



# Most Prevalent Neurological Disorders across the Globe

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## Introduction

Clinical neuroscience fields such as neuropsychiatry and behavioural neuroscience focus on the clinical and pathological aspects of brain processes associated to cognition, emotion, and behaviour. Recent advancements in structural and functional brain imaging, clinical electrophysiology, and experimental psychology have aided our understanding of both normal and abnormal cognition, emotion, and behaviour in the clinical neurosciences.

These technologies, as well as the results of their use, complement and extend the essential knowledge base and therapeutic abilities that characterise modern neuropsychiatry and behavioural neurology. The division of psychiatry and neurology reflects the mind-brain dualism, and one of the main goals of this integrative approach is to overcome it. Literature, internet sources, family physicians, and consultants can all help people become more conscious. Open access journals give readers increased visibility and accessibility to the information they need. The results of ongoing research around the world, which are published in open access journals, serve as the primary source of knowledge in a variety of subjects.

A group of physicians and consultants band together to form a society or organisation in order to raise public awareness. The major goal of these organisations is to provide counselling and raise awareness among victims of brain illnesses as well as healthy individuals. The American Neuropsychiatric Association,

for example, works to enhance the lives of people who suffer from illnesses at the intersection of psychiatry and neurology.

By developing, integrating, and distributing research and understanding of the links between brain function and human behaviour, the International Neuropsychiatric Association (INA) works to prevent or decrease the suffering of people with brain-behaviour disorders. The British Neuropsychiatry Association (BNPA) promotes public health by improving health care for people with neuropsychiatric disorders in particular by increasing, integrating, and disseminating knowledge and understanding of the connections between brain function and human behaviour through open learned meetings. From a professional, scientific, and economic standpoint, the EEG and Clinical Neuroscience Society (ECNS) aims to advance the clinical practise of classic Electroencephalography (EEG), Quantitative EEG (QEEG), evoked potentials, magnetoencephalography (MEG), Electroconvulsive Therapy (ECT), Transcranial Magnetic Stimulation (TMS), Deep Brain Stimulation (DBS), polysomnography and EEG Neurofeedback.

In the creation of current psychiatry research, the Journal of Psychiatry includes basic knowledge and delivers cutting-edge research methodologies. The Journal of Psychology and Psychotherapy is a significant source of information on psychology research and treatment methods. The previously described In order to publish a paper, open access cardiology journals must maintain the quality and level of the journal's material, as well as the agreement of reviewers and the appropriate editor. These

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## Neuropsychiatry

Depression, Mania, Schizophrenia, Visual and Auditory hallucination, Obsessive-compulsive disorder, Eating disorder, and other neurological illnesses are among the most frequent. According to the World Health Organization, the United States is one of the most depressed countries on the planet. According to WHO, India, China, and the United States are the countries with the highest rates of anxiety, schizophrenia, and bipolar disorder.

Depression is a mood disorder that affects a person's ideas, behaviour, feelings, and sense of well-being. It causes aversion to activity or sloth. Open access healthcare literature gives information about new research studies that are now being conducted in the modern era. Here is a collection of a few articles that present reports that are competent enough to help a person learn about neurological problems. Cheng-Fang Yen of Taiwan explains a case study in which 10,262 adolescents aged 12-18 years completed research questionnaires that assessed their severity of depression, status of ecstasy use, and history of cannabis use in an article titled *The Relationship between depression and use of ecstasy among adolescents in Taiwan*. Non-users, ex-users, and current users were divided into three categories. Analysis of Covariance (ANCOVA) was used to examine the severity of depression among these three teenage groups, with the history of cannabis use and demographic variables as covariates. Mania is a condition characterised by excessively high levels of arousal, emotion, and energy, or "a state of heightened general activity with greater affective expression and affect lability." Jessica Heron of the United Kingdom wrote a manuscript titled *postpartum hypomania: Future perspectives*, which contains information on hypomanic symptoms.

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## Novel Technologies in Neurology

As the Brain diseases have become more prevalent, there are many scientific professionals are trained especially in detecting, treating and counselling the prevention of Neurological disorders and these professionals are well known as Neurologists. In order to diagnose the condition of

the brain, physicians proceed for imaging which includes Computed axial tomography, Diffuse optical imaging, Event-related optical signal, Magnetic resonance imaging, Functional magnetic resonance imaging, magneto encephalography, Positron emission tomography, Single-photon emission computed tomography, Cranial ultrasound. Other more invasive developments in this field include the electrocardiogram.

Recording electrodes are put beneath the dura with this approach, resulting in a closer proximity of the recording electrode to the brain's surface and a higher signal-to-noise ratio. When compared to EEG, it has a higher spatial and temporal resolution. Due to its flexible structure, a flexible sub-dural neural implant, also known as an electronic dura mater, is better able to control brain signals without inflicting tissue injury, according to new discoveries in this sector. After a paralyzing injury, the electronic dura mater can provide chemical and electrical stimulation to the spinal cord, allowing for regained movement.

The development of syringe injectable micro porous flexible mesh electrodes has advanced the goal of generating minimally invasive electrodes. These sub-micrometre mesh electrodes are injected into the brain and unfold locally, allowing for tight integration with minimal chronic immune reactivity. This group was able to effectively inject the mesh into the hippocampus of a live rodent brain and demonstrate that there was no substantial increase in glial fibrillary acidic protein, which is a marker of unfavourable response to foreign material injection. The mesh also successfully merged into the surrounding extracellular matrix, which includes cells labelled positive for neuronal nuclear antigen, indicating integration with adult neurons.

Neuro-Nanotechnology (NNT) is a rapidly growing discipline whose goal is to create innovative nanostructures that can communicate with the brain. Because nanostructures are of the same order of scale as neuronal biomolecules, this technology is particularly well adapted to neural interfacing. The unique utilisation of magnetic nanoparticles, a chemical that was previously used as a contrast agent in MRI scans and as a cell-destructive therapy in cancer treatment due to its magnetic hyperthermia, is an amazing example. Scientists have been able to achieve quick magneto-thermal modulation of brain activity in vivo using viral vector induced heat-sensitive capsacin receptor expression.