



# Antiepileptic Drug Medication and Vitamin-D Deficiency in Children

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## DESCRIPTION

Epilepsy and other seizure disorders are treated with antiepileptic drugs also they are used to treat illnesses like fibromyalgia, bipolar disorder, nerve pain, migraines, and restless leg syndrome. When a specific kind of medication intended to treat or prevent seizures or convulsions by regulating the brain's aberrant electrical activity. Antiepileptic are wide variety of formulations also known as an anticonvulsant and an anti-seizure drug [1].

Antiepileptic drugs try to prevent seizures rather than treating epilepsy. These drugs aren't actually antiepileptic, anticonvulsant or ant seizure. Antiepileptic drugs do not treat the underlying problem that results in seizures. Antiepileptic drugs are given to people with epilepsy in an effort to reduce the frequency, severity, and length of seizures. Antiepileptic medication is usually prescribed for children with recurrent seizures, ideally after specific epilepsy syndrome diagnosis is made and the risk of subsequent seizures is known. After a single seizure, a specialist may frequently recommend medication, though. Medication for epilepsy is taken orally and went directly to the stomach. Focal seizures generalized tonic clonic seizures, absence seizures, myoclonic, tonic and atonic seizures when these types of seizures commonly prescribed antiepileptic medications are carbamazepine, clobazam, lamotrigine [2].

The child's age and weight are taken into account while determining the recommended dosage. Blood tests are required for children to determine the blood level of various drugs (phenytoin, phenobarbitone, and carbamazepine). Before a medication is administered, these blood levels are typically tested. A good association between drug level and effect does not exist, hence monitoring drug levels is not necessary for all antiepileptic drugs. Antiepileptic drugs are effective, because the brain's regular operation entails communication between millions of nerve cells (neurons). There are neuron cells that are resting, stimulating, or suppressing other nerve cells at any particular time. A nerve cell consists of a cell body, axons, and dendrites, which connect to other neurons at junctions called synapses. Sodium, potassium, and calcium currents cross channels in the nerve cell membrane to produce electrical

impulses that are transmitted from the cell body along the axon to the synapse. When these excitatory and inhibitory pathways in the brain are out of balance, seizures can happen either globally, generalized epilepsy or regionally localized epilepsy, focal epilepsy [3].

Not obtaining enough vitamin D to keep healthy body is referred to as vitamin D deficiency. A crucial nutrient for regulating calcium homeostasis and bone health is vitamin D. Rickets and osteomalacia are both conditions brought on by chronic vitamin D deficiency that affect people of all ages. Hypocalcaemia, which could lead in seizures, may also be related to severe vitamin D deficiency [4]. Children in impoverished communities in resource-constrained nations have these disorders most frequently. If enough vitamin D intake is not ensured by the use of supplements and fortified foods, particularly if exposure to sunshine is restricted and in children with chronic illnesses, rickets can also occur in children in resource-rich countries. The clinical assessment and management of rickets-affected children are discussed separately. Vitamin D deficiency is most frequently lack of proper nutrition on by improper eating. Genetic diseases are another possibility, though this is rare. The conditions are inherited resistance to vitamin D, 1-alpha hydroxylase insufficiency and 25-hydroxylase deficiency [5].

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