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Effect of Daipramatic Breathing and Systamatic Relaxation in Depression



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ABSTRACT

Depression is a prevalent and complex mental health disorder affecting millions globally, often leading to persistent sadness, fatigue, cognitive impairments, and social withdrawal. While pharmacological and psychotherapeutic interventions are widely used, complementary approaches like yogic practices are gaining recognition for their holistic benefits. This study explores the therapeutic effects of diaphragmatic breathing and systematic relaxation techniques on individuals experiencing depressive symptoms. Diaphragmatic breathing, a deep abdominal breathing practice, activates the parasympathetic nervous system, thereby reducing cortisol levels, promoting emotional regulation, and restoring physiological balance. When performed regularly, it improves oxygen-carbon dioxide exchange, enhances vagal tone, and helps alleviate stress, anxiety, and mood disturbances. Systematic relaxation, including practices such as Shavasana, tension-relaxation techniques, Yoga Nidra, and mindfulness meditation, further supports the mind-body connection, reduces muscle tension, stabilizes heart rate and blood pressure, and promotes deep rest and mental clarity. This paper reviews the physiological mechanisms, anatomical correlations, and psychological benefits of these techniques, drawing from yogic philosophy and modern research. These non-invasive, low-cost practices can serve as effective adjuncts in a broader therapeutic model for depression management. While not substitutes for clinical treatment, they offer a sustainable path toward emotional resilience, better sleep, improved mood, and enhanced quality of life. Overall, integrating diaphragmatic breathing and systematic relaxation into daily routines can empower individuals to take an active role in their mental well-being, supporting both preventive and rehabilitative mental health strategies.

Keywords: Diaphragmatic breathing, Systematic relaxation, Depression, Yoga Nidra, Mind-body therapy, Stress reduction

INTRODUCTION

Depression is one of the most common yet often misunderstood mental health conditions affecting individuals across all age groups. It is far more than just feeling sad or experiencing a low mood for a few days. Clinically, depression is a serious medical illness that impacts the way a person thinks, feels, and behaves. It can cause emotional and physical problems and decrease a person's ability to function in daily life.[1]

Depression can be triggered by a combination of biological, psychological, and environmental factors. Common causes include long-term stress, traumatic life events, hormonal imbalances, genetic predisposition, and certain medical conditions. It may also be linked to substance abuse, chronic illness, or a lack of social support. Regardless of the cause, depression affects the brain's chemistry, particularly the levels of neurotransmitters such as serotonin, dopamine, and norepinephrine—chemicals that regulate mood, sleep, appetite, and overall well-being.

When the body experiences depression, it does not only affect the mind but also manifests physically. Common physical symptoms include fatigue, disturbed sleep, muscle tension, changes in appetite, chronic pain, and weakened immune response. Long-term depression can also increase the risk of cardiovascular diseases, digestive issues, and a general decline in physical health.[2] Therefore, addressing depression requires a holistic approach that considers both the mental and physical dimensions of health.

One of the most effective non-pharmacological ways to manage and even reduce symptoms of depression is through the practice of deep relaxation techniques such as systematic relaxation and diaphragmatic breathing. These methods work by calming the nervous system, lowering stress hormones like cortisol, and promoting a sense of peace and balance in the body and mind.

Systematic relaxation involves consciously relaxing each muscle group in the body, starting from the toes and working up to the head. This practice not only releases physical tension but also helps bring awareness to the present moment, reducing the racing thoughts often associated with depression and anxiety. It supports better sleep, reduces fatigue, and creates a sense of inner calm that can uplift mood over time.

Diaphragmatic breathing, also known as abdominal or deep belly breathing, engages the diaphragm fully, encouraging full oxygen exchange. This technique slows the heartbeat, stabilizes blood pressure, and sends a signal to the brain to relax and let go of stress. Practicing diaphragmatic breathing daily has been shown to improve mood, reduce anxiety, and promote emotional regulation.

