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### Yoga And Mental Health: A Review On Efficacy Of Yoga In Managing Stress, Anxiety And Depression

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#### ABSTRACT: -

Yoga is a holistic multidimensional system of health that was used by ancient sages to achieve states of transcendence and develop special mental abilities and wellbeing. Essentially a yoga therapy is a type of alternative therapy that uses *Asanas* (Physical postures), *Pranayamas* (Breathing techniques), *Dhyana* (Meditation), *Shatkarma* (Internal cleansing), *Mudras* (Hand postures) and *Bandhas* (Locks) to reduce the impact of exaggerated stress responses which in turn decreases physiological arousal and may be helpful for both anxiety and depression. This review presents a summary of scientific evidences from randomized controlled trials, review articles and Hatha yoga texts on the effects of yoga in promoting mental health by alleviating the symptoms of mental disorders.

**Key Words:** Transcendence, Anxiety, Depression, Alternative, Holistic



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## INTRODUCTION:

Mental health is a state of mind where a person feels confidence, self-esteem and emotional wellbeing. According to World Health Organization (WHO), “Mental health is a state of wellbeing in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community”. [1] Stress is a normal biological reaction that put pressure on a material object and causes bodily and mental tension. Prolonged stress creates a risk for mental health and increases the chance of anxiety and depression. The practice of yoga creates a physiological state with parasympathetic system dominance and a sense of balance between the mind and body by interrupting the stress response system of the body. [2] Stress can lead to emotional and mental symptoms like anxiety, depression and sadness. [3] Anxiety is a normal reaction to stress but the anxiety disorders are the most common of mental disorders and affect nearly 30% of adults at some points in their lives which refer to anticipation of a future concern and is more associated with muscle tension and avoidance behavior including generalized anxiety disorder, panic disorder, specific phobias, agoraphobia, social anxiety disorder and separation anxiety disorder. [4] Living through an anxiety disorder precedes the onset of depressive disorder as the chance of acquiring depression is much higher when an anxiety disorder already exists. Both the anxiety and depressive disorder may share similar symptoms. Depression is common mental disorder which is a major contributor to the overall global burden of disease and can lead to suicide. [5] The present study summarizes the effects of yoga intervention on mental health by focusing on the evidence

described in Hatha Yoga texts, relevant empirical studies and various review articles. Yoga is a form of mind body intervention and a popular alternative and complementary therapy. Scientific evidence recommends the Yoga practice in several physical and mental health conditions (Lin et al, 2011). Yoga therapy uses *Asanas* (Physical postures), *Pranayamas* (Breathing exercises), *Shatkarma* (Internal cleansing), *Dhyana* (Meditation), *Mudras* (Hand postures) and *Bandhas* (Locks) with more specifically relaxation techniques to treat a wide variety of mental health problems.

## METHODOLOGY:

Several scientific online free databases were searched for assessing the role of yoga in managing mental health problems especially stress, anxiety and depression. The purpose of this article was to systematically review yoga interventions as evidenced by randomized controlled trials aimed at improving mental health. Reference lists of relevant published scientific materials were also evaluated to include appropriate relevant information in the present study. To search the title related to the study numerous key words were used like yoga and mental health, yoga and stress, anxiety and depression, role and/ or efficacy of yoga in psychiatric disorders etc.

## DISCUSSION

### Major Types of Mental Disorders:

- **Anxiety disorder:** A mental health disorder characterized by real or imagined fears that are difficult to control.
- **Bipolar disorder:** Bipolar disorder causes extreme shifts in mood, energy levels and behavior .
- **Obsessive Compulsive disorder (OCD):** Obsessive –compulsive disorder (OCD) is a mental illness characterized by recurrent, unwanted thoughts (obsessions) and/ or

repetitive behaviors (compulsions) that impairs general functioning.

- **Depression:** Depression is a mood disorder and described as prolonged feelings of helplessness, hopelessness and sadness.
- **Panic disorder:** An uncontrollable panic response to ordinary, nonthreatening situations accompanied by physical symptoms such as sweating, dizziness, chest pain, breathing problems with nausea and sometimes vomiting.
- **Phobia:** Irrational, involuntary and inappropriate fears of ordinary situations or things.
- **Post Traumatic disorder:** An anxiety disorder triggered after someone experiences a traumatic event that caused intense fear, helplessness or horror.
- **Schizophrenia:** Schizophrenia is a serious mental health condition that is marked by significant changes and disruption in both cognitive and emotional function with a hallmark symptom of psychosis.
- **Personality disorder:** A personality disorder is a way of thinking, feeling and behaving that deviates from the expectations of the culture, causes distress or problems functioning and lasts over time. [6] There are 10 specific types of personality disorders, viz; Antisocial personality disorder, Avoidant personality disorder, Borderline personality disorder, Dependent personality disorder, Histrionic personality disorder, Obsessive-compulsive personality disorder, Paranoid personality disorder, Schizoid personality disorder and Schizotypal personality disorder.

