

Review Article

‘An Overview Genetics of Inherited Neurological and Non-Neurological Disorders in India’

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Abstract: *Genetics is the study of heredity and the variation of inherited characteristics. Mendel gave the concept of “factor” being transmitted from parents to progeny. These factors are known as genes. The cell is a fundamental unit of the body. The inner material, cytoplasm, consists of a nucleus in the center and many microscopic organelles such as mitochondria, Golgi bodies, centrosome, endoplasmic reticulum, ribosomes, lysosomes which perform specialized functions in the cell. The nucleus containing nucleolus, nucleoplasm and thread like structure i.e. chromatin. The chromosomes are the structural unit of inheritance and carry many genes within them which are functional unit of a character. The locus is the position of chromosome where genes can be located. In human beings, all the genetic information or genome, is distributed between 23 pairs of chromosomes i.e. 46 chromosomes. One of the 23 pairs is the sex chromosome and the other 22 pairs of chromosomes are called autosomes. In autosomes, one set of pair is derived from the mother and another one from the father. The only exemption is the sex chromosomes, which come in two forms: X or Y. The presence of homozygous XX chromosome gives birth to female and the XY composition, i.e. heterozygous chromosome results in males. The YY pair of chromosome does not exist. Males have only one X and therefore, only one set of alleles for all genes on the X, while females have paired alleles on their sex chromosomes. The human genome is made up of deoxyribonucleic acid (DNA), which consists of a long sequence of nucleotide bases of four types: adenine (A), cytosine (C), guanine (G) and thymine (T)..*

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