

Mental disorders: Its biological viewpoints and causal factors

Mental disorder is a wide range of conditions that effect mood thinking and behaviour. Mental disorders or mental illness are conditions that effect thinking, feeling ,mood ,and behaviour. They may be occasional or long lasting (chronic).They can affect our ability to relate to others and function each day.

There are different types of mental disorders .Such mental disorders are for eg. mood disorders ,anxiety disorders personality disorders ,psychotic disorders ,eating disorder substances abuse disorders, trauma related disorders and so many.

The traditional biological viewpoints focuses on mental disorders as diseases, many of the primary symptoms of which are cognitive, emotional or behavioral. Mental disorders are thus viewed as disorders of central nervous system, the autonomic nervous system and the endocrine system that are either inherited or caused by some pathological processes.

The disorders first recognised as having biological or organic components are those associated with gross destruction of brain tissue .These disorders are neurological diseases - result from disruption of brain functioning by physical or biochemical means and often involve psychological or behavioral aberrations.For example areas in the brain can cause memory loss and damage to the left hemisphere that occurs during a stroke can cause

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Most mental disorders not caused by neurological damage for example biochemical imbalance in the brain can lead to mental disorders without causing damage to the brain.

Four categories of biological factors that seems relevant to development of normal behaviour are 1neurotransmitter and hormonal imbalance in the brain 2 genetic vulnerabilities 3 temperament and 4 brain dysfunction and Neural plasticity.

NEUROTRANSMITTER IMBALANCE

is only part of the causal pattern involved in the etiology of mental disorders .Norepinephrine has been implicated as playing an important Role in the emergency reaction show when we are exposed to an acutely stressful situations .Dopamine has been implicated in schizophrenia. Serotonin has been found to have important effects on the way we think and process information from our environment. It seems to play an important role in emotional disorders such as anxiety and depression as well as in suicide.

HORMONAL IMBALANCES

Malfunctioning of hypothalamic- -pituitary -adrenal -cortical axis and its negative feedback system has been implicated in forms of pathology and post traumatic stress disorder .Sex hormones are produced by gonadal glands and imbalance in these can also contribute maladaptive behaviour men and women

GENETIC VULNERABILITIES

Research in developmental Genetics has shown that abnormalities in the structure and in the number of chromosomes associated with major defects or disorder .For example mental retardation is a type of mental retardation in which there is a trisomy in chromosome 21. Here the extra chromosome is the primary cause of disorder. Anomalies may also occur in the sex chromosomes ,producing a variety complication such as ambiguous sexual characteristics that may predispose a person to develop abnormal behaviour.

TEMPERAMENT

Temperament refers child reactivity and characteristic way of self-regulation. when we say that babies differ in temperament, we mean that they show differences in their characteristic emotional and arousal responses to various stimuli and in their tendency to approach,withdraw or attend to various situations. Some babies are startled by slight sounds or cry when sunlight hits their faces; others are seemingly insensitive to such stimulation. Starting at about 2 to 3 months of age, approximately five dimensions of temperament can be identified: fearfulness, irritability, and frustration, positive affect, activity level, and attentional persistence. For the adult personality other

dimensions are neuroticism or negative emotionality, extraversion or positive emotionality and constraint.

BRAIN DYSFUNCTION AND NEURAL PLASTICITY

Understanding how more subtle deficiencies of brain structure or function are implicated in many mental disorders have been increasing at a rapid pace in the past few decades. There is considerable neural plasticity, that is flexibility of the brain making changes in organization and function in response to pre- and postnatal experiences, stress, diet, disease, drugs, maturation. Existing neural circuits modified or new neural circuits can be generated. The effects can be either be beneficial or detrimental to the animal or person, depending on the circumstances.