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Biography

Dr. Faziola received his MD degree from Creighton University in Omaha, Nebraska, USA, and completed residency training in psychiatry at the University of California at Irvine (UCI), Medical Center, where he joined the clinical faculty. His clinical duties include attending to hospitalized patients in crisis as director of a 19 bed inpatient adult ward, and providing instruction to medical students and resident physicians. He has been involved with clinical research, and has been active in organized psychiatry, where he advocates for more rational and comprehensive services for the mentally ill. As a physician educator, he has been recognized with teaching awards from both the UCI school of medicine and the department of psychiatry.

Research Interests

His research interests are

- Psychiatry and Behavioral Health
- Hospital Psychiatry
- Psychopharmacology for Schizophrenia
- Bipolar Disorder
- Major Depression

Psychopharmacology

- Psychopharmacology is the study of the effects of drugs on affect, cognition, and behaviour
- The term drug has many meanings:
 - Medication to treat a disease
 - A chemical that is likely to be abused
 - An “exogenous” chemical that significantly alters the function of certain bodily cells when taken in relatively low doses (chemical is not required for normal cellular functioning)

Main Psychopharmacological Drugs

- Antipsychotics
- Antidepressants
- Anxiolytics
- Hypnotics
- Cognitives
- Psychostimulants



Neurotransmitters go through 7 steps

1. Synthesis
2. Storage
3. Enzymatic destruction if not stored
4. Exocytosis
5. Termination of release via binding with autoreceptors
6. Binding to receptors
7. Inactivated

1 Neurotransmitter molecules are synthesized from precursors under the influence of enzymes.

2 Neurotransmitter molecules are stored in vesicles.

3 Neurotransmitter molecules that leak from their vesicles are destroyed by enzymes.

4 Action potentials cause vesicles to fuse with the presynaptic membrane and release their neurotransmitter molecules into the synapse.

5 Released neurotransmitter molecules bind with autoreceptors and inhibit subsequent neurotransmitter release.

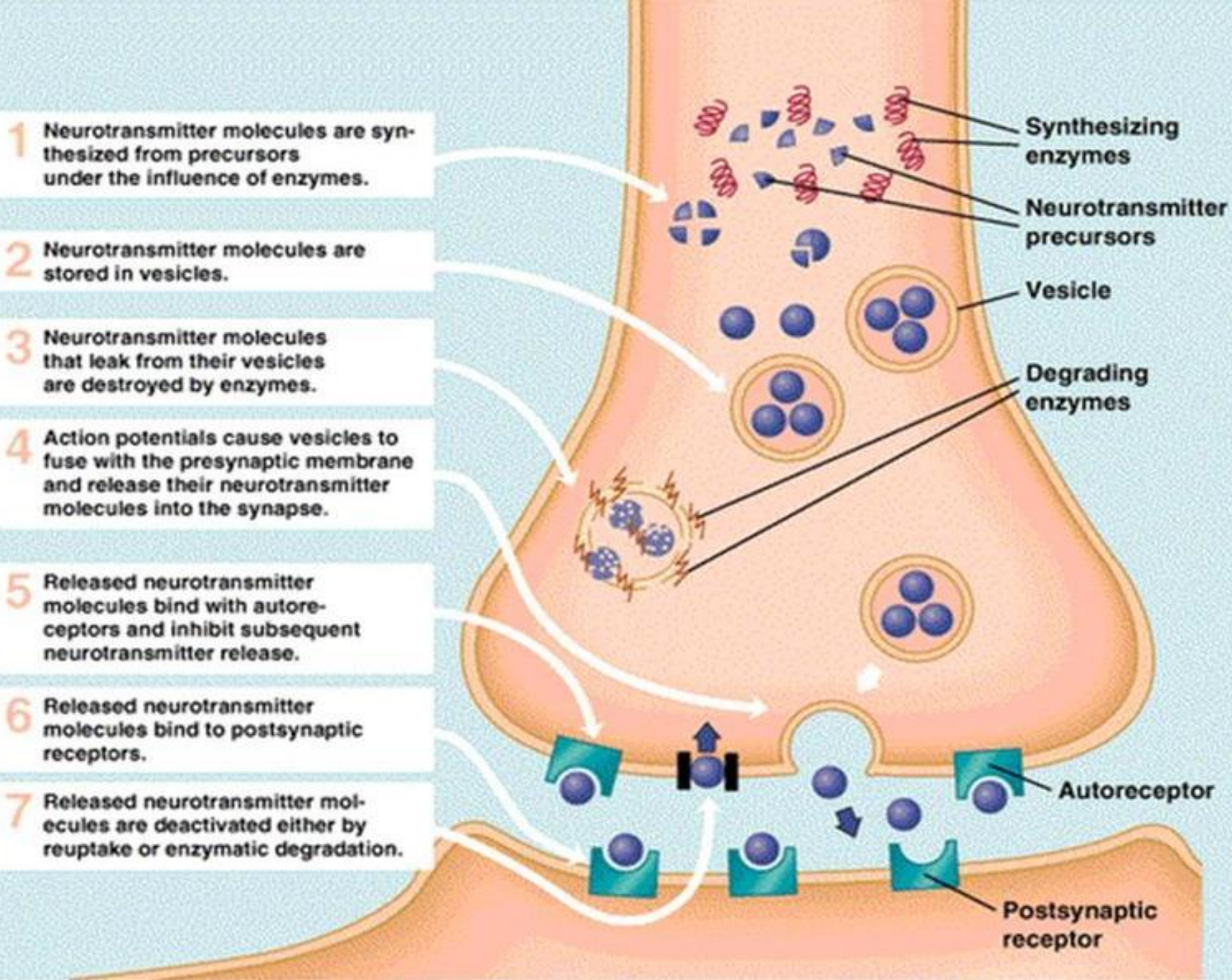
6 Released neurotransmitter molecules bind to postsynaptic receptors.

