ABSTRACT

Neurotransmitters play a major role in everyday life and functioning. Everything known about human behaviour suggests it is regulated entirely by the human brain. Brain cells (neurons) communicate with one another (synaptic transmission) and with other cells in the body through small molecules called neurotransmitters (NT). NT are released by neurons and picked up by targeted cells through NT receptors (NTR). Increase or decrease in the production of any of these molecules due to any reason can produce profound effects on behaviour. Knowledge of the pathways involved in NT function has allowed development of drugs that modulate these pathways up or down. Scientists do not yet know exactly how many neurotransmitters exist, but more than 200 chemical messengers have been identified.

CHAPTER OUTLINE

- Introduction
- Major neurotransmitters
- Disorders associated with NT systems
- Serotonin
- Glutamate
- Acetylcholine
- Neurotransmitter basis of learning
This chapter highlights the role of neurotransmitters in behavior. It includes specifically neurotransmitters classification according to its chemical structure and mechanism of actions, its types etc. Neurotransmitters mechanism of action in various mental disorders is discussed in details to help reader develop the understanding while dealing such conditions in their practice. Students of clinical psychology discipline will have an organised and important understanding and its use in various conditions, its therapeutic role in treating various anxiety, emotional and behavioral disorders.

INTRODUCTION

Neurotransmitters play a major role in everyday life and functioning. Everything known about human behaviour suggests it is regulated entirely by the human brain. Brain cells (Neurons) communicate with each other (synaptic transmission), and with other cells in the body, through small molecules called neurotransmitters (NT). NT is released by neurons, and is picked up by targeted cells through NT receptors (NTR). Increase or decrease in the production of any of these molecules due to any reasons can produce profound effects on behaviour. Knowledge of the pathways involved in NT function has allowed development of drugs that modulate these pathways up or down. Scientists do not yet know exactly how many neurotransmitters exist, but more than 200 chemical messengers have been identified.

For the simple and better understanding of these functions is presented in the following sections.

There are many different ways to classify neurotransmitters. Dividing them into amino acids, peptides (Snyder & Innis, 1979), and monoamines is sufficient for some classification purposes.
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