Neurotransmitter	Function	Effect of Deficit	Effect of Surplus	Excitatory or Inhibitory/ Additional Notes
Acetylcholine (Ach)	Stimulates muscle	Alzheimer's Disease	Severe muscle spasms	Additional notes: Explain
	contraction (skeletal and			botulin and curare's impact:
	smooth); involved in			Both paralyze its victims by
	attention, memory, learning			blocking ACh receptors
	and general intellectual	Lack of muscle movement &		involved in muscle
	functioning	control (paralysis)		movement
Dopamine	Pleasurable sensations	Parkinson's Disease		Excitatory and Inhibitory
	involved in voluntary			
	movement, attention, and		Schizophrenia	
	learning	Anxiety disorders, memory	Drug Addiction	
	Stimulates hypothalamus	problems, ADHD		
	(reward center)			
Serotonin	Moods and emotional states,	Depression, mood disorders	Autism	Inhibitory
	hunger regulation of sleep			
	and wakefulness (arousal)			
			Mania	
Norepinephrine	Used for arousal in the	Mental disorders, especially		
	flight/fight response,	depression		
	modulation of mood, plays a		Anxiety	Excitatory
	role in learning and memory			
	retrieval			
GABA	Helps to offset excitatory	Anxiety, seizures, tremors,		Inhibitory
	messages and regulate daily	and insomnia		
	sleep-wake cycles		Sleep and eating disorders	
	Brain's major inhibitory			
	neurotransmitter			
Endorphins	Involved in pain perception	Body experiences pain	Body may not give adequate	Inhibitory
	and positive emotions		warning about pain. Artificial	
	Similar to opiate family of		highs	
	drugs			
	Pleasure, reduction of stress			
Glutamate	Used in memory, learning,		Too much glutamate (and	Excitatory
	movement. Helps messages		too little GABA) associated	_
	cross the synapse more	$>$	with epileptic seizures	
Giutamate				