

A Review: Depression

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Abstract- Major depression is a mood disorder characterized by a sense of inadequacy, despondency, decreased activity, pessimism, anhedonia and sadness where these symptoms severely disrupt and adversely affect the person's life, sometimes to such an extent that suicide is attempted or results. The search for an extended understanding of the causes of depression, and for the development of additional effective treatments is highly significant. Clinical and pre-clinical studies suggest stress is a key mediator in the pathophysiology of depression.

Keywords- Depression, neurotransmitters, stress, treatment, anti depressant agent.

I. INTRODUCTION

As estimated by WHO, depression shall become the second largest illness in terms of morbidity by another decade in the world, already one out of every five women, and twelve men have depression. Not just adults, but two percent of school children, and five percent of teenagers also suffer from depression, and these mostly go unidentified. Depression has been the commonest reason why people come to a psychiatrist, although the common man's perception is that all psychological problems are depression.

Depression is a common mental disorder that presents with depressed mood, loss of interest or pleasure, decreased energy, feelings of guilt or low self-worth, disturbed sleep or appetite, and poor concentration. There are multiple variations of depression that a person can suffer from, with the most general distinction being depression in people who have or do not have a history of manic episodes. Depressive episode involves symptoms such as depressed mood, loss of interest and enjoyment, and increased fatigability. Depending on the number and severity of symptoms, a depressive episode can be categorized as mild, moderate, or severe. Bipolar affective disorder typically consists of both manic and depressive episodes separated by periods of normal mood. Manic episodes involve elevated mood and increased energy, resulting in over-activity, pressure of speech and decreased need for sleep.

PATHOPHYSIOLOGY:

Mental disorders are common & involved signs & symptoms that cluster recognizably as a syndrome the etiology of the majority of mental disorder is multifactorial. Depression is often pre-disposed by genetic influences, developmental problems such as low self esteem, chronic sociopsychological adversity & lack of social & family support network. The onset of depression is preceded by life events. There follows a chain of neurobiological changes such as disturbed sleep, hormonal changes, the reduced release of neurotransmitters & altered gene expressions.

Genes & Psychosocial Stress:

Family, twin, and adoption studies provide very solid and consistent evidence that MDD is a familial disorder and that this familiarity is mostly or entirely due to genetic factors. This important finding suggests that parental social behavior and other familial environmental risk factors are not as important in the pathogenesis of MDD as previously assumed and should not be the major focus of the treatment of the disorder. These effects are mostly adverse events in childhood and ongoing or recent stress due to interpersonal adversities, including childhood sexual abuse, other lifetime trauma, low social support, marital problems, and divorce.

Genetic Influences:

There is abundant evidence from family, twin, and adoption studies that genetic factors play an important role in the etiology of affective disorders. There is strong epidemiological evidence for a genetic contribution, especially for bipolar disorders, and heritability is estimated to be as high as 80%.¹⁹ However, the inheritance does not follow the classical mendelian pattern, which suggests that a single major gene locus may not - or at least only in few families - account for the increased intrafamilial risk for the disorder

Stress Hormones and Cytokine

Corticotropin-releasing hormone (CRH) is released from the hypothalamus in response to the perception of psychological stress by cortical brain regions. This hormone

induces the secretion of pituitary corticotropin, which stimulates the adrenal gland to release cortisol into the plasma. The physiologic response to stress is partly gender-specific: women show generally greater stress responsiveness than men, which is consistent with the greater incidence of major depression in women 17. Moreover, men show greater cortisol responses to achievement challenges, whereas women show greater cortisol responses to social rejection challenges

The Mediating Role of Monoamines:

Most of the serotonergic, noradrenergic and dopaminergic neurons are located in midbrain and brainstem nuclei and project to large areas of the entire brain. This anatomy suggests that monoaminergic systems are involved in the regulation of a broad range of brain functions, including mood, attention, reward processing, sleep, appetite, and cognition. Almost every compound that inhibits monoamine reuptake, leading to an increased concentration of monoamines in the synaptic cleft, has been proven to be a clinically effective antidepressant 19. Inhibiting the enzyme monoamine oxidase, which induces an increased availability of monoamines in presynaptic neurons, also has antidepressant effects. These observations led to the pharmacologically most relevant theory of depression, referred to as the monoamine-deficiency hypothesis.

SIGNS AND SYMPTOMS:

- Feelings of sadness, tearfulness, emptiness or hopelessness
- Angry outbursts, irritability or frustration, even over small matters
- Loss of interest or pleasure in most or all normal activities, such as sex, hobbies or sports
- Sleep disturbances, including insomnia or sleeping too much
- Tiredness and lack of energy, so even small tasks take extra effort
- Reduced appetite and weight loss or increased cravings for food and weight gain
- Anxiety, agitation or restlessness
- Slowed thinking, speaking or body movements
- Feelings of worthlessness

DIAGNOSIS:

- **Physical exam:** Your doctor may do a physical exam and ask questions about your health. In some cases, depression may be linked to an underlying physical health problem.