Incorporating these relaxation techniques into daily life is both simple and highly effective. They can be done at home, at work, or even in public spaces. Just a few minutes each day—preferably in the morning and before bedtime—can yield significant benefits. Practicing in a quiet environment, focusing on your breath, and letting go of tension gradually become habits that rewire the brain toward positivity and emotional balance.[3]

Importantly, these exercises go beyond just treating depression. They play a vital role in developing a positive mindset, especially for individuals suffering from chronic illnesses or disorders. When combined with optimism, self-care, and resilience, these practices can enhance recovery, improve mental clarity, and even strengthen the immune system. Mental health strongly influences physical health, and vice versa.

Furthermore, consistent practice of yoga, deep relaxation, and controlled breathing not only helps in managing emotional challenges but also enhances personality development. These techniques promote self-confidence, improve concentration, elevate mood, and build emotional stability. They cultivate self-awareness and encourage a deeper understanding of one's thoughts and behaviors, laying the foundation for long-term well-being.[4]

DEPRESSION

Depression is a common but serious mental health condition that negatively affects how a person feels, thinks, and acts. It goes far beyond occasional sadness or low moods. Depression is characterized by persistent feelings of sadness, emptiness, hopelessness, and a loss of interest or pleasure in daily activities that once brought joy.[5] It can interfere significantly with daily functioning, affecting work, relationships, and overall quality of life.

Causes of Depression

There is no single cause of depression; rather, it arises from a combination of genetic, biological, environmental, and psychological factors. Some of the most common contributors include:

- ***Family History****:* A person with a family history of depression is more likely to develop the condition themselves. Genetic predisposition plays a strong role in mental health.
- ***Chronic Illness and Health Issues****:* Medical conditions such as cancer, heart disease, chronic pain, hormonal imbalances, and neurological disorders can contribute to depression, either due to the stress of managing the illness or the biological effects of the disease itself.
- ***Substance Use****:* Long-term use of certain medications, excessive alcohol consumption, and drug abuse can alter brain chemistry and increase the risk of depression. These substances may initially seem to offer relief but ultimately worsen mental health.
- ***Personality Factors****:* Individuals with low self-esteem, a pessimistic outlook, or high levels of self-criticism may be more vulnerable to depression. Personality traits developed through life experiences or trauma can shape how one copes with stress and emotional pain.[6]

Breathing and Depression

One often overlooked but crucial aspect of managing depression is how we breathe. Mental health issues like depression, anxiety, and chronic stress can profoundly affect breathing patterns. People in distress tend to breathe rapidly and shallowly—also known as chest breathing. This irregular breathing disrupts the balance of oxygen and carbon dioxide in the body, potentially worsening symptoms of anxiety and panic.

When you're anxious or depressed, your nervous system enters a state of hyperarousal, causing your body to react as though it's in danger. Breathing becomes quicker and more superficial, reinforcing feelings of unease. This shallow breathing not only increases physical tension but also deepens the emotional sensation of despair and helplessness.

The Mind-Body Connection

Understanding and managing your breath can serve as a powerful tool to combat depression. Deep breathing techniques—such as diaphragmatic breathing or systematic relaxation exercises—activate the parasympathetic nervous system, the part of the nervous system responsible for rest and recovery. By slowing the breath, calming the body, and reducing heart rate, you can help your mind shift out of panic or stress mode.

These techniques encourage better oxygen flow, improve mental clarity, and help stabilize mood. Regular practice of deep breathing and relaxation can be a simple yet effective self-care strategy for those dealing with depression.[7]

EFFECT OF DAIPHRAMATIC BREATHING

Diaphragmatic breathing, also known as abdominal or belly breathing, is a powerful and natural technique that involves consciously engaging the diaphragm while breathing. This method promotes deep inhalation and full exhalation, resulting in greater oxygen exchange, enhanced relaxation, and improved overall health. It is best practiced in

relaxed postures such as *Makarasana* (crocodile pose) and *Shavasana* (corpse pose), where one can easily observe the natural rise and fall of the abdomen during each breath. These postures allow the diaphragm to move freely, helping you train your body to breathe more deeply and efficiently.

Before beginning advanced yogic practices like *pranayama*, it is recommended to first master diaphragmatic breathing. This foundational technique increases awareness of your breathing pattern and ensures that the respiratory system is working optimally.