#### Purpose of the Study:

- The main objective of the study is to explore the better approach to deal with stress, anxiety and depression.

To assess the effects of selected yoga therapy on mental disorders.

#### Summary of Scientific Evidences on the Effects of Yoga in Managing Stress, Anxiety and Depression:

- 1- **Saraswati, Swami Satyanand (1969)** *Sirshasana* (Headstand) relieves anxiety and other physiological disturbances which form the root cause of many disorders.
- 2- **Khumar SS, Kaur P, Kaur S. (1993)** examined the effectiveness of *Shavasana* (a type of yoga exercise) as a therapeutic technique to alleviate depression. 25 subjects were selected to 30 sessions of *Shavasana* (Dead Body Pose) and 25 served as controls. Results revealed that *Shavasana* (Dead Body Pose) was an effective technique for alleviating depression.
- 3- **Fergusson, Bonshek and Boudigues, (1995), Hawks, Hull and Thalman, (1995)** Studies on the long term mental benefits of meditation show that meditation reduces stress and increases reported levels of happiness, self confidence and general effectiveness.
- 4- **Jooyoung (2000)** Meditation practice produces specific neural activation patterns involving decreased limbic arousal in brain. Ultimately meditation strengthens and enhances the ability to cope with stress. Endocrine reactions have been identified in the meditative response pattern including reduced level of cortisol and epinephrine in blood, reduced anxiety and tension.
- 5- **Mistervan migard (2004)** studied the effects of *Bhramri pranayama* (Humming word) and found increase in peacefulness and activity of brain.
- 6- **Kirkwood et al. (2005)** evaluated the role of yoga in the treatment of anxiety.
- 7- **Santosh, Kohli, et al. (2005)** evaluated the impact of *shatkriyas* (six purification

processes) and *pranayamas* (controlling breath) on stress and found positive results. *shatkriyas* (six purification processes) and *pranayamas* (controlling breath) both reduce all the components of academic stress of students with equal effectiveness except academic anxiety which was reduced more effectively by (controlling breath) as compared to *shatkriyas* (six purification processes).

- 8- **Prasad R. et al. (2006)** the paper presents changes in the EEG pattern observed after *Bhramri pranayama* (Humming word). *Bhramri pranayama* (Humming word) has been found effective in healing many mental problems such as tension, stress, hypertension etc and it brings relaxation in the practioners.
- 9- **Madanmohan et al. (2008)** Yoga is a psychosomatic spiritual discipline for achieving union and harmony between our mind, body and soul and the ultimate union of our individual consciousness with the universal consciousness.
- 10- **Saraswati (2008)** *Kapalbhati* ('the shining forehead,) calms the mind.
- 11- **Telles et al. (2008), Daniele et al, (2009)** conducted a study on stress by yoga practice. They found positive results.
- 12- **Kumar (2009)** 40 days *Pranakarshana pranayama* and *Yoga Nidra* (sleep) practice improved the *Pranic* energy level and make changes alpha dominance in the brain which influences the mental relaxation, reduces anxiety and stress.
- 13- **Bhimani (2011)** studied the effects of various pranayama on stress. After 2 months of study he noticed a decrease in total stress scores.
- 14- **Bowden (2012)** Five weeks of brain waves vibration training, Iyengar yoga and mindfulness programe improved sleep latency, absorption, memory, salivary cortisol, mood, mindfulness and reduced overall stress.
- 15- **Patil (2012)** Yoga practice decreases sympathetic activity and causes a shift in the autonomic balance towards parasympathetic dominance and helps to reduce stress by optimizing the autonomic functions.
- 16- **Bharadwaj (2013)** Yogic intervention improved alpha-EEG level of working women which causes the brain to come in relax and cool state.
- 17- **Kanojia (2013)** Regular practice of yoga has beneficial effects on both phases of parasympatho-dominance and psychological well being probably by balancing neuro- endocrinal axis.
- 18- **Gupta (2014)** 20 minutes *Nadi-sodhan pranayama* (Alternate Nostril Breathing) practice advocated for improving cardio-respiratory efficiency as well as higher functions of brain in healthy individuals. Pranayama practice may be applied as alternative therapy or as adjunct to conventional therapy in stress related diseases.
- 19- **Thanalakshmi (2014)** Two months *Sheetali* (Cooling Breath) and *Sheetkari pranayama* practice improved the delta and alpha band power in the frontal and occipital regions and an increase in theta band power in the frontal region with a marked decrease in beta band power almost throughout the entire hemisphere which keeps brain calm and quiet with less anxiety.
- 20- **Shohani (2018)** Depression, anxiety and stress decreased significantly in women after 12 sessions of regular Hatha yoga practice of 60-70 minutes.
- 21- **Kumar (2019)** A randomized controlled study involving 80 patients with major depressive disorder were allocated to two groups. The individuals in the yoga group

