

Overcoming Clinical Depression

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NRS 221

August 2023

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A distinction needs to be made between *clinical depression* and having the blues or feeling bad emotionally (a normal response to negative life events). Clinical depression is defined as a chronic inability to enjoy life (anhedonia), and often accompanied by feelings of emptiness, apathy, hopelessness, unspecified pain, and agitation (Project Helping, 2023). Clinical depression is a serious disorder; 90% of all suicides (approximately 50,000 per year in the U.S.) can be traced back to mental disorders, most often depression (NNDC, 2023).

However, treatment is effective. 80% of those treated show improvement within six weeks of beginning therapy (NNDC, 2023). With that said, only two thirds of people suffering from clinical depression seek treatment (NNDC, 2023).

### **Etiology**

Causes of clinical, or *major depression* include, family history of depression, traumatic life events, low self-esteem, anxiety disorders, brain chemistry disorders, medication side effects, hormonal imbalances, metabolic disorders, peripartum onset, and postpartum depression (Mayo Clinic, 2022). In general, mental health is defined by one's ability to cope with life (NAMI, 2023). This will require attention to the balance and interaction between thinking processes (psychotherapy) and physiology. Thinking and perceptions will have physiological responses, and physiological symptoms can spur different responses to life and subsequent thinking patterns that can have downward spiral effects. Clearly, concerning depression, both psychological and physiological therapy must be implemented.

Even in the case of onset depression due to physiological reasons, the experience can lead to unhealthy thinking patterns that can trigger depression in the future, i.e., errant thinking leading to bad feelings (a physiological response). Regardless of where the etiology of depression starts, once the process begins, the physiological and psychological feed on each other leading to a downward spiral and the disruption of overall wellbeing. Both sides of the coin must always be treated.

### **Pathophysiology**

#### **Hereditary**

Although hereditary concerns are considered in MDD (major depressive disorder) pathophysiology, the issue is muddied by learned ways of thinking and lifestyles indicative of family life. In other words, yes, some gene factors can identify those at risk, but it is nearly impossible to distinguish the genetic risk from “environment” causes (NIH, 2022). Studies suggest a 31-42% hereditary factor in MDD, but the factor includes environmental factors such as influence and learned behaviors (NIH, 2022).

#### **Neurotransmitter Systems**

Most of the pathophysiology of depression is based on the Monoamine Theory. In fact, medication therapies based on this theory are the first generation and first line treatment (NIH, 2020). The theory focuses on the limbic group of organs thought to control emotions, affections, behavior, and memory. The group includes the limbic lobe, hippocampus, amygdala, hypothalamus, and thalamus. These organs communicate between each other and the frontal cortex through neurotransmitter systems, or pathways, using serotonin, dopamine, and

norepinephrine. These are the primary neurotransmitters produced in the brainstem consisting of the midbrain, pons, and medulla oblongata. The theory suggests that an insufficient amount of these neurotransmitters results in depression because communication in the limbic group is hindered. On the other hand, the theory also suggests that an excess of these neurotransmitters can cause mania in manic depression (NIH, 2021). Hence, drugs like lithium or Depakote may be prescribed with antidepressants.

### **Nursing Interventions**

#### **Treatment Plans**

The treatment plan will depend on diagnosis. However, antidepressant medications or combinations of medication will vary greatly depending on the diagnosis. As mentioned earlier, psychotherapy or counseling, depending on the specific diagnosis founded on sound assessments, will always be recommended. The RN will make sure all necessary lab tests and neurological tests are ordered to obtain the best diagnosis, which will include eliminating the possibilities of metabolic and hormonal imbalances. In addition, some medications can cause depression as a side effect.

#### **Medications**

Selective serotonin reuptake inhibitors (SSRIs) increase neurotransmission by preventing serotonin from being stored for future use by neurons. Examples are citalopram, escitalopram, fluoxetine, fluvoxamine, paroxetine, sertraline, vilazodone, and vortioxetine.

Serotonin/norepinephrine reuptake inhibitors (SNRIs) increase neurotransmission by preventing norepinephrine and serotonin from being stored for future use by neurons. Examples are venlafaxine, desvenlafaxine, duloxetine, and levomilnacipran.

Serotonin antagonist and reuptake inhibitors (SARIs) have the ability to prevent the reuptake (storage) of both serotonin and norepinephrine. And like MAOIs, they inhibit antagonists. Examples are trazodone and nefazodone.

Bupropion, a NDSI, (Norepinephrine-dopamine reuptake inhibitor) prevents the reuptake of norepinephrine and dopamine. Mirtazapine inhibits norepinephrine and serotonin antagonists.