Practicing diaphragmatic breathing regularly offers multiple physiological and psychological benefits. One of its main advantages is the improved efficiency in the exchange of oxygen and carbon dioxide. Unlike shallow chest breathing, which limits air intake, diaphragmatic breathing allows for a greater volume of air to reach the lungs, enhancing oxygenation of the blood.[8] This process helps regulate vital body functions such as heart rate and blood pressure, leading to a state of physical calmness.

In addition, diaphragmatic breathing is an effective technique to calm the nervous system. It activates the parasympathetic nervous system, responsible for the "rest and digest" response, which counteracts the stress-induced "fight or flight" reaction. As a result, the body enters a state of relaxation, the mind becomes calm, and feelings of fatigue, anxiety, and tension are reduced.

This breathing technique has profound therapeutic effects, particularly for individuals dealing with emotional imbalances, anxiety, or depression. Chronic stress is a major contributing factor to mental health issues, and diaphragmatic breathing directly helps in reducing stress by promoting relaxation and mindfulness. When practiced consistently, it works as a natural remedy that fosters emotional stability and improves mental clarity.

From a psychological standpoint, deep breathing allows individuals to focus inwardly, fostering self-awareness and emotional control. Concentrating on the rhythm of inhalation and exhalation helps quiet the mind and reduce overthinking, which often fuels depressive thoughts. As the body relaxes and the mind becomes centered, the sense of inner peace improves, allowing one to manage emotions more effectively.

Moreover, the physical benefits of diaphragmatic breathing include the relaxation of muscles, improved posture, and better sleep quality. As the body becomes accustomed to this breathing pattern, muscular tension diminishes, and overall energy levels increase.

Breathing Qualities

When we talk about the qualities of breathing, many people are surprised—mainly because we rarely pay attention to how we breathe. Neither our schools nor our families or communities have educated us about the importance of breathing qualities. However, the way we breathe has a profound impact on our physical, emotional, and mental well-being.

Breathing slowly and in a controlled manner using the diaphragm can activate the parasympathetic nervous system, often referred to as the “rest and digest” system. This system helps the body relax, reducing the effects of stress and anxiety. When this calming system is engaged, it enhances feelings of peace, comfort, and emotional balance, which are particularly helpful for those struggling with depression.

Depression often disrupts our sleep cycle. Lack of quality sleep can leave the body feeling stiff, heavy, and mentally drained. Practicing deep relaxation techniques, such as diaphragmatic breathing and mindfulness, can significantly improve the quality of sleep. These techniques quiet the mind, reducing the racing thoughts that often keep people awake. In such a calm state—known in yogic terms as *Jagrat Awastha* (awakened relaxation)—the brain produces alpha waves, which are linked with deep relaxation and mental clarity.[9]

With regular practice of conscious breathing and relaxation methods, individuals often experience improved mood and a noticeable reduction in depressive symptoms. Stress and anxiety levels decrease, and the mind becomes clearer and more stable. Over time, a harmonious connection between the body, breath, and mind develops. This state of internal coordination leads to an extraordinary sense of joy, balance, and well-being. Therefore, developing awareness of breathing qualities and incorporating breath-based relaxation techniques into daily life can be a powerful tool in healing and self-regulation.

ANATOMY

Cortisol steroid hormone also known as stress hormone. Cortisol released linked with depression anxiety and other negative emotions hypothalamus gland give command to pituitary gland to regulate metabolism immunity and mental privacy induce emotions all thought breathing practice often a reregulated benefit of mental and physical health.

Diaphragmatic breathing activates our part of nervous system parasympathetic nervous system which send a signal to your brain fly or flight. it also helps in releasing cortisol hormone when our brain does not get proper oxygen then nervous system get imbalance and start to work insufficient way which moderate release of hormone. Diaphragmatic breathing helps in strengthen diaphragm; it’s also massaged the abdominal muscles and other organs. Tt also help in digestion and increase the (Jatharagni) or digestive fire. it's also regulated blood circulation

in body and thoughts which body get nutrient and oxygen.

None of the breathing exercise can be mastered without deep diaphragmatic breathing. Gently push in your abdomen fullest cavity same your lips exhaling from the nostril then relax your abdomen, without any force of exhale and inhale according to your fullest cavity at least 8 to 10 times, it will helpful to calm your mind.

