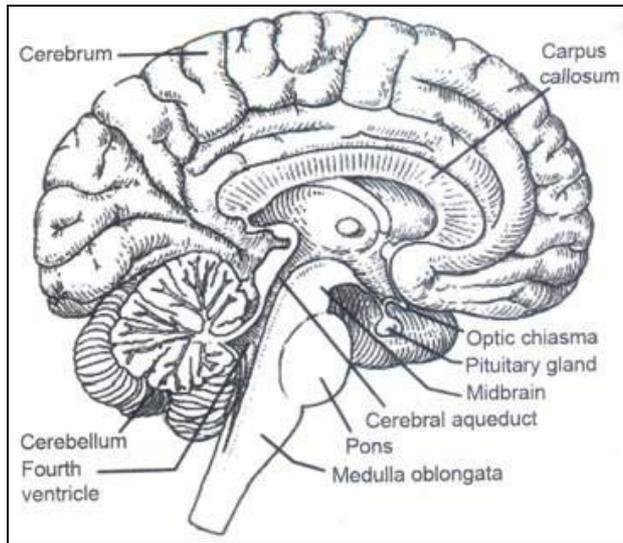


The meaning of neurology is, in Greek neuro means nerve and logy means study, is a branch of medicine dealing with disorders of the nervous system There are many types of diseases which are happening in the world. With the development of science and technology, we have developed a lot but we as a human being might have degraded our peace of mind because we are in the hurry of development and now we are more becoming money centric instead of quality of life centric. Neurological diseases are directly related to brain and its parts. It is well known that our brain has many connections and these connections mainly defines or describe our behavior so we can say that our life is more or less affected by our thinking pattern and whenever we can any disturbance in this arena we become disturbed and starts thinking about many unimportant things. So, we can say that we have to understand this fact very clearly that we are the results of our thoughts. A neurologist is a medical doctor who specializes in treating diseases of the nervous system. The nervous system is made of two parts: the central and peripheral nervous system. It includes the brain and spinal cord. It is found that the central nervous system is made up of the brain and spinal cord. The peripheral nervous system is made up of the nerve fibers that started from the spinal cord and extend to all parts of the body such as the neck and arms, torso, legs, skeletal muscles and internal organs. Sicknesses, disorders, and damages that involve the nervous system often require a neurologist for its management and treatment. Hence in short, we can say that, brain is our central nervous system. Some of the crucial parts of brain shown below.

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In other words, Neurological clutters are ailments of the focal and fringe sensory system. As such, the cerebrum, spinal rope, cranial nerves, fringe nerves, nerve roots, autonomic sensory system, neuromuscular intersection, and muscles. These clutters incorporate epilepsy, Alzheimer malady and different dementias, cerebrovascular illnesses including stroke, headache and other migraine issue, various sclerosis, Parkinson's sickness, neuroinfectious, cerebrum tumors, awful scatters of the sensory system because of head injury, and neurological issue because of lack of healthy sustenance.

There are physical symptoms of neurological issues; halfway or finish loss of motion, muscle shortcoming, halfway or finish loss of sensation, Seizures, Trouble perusing and composing, Poor subjective capacities, Unexplained torment, Diminished readiness. In this paper we will discuss two main neurological disorders; one is chronic fatigue and another one is zika virus.

### Chronic fatigue

**Symptoms and Cures:** Chronic fatigue is an ordinary indication of neurological sicknesses and is most handicapping in various sclerosis. The perception of fatigue is particular. There is no exact definition exists about fatigue. Because of overlap between the view of tiredness and the clinically relevant symptom of fatigue. Let's us firstly know what fatigue is basically is? Trouble in commencement of or supporting intentional exercises. In the event that the movement is connected to a reward-eg, winning a race-at that point weakness could be pleasurable. Word Chronic is related with time so whenever we feel that we have lack of participation in voluntary activities over the time then we call it as chronic disease. Fatigue is also seen in diseases that affect the central, peripheral, and autonomic Nervous systems. Our voluntary activity depends on the horizontal flow of nerve impulses in the major sensory and motor systems. Sensory signals from skin, cardiorespiratory systems, muscles, and joints, and special from (skin, eyes, and ears), provide afferent input. After mental processing of this information, the primary motor cortex activates brainstem motor nuclei and anterior horn cells in the spinal cord (efferent pathway). Signal from lower motor neurons reaches muscle through peripheral nerves and the neuromuscular junction as shown in figure. Within the muscle, chemical energy for contraction is provided by a series of metabolic events.