7 Released neurotransmitter molecules are deactivated either by reuptake or enzymatic degradation.

Synthesizing enzymes
Neurotransmitter precursors
Vesicle
Degrading enzymes

Autoreceptor

Postsynaptic receptor



Mechanism of Drug Action

- Drugs either act as an AGONIST (mimic the NT) or ANTAGONIST (block the NT)
- Drug molecules interact with target sites to effect the nervous system
 - The drug must be absorbed into the bloodstream and then carried to the target site(s)
- Pharmacokinetics is the study of drug absorption, distribution within body, and drug elimination
 - Absorption depends on the route of administration
 - Drug distribution depends on how soluble the drug molecule is in fat (to pass through membranes) and on the extent to which the drug binds to blood proteins (albumin)
 - Drug elimination is accomplished by excretion into urine and/or by inactivation by enzymes in the liver.

Some Mechanisms of Drug Action

Agonistic Drug Effects

Drug increases the synthesis of neurotransmitter molecules (e.g., by increasing the amount of precursor).

Drug increases the number of neurotransmitter molecules by destroying degrading enzymes.

Drug increases the release of neurotransmitter molecules from terminal buttons.

Drug binds to autoreceptors and blocks their inhibitory effect on neurotransmitter release.

Drug binds to postsynaptic receptors and either activates them or increases the effect on them of neurotransmitter molecules.

Drug blocks the deactivation of neurotransmitter molecules by blocking degradation or reuptake.