Yogic practices offer a holistic approach to managing depression by integrating physical postures (asanas), breathing exercises (pranayama), meditation, and relaxation techniques.[10] While yoga is not a substitute for professional mental health treatment, it can complement traditional therapies and contribute to overall well-being. Here's how certain yogic practices can potentially help manage depression:

Asana (Physical Postures)

Yoga poses can help release physical tension, improve flexibility, and increase body awareness. Certain poses like backbends (e.g., Cobra Pose or Bridge Pose) and inversions (e.g., Downward-Facing Dog) can help uplift mood by stimulating the nervous system and promoting blood circulation. Regular practice of yoga asanas can also improve sleep quality, which is often disrupted in individuals with depression.

Pranayama (Breathing Exercises)

Controlled breathing exercises, such as alternate nostril breathing (Nadi Shodhanam) or deep diaphragmatic breathing, can help calm the mind and reduce stress. Pranayama techniques have been shown to regulate the autonomic nervous system, leading to a state of relaxation and decreased anxiety levels.

Meditation and Mindfulness

Yogic meditation practices, such as mindfulness meditation or loving-kindness meditation can help individuals cultivate present-moment awareness, reduce rumination, and enhance emotional regulation. Regular meditation practice has been linked to reduced symptoms of depression and improved overall mental well-being but one thing is very important if someone is in depression can do meditation in under guidance.

Shitali Karna

This is a kriya that induces a very deep state of relaxation. It alleviates stress, reduces depression, reduces blood pressure and blood sugar and can help those who suffer from insomnia. The quality of sleep improves and the duration of sleep can be decreases. It is also a pre practices of Yoga Nidra the (Yogic Sleep).

Simple Yoga Nidra

There are many ways and states of yoga nidra. It depends on the person's ability that from where he/she can start. Generally, we say that there are two types 1. Simple yoga nidra, 2. Advanced yoga nidra. In deep dreamless sleep, one is in the presence of the self but without being consciously aware of the presence of the self. A thin veil of (maya) still separates one from the self. Yoga nidra, on the other hand, is a state of conscious sleep. It is a half- sleep, half-waking state which confers a deeper state of rest than deep sleep. The body, smooth and striated muscles, nervous system and mind are all rested during yoga nidra.

It also known as yogic sleep or guided relaxation, Yoga Nidra is a deep relaxation technique that induces a state of conscious relaxation by systematically guiding attention through different parts of the body.[11] It can help alleviate stress, anxiety, and promote deep relaxation, potentially aiding individuals in managing depressive symptoms.

Lifestyle Modifications

Yoga philosophy encourages a balanced lifestyle, including a nutritious diet, adequate sleep, and regular exercise. These lifestyle modifications can positively impact mental health and contribute to managing depression.

We are very privileged to have been born as human being. Human life is really precious. Human life is unlike the life of animals. Animal activities are completely controlled by nature through and guidance of instinct. We human beings have a power of choice and we can change our destiny. We can use this brief precious time to attain the purpose of life, which is to be contented and happy, free from all pains, anxieties, miseries and boundages.

The ancient sages of the Vedic period exhorted humanity with the stirring cry. In Kathopanishad it said.

- *Uttishtata:* Arise, trun inwards to discover your true nature
- *Jagrata:* Awake, put an end to the sleep of ignorance (of your true nature)
- *Prapya Varan Nibodhata:* Attain knowledge by approaching the self-realized ones.

The knowledge they are referring to is knowledge of our own true nature. We suffer because we do not know ourselves therefor it is important to understand what should be done while doing yoga practices. While yoga practices offer potential benefits for managing depression, it's important to approach them mindfully and with guidance, especially for individuals with severe depression or other mental health conditions. Consulting with a qualified yoga instructor and integrating yoga

practices into a broader treatment plan supervised by mental health professionals is advisable.[12]
Remember, individual experiences with yoga may vary, and it might take time to notice significant improvements. It's essential to find a practice that suits one's needs and to approach it as a complementary tool alongside professional mental health care.

RELAXATION

What is relaxation?