- **Lab tests:** For example, your doctor may do a blood test called a complete blood count or test your thyroid to make sure it's functioning properly.
- **Psychiatric evaluation:** Your mental health professional asks about your symptoms, thoughts, feelings and behavior patterns. You may be asked to fill out a questionnaire to help answer these questions.
- **DSM-5:** Your mental health professional may use the criteria for depression listed in the Diagnostic and Statistical Manual of Mental Disorders (DSM-5), published by the American Psychiatric Association.

TYPES OF DEPRESSION:

- **Anxious distress:** depression with unusual restlessness or worry about possible events or loss of control
- **Mixed features:** simultaneous depression and mania, which includes elevated self-esteem, talking too much and increased energy
- **Melancholic features:** severe depression with lack of response to something that used to bring pleasure and associated with early morning awakening, worsened mood in the morning, major changes in appetite, and feelings of guilt, agitation or sluggishness
- **Atypical features:** depression that includes the ability to temporarily be cheered by happy events, increased appetite, excessive need for sleep, sensitivity to rejection, and a heavy feeling in the arms or legs
- **Psychotic features:** depression accompanied by delusions or hallucinations, which may involve personal inadequacy or other negative themes
- **Catatonia:** depression that includes motor activity that involves either uncontrollable and purposeless movement or fixed and inflexible posture
- **Peripartum onset:** depression that occurs during pregnancy or in the weeks or months after delivery (postpartum)
- **Seasonal pattern:** depression related to changes in seasons and reduced exposure to sunlight

TREATMENT:

Medications and psychotherapy are effective for most people with depression. Your primary care doctor or psychiatrist can prescribe medications to relieve symptoms. However, many people with depression also benefit from

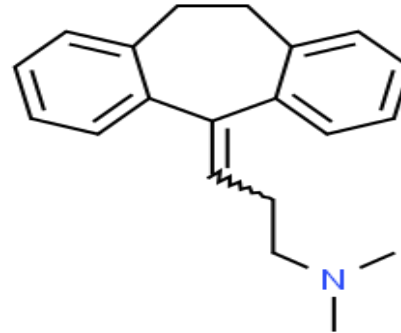
seeing a psychiatrist, psychologist or other mental health professional.

If you have severe depression, you may need a hospital stay, or you may need to participate in an outpatient treatment program until your symptoms improve. Here's a closer look at depression treatment options.

- **Medications:** Many types of antidepressants are available, including those below. Be sure to discuss possible major side effects with your doctor or pharmacist.
- **Selective serotonin reuptake inhibitors (SSRIs):** Doctors often start by prescribing an SSRI. These drugs are considered safer and generally cause fewer bothersome side effects than other types of antidepressants. SSRIs include citalopram (Celexa), escitalopram (Lexapro),
- **Serotonin-norepinephrine reuptake inhibitors (SNRIs):** Examples of SNRIs include duloxetine (Cymbalta), venlafaxine (Effexor XR),
- **Atypical antidepressants:** These medications don't fit neatly into any of the other antidepressant categories. They include bupropion (Wellbutrin XL, Wellbutrin SR),
- **Tricyclic antidepressants:** These drugs — such as imipramine (Tofranil), nortriptyline (Pamelor), amitriptyline, doxepin, trimipramine (Surmontil)
- **Hospital and residential treatment:** In some people, depression is so severe that a hospital stay is needed. This may be necessary if you can't care for yourself properly or when you're in immediate danger of harming yourself or someone else. Psychiatric treatment at a hospital can help keep you calm and safe until your mood improves. Partial hospitalization or day treatment programs also may help some people. These programs provide the outpatient support and counseling needed to get symptoms under control.
- **Other treatment options:** For some people, other procedures, sometimes called brain stimulation therapies, may be suggested:
- **Electroconvulsive therapy (ECT).** In ECT, electrical currents are passed through the brain to impact the function and effect of neurotransmitters in your brain to relieve depression. ECT is usually used for people who don't get better with medications, can't take antidepressants for health reasons or are at high risk of suicide.
- **Transcranial magnetic stimulation (TMS).** TMS may be an option for those who haven't responded to

antidepressants. During TMS, a treatment coil placed against your scalp sends brief magnetic pulses to stimulate nerve cells in your brain that are involved in mood regulation and depression.

Amitriptyline



Mechanism of Action :

Amitriptyline increases noradrenergic or serotonergic neurotransmission by blocking the norepinephrine or serotonin transporter (NET or SERT) at presynaptic terminal.

Uses :

- This medication is used to treat mental/mood problems such as depression.
- It may help improve mood and feelings of well-being, relieve anxiety and tension, help you sleep better, and increase your energy level.
- This medication belongs to a class of medications called tricyclic antidepressants.
- It works by affecting the balance of certain natural chemicals (neurotransmitters such as serotonin) in the brain.

II. CONCLUSION

Depression is the most common psychiatric disorder reported in most of the community based studies. It is also reported as one of the most common psychiatric disorder in outpatient clinic population and in subjects seen in various medical and surgical setting. It is also reported to be the most common psychiatric disorder in elderly subjects across various settings.

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