Monoamine oxidase inhibitors (MAOIs). Monoamine oxidase is a serotonin antagonist. Examples include isocarboxazid, phenelzine, selegiline, and tranylcypromine.

Tricyclic antidepressants (TCAs) work like the newer SNRIs. Examples are amitriptyline, clomipramine, desipramine, doxepin, imipramine, nortriptyline, protriptyline, and trimipramine.

### **Complementary Holistic Practices**

Holistic practices are an important third application to the treatment of depression. The nurse care plan will always recommend some sort of counseling, a support network, and holistic measures. Antidepressant medications may not be necessary depending on the unique needs of each individual. Though elements of holistic care may be controversial, from a basic standpoint of what is commonly accepted as fact-based, holistic solutions to varying degrees should be included in the care plan. In some cases, patients may not be comfortable with antidepressant medications for several reasons; hence, holistic measures would be an important alternative.

For instance, no one will deny the overall benefits of exercise to relieve stress and improve health overall. Yoga, as one example, combines exercise with meditation techniques like deep breathing. Most health professionals will recommend breathing techniques to prevent things like hyperventilation; traditional care and holistic care share many of the same remedies that are commonly accepted as therapeutic. In addition, any counseling is going to advocate against unhealthy thinking or wrong focus, while disciplines like meditation and guided imagery can play a role in achieving new goals for healthy thinking.

Herbal medicine versus traditional medicine is a nonsensical argument and a nonfactual dichotomy. Most traditional medications come from plants and herbs to begin with. Traditional medicine warns against taking many herbal supplements with conventional medications due to dangerous interactions. This is an admission that holistic medicines have powerful interactions with the body that can have positive or negative results. Some of these interactions regard compounding the effectiveness of a traditional medicine. Serotonin syndrome would be one example. Hence, if a traditional medicine has undesirable side effects, it can be given at lower doses with an herbal supplement. Whether speaking of things like vitamin K reversing the effects of too much Warfarin, or myriads of other examples, there is a huge overlap between conventional medications and so-called “herbal supplements.”

Finally, although one might be skeptical of acupuncture’s theory of bodily energy points, acupuncture releases endorphins, which are natural pain relievers produced and released in the body. Their actions mimic endogenous morphine (HHP, 2021). Likewise, exercise releases endorphins as well and can result in, for example, “runners high.” However, some believe that endorphins do not cross the blood-brain barrier and that positive feelings from exercise come

from endocannabinoids (John Hopkins, 2023). Therefore, it is important for nurses to encourage exercise through teaching that exercise is therapeutic and medicinal. In other words, exercise has a therapeutic reward in the form of released hormones within the body that enhance mood and relaxation. Medical professionals need to teach the *what* and the *why*.

### **Conclusion**

Treatment for clinical depression is highly successful, mainly because it can be addressed on three fronts: therapy, medication, and holistic disciplines. Each of the three has several alternatives. Options for treating depression are vast.

## References

Cleveland Clinic. (2023). *Depression: Alternative Therapies*. Retrieved from <https://my.clevelandclinic.org/health/treatments/9303-depression-alternative-therapies>

Harvard Health Publishing. (2023). *Endorphins: The brain's natural pain reliever*. Retrieved From <https://www.health.harvard.edu/mind-and-mood/endorphins-the-brains-natural-pain-reliever>

John Hopkins Medicine. (2023). *The Truth Behind 'Runner's High' and Other Mental Benefits Of Running*. Retrieved from <https://www.hopkinsmedicine.org/health/wellness-and-prevention/the-truth-behind-runners-high-and-other-mental-benefits-of-running>

Mayo Clinic. (2022). *Depression (major depressive disorder)*. Retrieved from <https://www.mayoclinic.org/diseases-conditions/depression/symptoms-causes/syc-20356007>

National Network of Depression Centers. (2018). *Treatment Statistics*. Retrieved from <https://nndc.org/>

National Alliance on Mental Illness. (2023). *Mental Health by the Numbers*. Retrieved from <https://nami.org/mhstats?gad=1>

NIH. (2023). *Depression*. Retrieved from <https://www.ncbi.nlm.nih.gov/books/NBK430847/>

NIH. (2022). *The molecular pathophysiology of depression and the new therapeutics*. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9301929/>

NIH. (2002). *Pathophysiology of depression and mechanisms of treatment*. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3181668/>

NIH. (2020). *Brain changes in depression*. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7864313/>

NIH. (2021). *Major Depression: One Brain, One Disease, One Set of Intertwined Processes*. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8224372/>

Project Helping. (2023) *The Signs and Symptoms of Depression*. Retrieved from <https://projecthelping.org/signs-and-symptoms-of-depression/>