

***Systematic Review of Egyptian
Biological Studies on Psychiatric
Disorders***

Essay

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Neuropsychiatry*

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List of abbreviations

AMI: Acute myocardial infarction

Amp: Amplitude

BEAM: Brain Electrical Activity Mapping.

CVS: Cerebro-Vascular Stroke

CD: Conduct disorder

CARS: Conner's Abbreviated Rating Scale

CPS: Complex-partial seizures

CMCT: Central Motor Conduction Time

CGI: Clinical Global Impression Scale

CARS: Childhood Autism Rating Scale

CPRS-L: Conner's parent rating scale revised; long version.

CHSQ: Children's sleep habit questionnaire.

DEEG: Digital EEG

DSM-IV: Diagnostic and Statistical Manual of Mental Disorders Classification-IV (1994)

DSM-III: Diagnostic and Statistical Manual of Mental Disorders Classification Third Edition.

ECT: Electro-Convulsive therapy

EEG: Electro-encephalogram

ERP: Event Related Potential

EPI: Epinephrine

GHQ: General Health Questionnaire

GME: Grand-mal epilepsy

GAD: Generalized anxiety disorders

GDS: Geriatric depression scale

HDRS: Hamilton Depression Rating Scale

ICD-10: International Classification of Diseases n.10

Lat: Latency

MDD: Major depressive disorder

MPV: Mean platelet volume

MR: Mental retardation
NA: Noradrenaline
NSS: Neurological soft signs.
NE: Nocturnal Enuresis
OCD: Obsessive Compulsive Disorders
PDDs: Pervasive developmental disorders
PRL: Prolactin level
PCS: Post-Concussion Syndrome
PSD: Post-Stroke Depression
PANSS: Positive and Negative Schizophrenia Scale
rCBF: Regional cerebral blood flow
SPECT: Single photon emission computerized tomography
SBIS: Stanford Binet Intelligence Scale
SCAN: Schedules for Clinical Assessment in Neuropsychiatry
TDT: Transmission Disequilibrium Test
TMS: Transcranial Magnetic Stimulation
TEEG: Topographic EEG
TS: Tourette syndrome
VBR: Ventricular brain ratio
Y-BOCS: Yale-Brown obsessive compulsive scale
ZDS: Zagazig Depression Scale

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Introduction

INTRODUCTION

Biological psychiatry is a branch of psychiatry where the focus is chiefly on researching and understanding the biological basis of major mental disorders such as Unipolar and Bipolar Affective (Mood) Disorders, Schizophrenia and organic mental disorders such as Alzheimers Diseases (**Vetulani, 2001**).

This knowledge has been gained using imaging technique, psychopharmacology, neuroimmunochemistry and so on. Discovering the detailed interplay between neurotransmitter and the understanding of the neurotransmitter fingerprint of psychiatric drugs such as Clozapine has been a helpful result of the research. On a research level it includes all possible biological bases of behavior –biochemical, genetic, physiological, neurological and anatomical. On a clinical level, it includes various therapies, such as drugs, diet, avoidance of environmental contaminants, exercise and alleviation of the adverse effects of life stress, all of which can cause a measurable biochemical changes. As the biological psychiatry is an approach to psychiatry that aims to understand mental disorders in terms of the biological function of the nervous system, there is some overlap between the biological psychiatry and neurology, the latter generally focuses on disorders where gross or visible pathology of the nervous system is apparent, such as epilepsy and cerebral palsy (**Whalley et al, 2009**).

The history of the biological field of psychiatry extends back to the ancient Greek physician Hippocrates, but the term biological psychiatry was first used in peer- reviewed scientific literatures in 1953 (**Bennett, 1993**).

In the early 20th century, Sigmund Freud focused on the biological causes of mental illness. Ernst Wilhelm strongly believed that thought and behavior was determined by purely biological factors. Freud initially accepted this and he was convinced that certain drugs (especially the cocaine) functioned as antidepressants. Freud spent many years trying to "reduce" personality to neurology, a cause he later gave up on before developing his now well-known psychoanalytic theories. Nearly 100 years ago, Harvey Cushing, the father of neurosurgery, noted that pituitary gland problems often cause mental health disorders. He wondered whether the depression and anxiety be observed in patients with pituitary disorders were caused by hormonal abnormalities, the physical tumor itself or both. In the mid 20th century, an important point in modern history of biological psychiatry was discovery of modern antipsychotic and antidepressant drugs. Chlorpromazine, an antipsychotic, was first synthesized in 1950, and 1959 the first tricyclic antidepressant was developed. Research on the action of these drugs led to the first modern biological theory of mental health disorders called the Catecholamine theory, later broadened to the Monoamine theory, which included serotonin. These were called the "Chemical imbalance" theory of mental health disorders (**Brett, 1991**).

In the late 20th century, starting with fluoxetine in 1988, a series of monoamine-based antidepressant medication belonging to the class of selective serotonin reuptake inhibitors were approved. These were no more effective than earlier antidepressants, but generally fewer side effects. They operate by modulation of neurotransmitters in the neuronal synapses. These newer medications were developed based on the underlying theories of the chemical imbalance hypothesis (**Brett, 1991**).