had a significant fall in depression scores and significant fall in anxiety scores from baseline to 10<sup>th</sup> day. It has been concluded that Anxiety starts to improve with short term yoga sessions, while long term yoga therapy is likely to be beneficial in the treatment of depression.

**22- Aurelus (2020)** A thorough literature research was conducted to find out the role of yoga in managing anxiety and it has been concluded that Yoga is not only limited to be effective to mental health disorders but physical disorders as well.

**Intervention:** [7]

**Asanas (Postures):**

**1- Shavasana (Corpse pose)** Lie flat on the back with the arms about 15 cm away from the body, palms facing upward. A thin pillow or folded cloth may be placed behind the head to prevent discomfort. Let the fingers curl up slightly.

Move the feet slightly and close the eyes. The head and spine will remain straight. Relax the whole body during each inhalation and exhalation and start concentrating from head to toe.

**2- Sirshasana (Headstand pose)** Sit in *Vajrasana* (Thunderbolt). Place the crown of the head on the blanket between the interlocked fingers. Wrap the hands around the head to make a firm support so that it cannot roll backward when pressure is applied.

Raise the buttocks off the floor and straighten the legs. Walk slowly towards the trunk and attains the vertical position. Slightly bend the knees and raise the calves in a controlled movement. Raise the knees to the vertical position and balance the body. Return to the starting position.

❖ **Shatkarma:** *Neti, Dhauti, Nauli, Basti, Kapalbhathi, Trataka.*

**1 Neti:** A process of cleansing and purifying the nasal passages. Ex, Jala neti, Sutra neti.

**2 Dhauti:** A series of cleansing techniques which are divided into three main groups; *antar dhauti* or internal cleansing, *sirsha dhauti (danta dhauti)* and *hrid dhauti* or thoracic cleansing. The internal techniques clean the entire alimentary canal from the mouth to the anus.

**3 Nauli:** A method of massaging and strengthening the abdominal organs.

**4 Basti:** Techniques for washing and toning the large intestine.

**5 Kapalbhathi:** A breathing technique for purifying the frontal region of the brain.

**6 Trataka:** The practice of staring at a single point or object to develop the power of concentration.

❖ **Pranayamas:** *Pranayama* is generally defined as breath control. In the pranayama practice there are four important aspects of breathing. These are;

**1 Pooraka or Inhalation**

**2 Rechaka or Exhalation**

**3 Antar Kumbhaka or Internal breath retention**

**4 Bahir Kumbhaka or External breath retention**

❖ **Specific Pranayamas for the Management of Mental Disorders:**

**1. Bhramari pranayama (Humming sound):** Sit in a comfortable meditative pose. Raise the arms sideways and bend the elbows, bringing the hands to the ears. Place the index or middle finger on the ears. Take a deep breath through the nose. Exhale slowly while making a loud humming sound like black bee. Breathe in again and repeat the process.

**2. *Sheetali pranayama* (The Cooling Breath):**

Sit in any comfortable meditative posture. Bring the tongue outside the mouth and roll the sides of the tongue like a straw. Take a long deep inhalation through this tube. After inhalation, close the mouth and exhale through both nostrils.

**3. *Seetkari pranayama* (Hissing Breath):**

Sit in any comfortable meditative posture. Hold the teeth lightly together. Breathe in slowly and deeply through the teeth. By keeping the tongue flat at the end of inhalation exhale slowly through the nose in a controlled manner.

**4. *Kapalbhati pranayama* (Skull Shining Breathing technique):**

Sit in any comfortable meditative asana. Inhale deeply through both nostrils. Expel the breath with a forceful contraction of the abdominal muscles. Repeat the process again.