Antagonistic Drug Effects

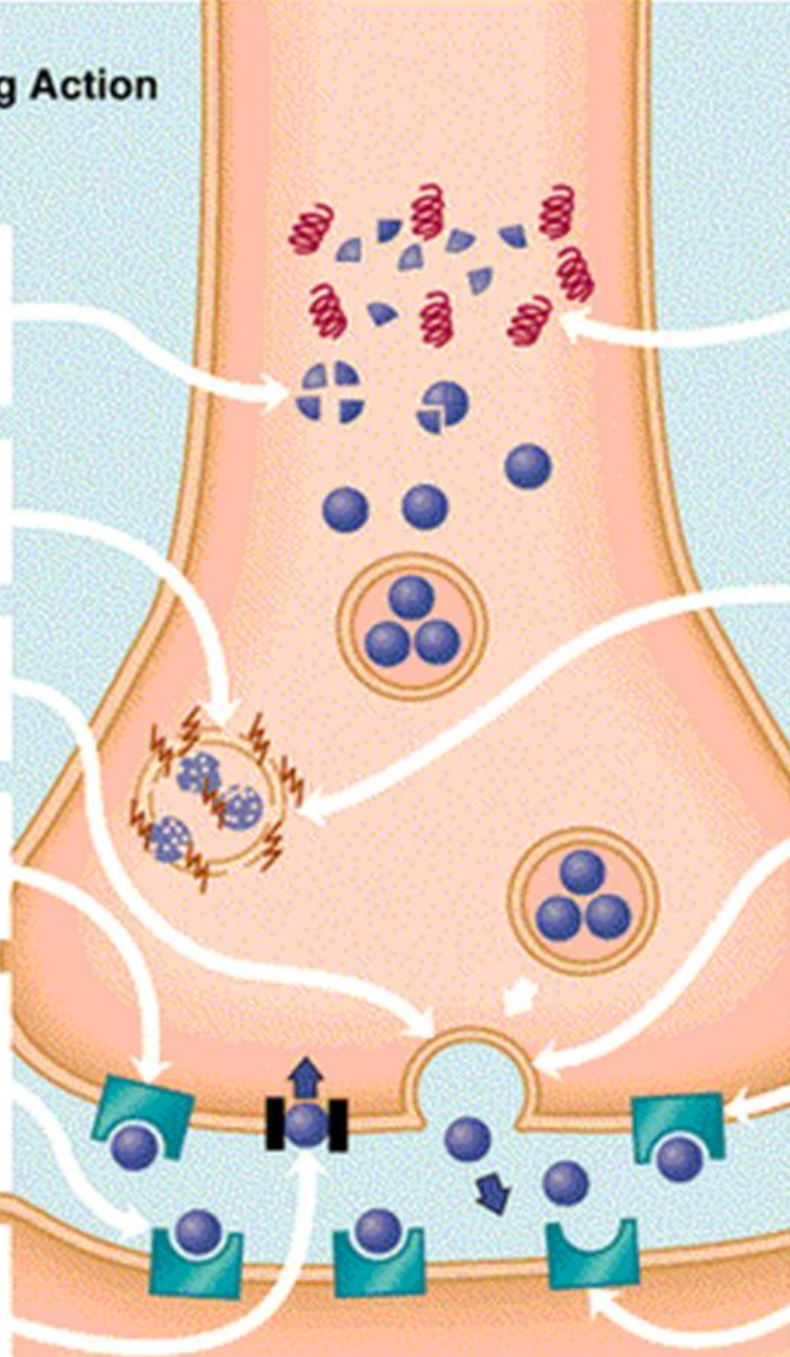
Drug blocks the synthesis of neurotransmitter molecules (e.g., by destroying synthesizing enzymes).

Drug causes the neurotransmitter molecules to leak from the vesicles and be destroyed by degrading enzymes.

Drug blocks the release of the neurotransmitter molecules from terminal buttons.

Drug activates autoreceptors and inhibits neurotransmitter release.

Drug is a receptor blocker; it binds to the postsynaptic receptors and blocks the effect of the neurotransmitter.



Summary of Medications Role in Psychiatry

- Medications are used to treat the symptoms of mental disorders often called as manic-depressive illness. They are part of a comprehensive treatment plan.
- Basic knowledge of medications is important in daily clinical practice. Some medications are used with other treatments such as psychotherapy.

Antipsychotic medications

- Used to treat schizophrenia or schizophrenia-related disorders.
- Conventional "typical" antipsychotics are the first generation and available since the mid-1950's.
- For e.g.: Chlorpromazine (Thorazine), Haloperidol (Haldol), Perphenazine (generic only), Fluphenazine (generic only).
- The new antipsychotic medications or the second generation of antipsychotics were developed in the 1990's and are known as "atypical" antipsychotics.

Source: <http://www.nimh.nih.gov/health/publications/mental-health-medications/index.shtml>

Potential Adverse Effects of Antipsychotic drugs

- Hypotension
- Anticholinergic Effects
- Extrapyrarnidal Symptoms
- Pseudoparkinsonism
- Akathisia
- Dystonic Reactions
- Tardive Dyskinesia
- Hyperprolactinemia
- Sexual Dysfunction
- Agranulocytosis
- Cardiac Arrhythmias
- Seizures
- Metabolic Syndrome Issues

Source: <http://www.ncbi.nlm.nih.gov/pubmed/20187598>

Recent Publication

Converting positive and negative symptom scores between PANSS and SAPS/SANS. Schizophrenia research. 152(1): 289-94

Authors: van Erp TG, Preda A, Nguyen D, Faziola L, Turner J, Bustillo J, Belger A, Lim KO, McEwen S, Voyvodic J

<http://www.ncbi.nlm.nih.gov/pubmed/24332632>

Pharmacovigilance Related Journals

- Journal of Clinical Trials
- Advances in Pharmacoeconomics & Drug Safety
- Journal of Drug Metabolism & Toxicology



Pharmacovigilance Related Conferences

- 5th International Conference and Exhibition on Pharmaceuticals & Novel Drug Delivery Systems
- 5th World Congress on Bioavailability and Bioequivalence: Pharmaceutical R&D Summit
- 3rd International Conference and Exhibition on Pharmacovigilance & Clinical Trials



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