

1. Provide a 3-5 sentence paraphrased summary of the assigned neurotransmitter purpose and function.

Gamma-Aminobutyric acid (GABA) is the chief inhibitory neurotransmitter in the brain and functions as a regulator in reducing neuronal activity (Stahl, 2021). It reduced neuronal excitability by inhibiting nerve transmission. There are three major types of GABA receptors, GABA_A, GABA_B, and GABA_C. GABA_A and GABA_C are both ligand-gated ion channels, GABA_B receptors on the other hand are linked to G proteins and not ion channels (Stahl, 2021). GABA produces a calming effect and plays a role in controlling the hyperactivity of nerve cells, associated with anxiety, fear, and stress. By inhibiting excitatory neuronal activity GABA helps improve sleep and reduce stress and anxiety.

2. Link the assigned neurotransmitter to a psychiatric diagnosis or diagnosis.

Psychiatric diagnoses related to GABA neurotransmitters include mood disorders such as Major Depressive Disorder, anxiety disorders such as General anxiety disorder, Panic Disorder, Schizophrenia, and Autism Spectrum Disorder (Stahl, 2021).

3. Discuss associated symptoms of the selected diagnosis or diagnoses. Determine if each symptom is related to an excess or deficiency in the neurotransmitter.

Major Depressive Disorder (MDD)- Symptoms of MDD include apathy, loss of interest, appetite changes, insomnia or hypersomnia, fatigue, and suicidal ideations (Stahl, 2021). MDD is caused by a deficiency of GABA levels. A study on GABA levels across psychiatric disorders found that in remitted MDD patients, GABA levels were higher than in those with MDD (Stahl, 2021).

Schizophrenia- Schizophrenia symptoms include hallucination, inattention, alogia, asociality, motor delay, visual memory, extrapyramidal symptoms, depression, and anxiety (Stahl, 2021). In individuals with schizophrenia GABA levels are lower than in healthy individuals. However, when compared to other psychiatric diagnoses GABA levels are higher in those with schizophrenia (Schür et al., 2016).

Autistic Spectrum Disorder (ASD)- ASD is a complex disorder, serving as an umbrella term for several different syndromes and disorders (Schür et al., 2016). Symptoms of ASD include delayed language, cognitive, learning, and movement skills, hyperactive, impulsive, and/or inattentive behavior, mood swings, and inappropriate emotional reactions (Komatsu et al., 2020). ASD symptoms are related to a deficiency of GABA (Schür et al., 2016).