### Clinical Method to fight against fatigue

Exhaustion isn't particular to the basic clinical disorder: thus, an organized approach is fundamental for suitable evaluation of a patient who presents with incessant exhaustion. With couple of special cases, beginning audit of these patients will happen in essential care. Early muscle fatigability is run of the mill in myopathy disarranges, deserts in neuromuscular intersection transmission (myasthenic disorders), maladies of fringe nerves, and lower engine neurons. In such cases, diminishment of muscle compel yield is typically connected with muscle shortcoming, which has been called muscle weariness or myopathic fatigue. Peripheral weakness could be an proper term for muscle fatigability because of disarranges of muscle and neuromuscular intersection. Objective decrease in engine control in muscle fatigability can be estimated as the rate of decrease in top power produced amid most extreme intentional muscle constriction. This weakness can be available in disarranges of the fringe, autonomic, and focal sensory system.

Numerous specialists want to conjure a mental clarification for weakness when patient's side effects don't fit a regular medicinal or neurological indicative class. Great depictions of major mental issue have been predictable, and when a patient with exhaustion splendidly fits criteria for a mental disorder. one can surely believe in the conclusion. Be that as it may, when a patient's manifestations or clinical course don't fit indicative criteria, one should be cautious. It is reported that cerebrum inferred focal weakness is identified with circuits that associate basal ganglia, amygdala, thalamus, and frontal cortex. To infer that exhaustion is a restoratively unexplained, non-natural indication in patients who don't have an essential mental. It is found that many doctors prefer to invoke a psychiatric explanation for fatigue when patient's symptoms do not fit a typical medical or neurological diagnostic category.

### Zika Virus

Zika virus-associated neurological Disorders such as Congenital ZIKV syndrome and Guillain-Barre' syndrome. Zika virus is transmitted by mosquitoes of the Aedes species. Now it is spreading rapidly throughout the Americas and the ongoing Brazilian rash. In addition to acute febrile illness a number of neurological manifestations being associated with infection, mainly microcephaly and Guillain-Barre syndrome. Zika virus has been shown to be transmitted perinatally and the virus can be detected in amniotic fluid, placenta and

foetus brain tissue. In case of Zika Virus, it is reported that there is a significant increase in Guillain-Barre disorder. Some studies have recommended a clear relationship between Zika virus infection and certain neurological conditions. ZIKV (Zika virus) is a member of the genus *Flavivirus* of the *Flaviviridae* family, which is delegated an arthropodborne (arbovirus) and incorporates Dengue (DENV), West Nile (WNV), Yellow Fever (YFV), and Japanese Encephalitis (JEV) infections, among others. Another arbovirus, the Chikungunya infection (CHIKV), despite the fact that it is from an alternate family (*Togaviridae*), causes comparable indications to DENV and ZIKV.

### **Congenital ZIKV syndrome**

Inherent ZIKV disorder Microcephaly is a successive clinical sign basic in numerous uncommon hereditary ailments and can likewise be watched following certain intrinsic contaminations. In November 2015 another notice framework was presented in Brazil, which was particular for youngsters with little head boundary estimated during childbirth, following the report that the quantity of microcephaly cases was obviously higher than anticipated in the Upper east locale of the nation. The rise both ZIKV disease in Brazil and the expansion in quantities of inherent microcephaly cases, together with confirmation of perinatal transmission raised the speculation of a connection amongst contamination. In light of this conceivable affiliation, the world health Organisation (WHO) made particular suggestions and the Brazilian Ministry of Health actualized new microcephaly case report definitions.

### **Guillain-Barre´ syndrome (GBS)**

GBS is an immune system neurological complex grasping a few illnesses that offer a few similitudes however which contrast in connection to their basic pathogenesis and clinical indications. Up to this point ZIKV was viewed as an irresistible specialist of moderately minor significance. Be that as it may, there are currently genuine concerns following its fast dispersal that it might be related with genuine neurological intricacies. The general wellbeing and monetary ramifications of this flare-up can't be limited. The crisis of a pandemic of microcephaly is of incredible worry for nations with generally high birth rates and the restorative, prudent and mental weights experienced by families are compounded by sickly wellbeing frameworks, which can't sufficiently manage the present flare-ups. Moreover, moral and social ramifications must be thought about, especially in nations in which premature birth is confined to exceptionally particular conditions or even completely disallowed. The outcomes of a GBS flare-up are likewise of worry as this may overpower the wellbeing frameworks, which may not be capable to react rapidly and effectively to an expanded populace of patients requiring proceeded with hospitalization bolster what's more, particular and costly medicines. No immunization is accessible against ZIKV, and this and the improvement of new remedial methodologies ought to be one of the needs for future research. Every single potential medication must be alright for use in pregnancy. Meanwhile, need intercessions must incorporate viable new strategies for vector control and all the while, the advancement of better and fast analytic devices. At last, more experience will be expected to see how to best address infant babies with extreme and incapacitating inborn deformities.

### **Conclusion**

Generally, the neurological diseases do not have a identified cause or an effective, consistent cure. The brain is a largely undiscovered object, it is expected that as science advances and research improves, hopefully the mysteries of neuroscience will be unlocked. It is found that sometimes chronic fatigue may be cause of neurological disorder. Zika virus is transmitted by mosquitoes of the *Aedes* species. There is also a relationship between Zika virus and neurological disease.

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