First, we have to learn the meaning of relaxation. A word relaxation came from refresh and regain energy relaxation is process of activity that helps a person to help to relax attain calmness or in other word reduce the level of pain and anxiety, stress, anger.

Methods of relaxation

Meditation is a method of training of relaxation. By practicing disturb mind become skilled and creative in one of the basic text of yoga meditation and yoga patanjali define meditation as the controlling of thoughts of way of the mind.

- Deep breathing or deep breath awareness your mind should be focused on breath and allow your mind to flow with the breath the breath should not be jerky, shallow and with no sound it should gentle and slow concentration on the flow of breath help the best way to attain control our emotion its help us in reducing stress anger and the symptom of depression.
- When you breathe, coordinate between breath and mind than you are in a great joy you will find your mind is in calmness.[13]

PRAYER

Prayer is one of the most wonderful and useful to available for developing your personality for relaxation.
Prayer involves a psychology a way of working with your own mind. it is a surprisingly effective technique for reshaping personality working with this pray will develop in you a humbler attitude it will create in you less of a sense of struggle write the world rather than being or individual who feels separate and asserts himself against the world.

Systematic Relaxation

Systematic relaxation is a method of deep relaxation that does not involve any medications. The idea behind systematic relaxation is that there is a relationship between person mind and body. The mind response to it environment by creating mind and body state like anxiety, stress, depression. When the body is in there state the body tensed up systematic relaxation aims to switch these body state back to neutral and relaxed states.[14]
Systematic relaxation technique is great way to help in stress management. It is not only about peace mind or enjoying a hobby. it is a process that decreases the stress effects on your mind. It helps is reducing stress.

BENEFITS OF SYSTAMATIC RELAXATION

- Help on stoning heart rate.
- Help in lowering the B.P.
- Improve digestion.
- Control sugar level.
- Reduce fatigue.
- Reduce anger of frustration.
- Reduce muscle tension of chronic pain.

Types of systematic relaxation

1. Shavasana (corpse pose)

It is suited for practicing relaxation deep slow rhythmic breathing make possible or easily in shavasana. When practiced a asana or stretches the shavasana integrate or combined with benefits of all the exercises muscles tension is released a fatigue is reduce the load of heart reduce the nervous system toned up of mind is calm further help in depression.[15]

2. Tension relaxation exercises

This is similar to the shavasana (corpse pose). In this you have to focus your mind in your different muscles step by step which will give benefit to concentrate on our muscle tension on our muscle tension as we deep inhale and exhale we inhale energy from surroundings and exhale the pain and tension from body.
To derive max. Benefit of this exercise the tension relaxation process observed there are two boundaries the muscles and nervous system involve in the exercise, in this process muscles of the body that are normally are not exercise are activated the capacity to tense of relax this muscle.[16]

3. 31 points / 61 points

The 31 points exercise is an opening / starting exercise of 61 points exercise. These to exercise for getting access of sheaths of prana of minds. Imbalance of emotion in our body is due the disturbance in your mind.[17] Focusing our mind through 31 and 61 points helps uncover the roots cause of disturbance that manifest ultimately the body. High bp, high sugar level. Circulatory problems and depression are reduced by this exercise.

CONCLUSION

One need to understand that the body has a power to heal itself with the help of mind. It is easy to control our body, little difficult to control breath and very difficult to control our mind. One how has systematically worked over these practices can heal most of the diseases. One of the great Sage H.H.

Swami Rama has said “whole of the body is in the mind but whole of the mind is not in the body.” Diaphragmatic breathing, also known as deep breathing, is a relaxation technique that involves taking slow, deep breaths to activate the diaphragm. While it's not a standalone treatment for depression, it can be a helpful complementary practice. Here's a brief conclusion on diaphragmatic breathing in depression: Diaphragmatic breathing can be a useful tool in managing some symptoms of depression. It promotes relaxation, reduces stress, and can help individuals cope with the emotional and physical aspects of depression. When used as part of a comprehensive treatment plan that may include therapy, medication, and lifestyle changes, diaphragmatic breathing can contribute to improved overall well-being for individuals dealing with depression. However, it's important to note that it's not a sole or definitive treatment for clinical depression, and individuals with depression should consult with healthcare professionals for a tailored treatment plan.

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