**5. *Nadi shodhana pranayama* (Alternate Nostril Breathing):**

Sit in any comfortable meditative asana. Close the right nostril with the thumb and breathe in through the left nostril. At the same time count mentally 1, 2, and 3 until the inhalation ends comfortably. Close the left nostril with the ring finger, release the pressure of the thumb on the right nostril and simultaneously count 1, 2 and 3. The time for inhalation and exhalation should be equal. After perfecting the above ratio, it may be changed to 1:2. After some practice *antar kumbhaka* or internal breath retention should be introduced. After the practice of internal breath retention outer breath retention or *bahir kumbhaka* should be introduced.

**6. *Pranakarshana pranayama*:** [8] Pt. Shriram Sharma Acharya developed the technique of *Pranakarshana pranayama* and it includes the following steps;

**I.** In the early pre dawn hours after performing daily ablutions sit cross legged facing the eastern direction. Place both hands on the knees. Close your eyes. While inhaling, meditate on the fact that I am sitting alone in the void world and taking the sea of enlightened vital force like electricity all around me. I am pulling the life force along with the air through my breath.

**II.** When you inhale deeply stop it from getting exhaled for some time and feel mentally: “The *Prana* I have inhaled is now pervading every pore of my body. Just as when we pour water on mud it soaks the water so too our bodily parts are like dry mud and water as *Prana* is being soaked by our entire body. Further our body is also fully imbibing consciousness, divine light, strength, zest, enterprise, patience and valor that are conjoined to *Prana*”.

**III.** While doing the exhale, one should feel that waste accumulated in the body, the toxins of the blood and the mental taints and distortions are being emitted via exhalation of this air.

**IV.** After exhaling fully let the air remain outside for sometime i.e. life without air for some time and think: “Since all the taints of my mind have been exhaled I will shut all doors on them. Now these distortions have run away miles from me”. This cycle has to be repeated again and again.

❖ ***Yoga Nidra*:** [9] *Yoga nidra* is performed in *shavasana*. Turn the palms of the hands upward. Light, loose clothing should be worn and sight stimuli are eliminated by simply closing the eyes. The mind is then focused on external sounds and to move from sound to sound with the attitude of a witness. The method of calming the mind is called *antar mouna*.

Then, according to the needs *sankalpa* (sacred intention) is chosen. The practice of rotation of consciousness proceeds in a definite sequence. After these rotations of consciousness have been completed, physical relaxation is then continued by drawing attention to the breath. Next come relaxation on the plane of feelings and emotions. The last stage of *yoga nidra* induces visualization of the images. The visualization practice is usually finished with an image that provides feeling of peace and calmness.

#### ❖ **Mindfulness meditation:** [10]

Maharishi Patanjali has explained in detail the role and benefit of meditation to attain Samadhi in the eight limbed paths of *yoga*. In meditation the mind becomes continuously focused on the chosen object. Mindfulness is the basic human ability to be fully present, aware of where we are and what we are doing. One can build mindfulness in daily life by taking a good seat, pay attention to the breath and when the attention wanders, return.

#### **Possible Mechanism of Action of Yoga on Mental disorders:**

##### **1. Yoga improves mood and relaxation:**

Regular yoga practice improves functioning of the parasympathetic nervous system by down regulating sympathetic nervous system which in turn activates relaxation response. There are certain chemicals in the brain such as GABA (Gamma amino butyric acid) and the level of happy hormones like Serotonin is found decreasing in people with mental disorders. Serotonin is believed to play major role in mood shifts and happiness and Yoga is a natural way to increase serotonin production.

**2. Yoga increases pain tolerance:** The practice of yoga increases pain tolerance and decreases pain perception. A person with a high pain tolerance can deal stress, anxiety and depression more comfortably than a person with low pain tolerance.

**3. Regulating stress response:** The stress response involves multiple organ systems of the body like central nervous system, autonomic nervous system, endocrine system, cardiovascular system and immune system. [11] Yoga's holistic approach may alter the stress response system of the body by regulating various body processes.

**4. Optimistic outlook in life:** Optimists are more likely to live longer than those who have a more negative approach to life. [12] The yoga discipline inculcates the positive thinking and optimistic approach in practitioners which is a key to stress management.

#### **CONCLUSION:**

Everyone experiences stress and anxiety at one time or another and depression can occur at the same time by an event that can make frustrated or nervous that needs treatment. Regular yoga practice reduces the level of stress which in turn addresses anxiety and depression by allowing the mind to relax.

In summary, all types of pranayama or breathing techniques in coordination with *asanas*(postures) and *shatkriyas* (six methods) are beneficiary in improving the mental functions.

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