

EFFECT OF YOGA ON TENSION HEADACHE – A CONCEPTUAL STUDY

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ABSTRACT

Headaches are a common and universal phenomenon in humans. Headaches can be generally divided into two categories, which are primary and secondary headaches on the basis of the underlying pathology. Tension headache is the most common type of primary headache, which is not associated with pre-existing medical conditions. Vataja shiroroga can be correlated with tension headache. It is often described as a constant pressure, as if the head is being squeezed. Stress is an important triggering factor for tension headache. Yoga is one of the effective therapies in reducing stress levels. Yoga also helps to ease the impact of stress upon the mind and body. Studies report that much of the headaches stem from muscle tension in the back of the neck and yoga can lessen the stress in that area. Breathing exercises are also recommended for tension headaches. The results of several studies reveal that yoga has potential role in treatment for tension type of headaches. Yoga has been reported as a safe and cost effective intervention for managing pain.

KEYWORDS: Tension headache, Stress, Anxiety, Yoga, Asana, Pranayama, Relaxation

INTRODUCTION

Headache is one of the most common complaints. According to Epidemiological surveys, headache is the third most frequent complaints of the top 14 problems¹. Tension-type headaches make up to two-thirds of all chronic headaches. The global prevalence of headache was found to be 46% with tension type headache accounting for 42%². Tension headache is a type of primary headache, which is a bilateral pressure like tightening or non-pulsating headache which lasts from 30 min to 7 days³. Stress is an important triggering factor for tension headache^{4,5}. Tension associated with stress concentrates on the neck muscles. If these muscles are relieved

from the influence of stress, tension headache can be reduced⁶. *Yoga* easily achieves voluntary control over autonomous nervous system and relieves stress. It simultaneously increases the strength, stamina, and maintains emotional levels. *Yoga* influences the stress disorder helping a person to attain physical and metabolic stability⁷.

Tension Headache:

This is the most common type of primary headache. Exploration of the underlying cause of chronic anxiety is important.

Clinical features:

Headache is non-pulsatile, diffuse, dull, aching and band-like. Headache is usually

more in occipital and cervical region. Patients often complain of poor concentration and other vague nonspecific symptoms.

Aggravating factors: Headache is constant daily and may be exacerbated by emotional stress, fatigue, noise or glare. It gets worse on touching scalp (peri cranial tenderness).

Treatment:

Aspirin, acetaminophen or NSAID'S are effective in occasional mild headache. Amitriptyline is most effective prophylactic medicine for tension-headache⁸.

Anti-migrainous agents are prescribed when simple analgesics are not effective.

Relaxation techniques: The massage, hot baths and biofeedback are helpful^{9,10}.

Botulinum toxin type A: Local injection may be useful¹¹.

Some of the triggers for headaches are Stress, lack of sleep, hunger, allergies, sinus problems or eye strain. But posture, and a lack of oxygen, could bring on headaches. Many people sit or stand with rounded shoulders and head jutted forward. Poor posture can affect respiratory system and blood circulation to the brain; which can cause muscle tension, resulting in a headache.

If headaches arise from tension, then yoga can be considered. *Yoga* helps to ease the tension headaches by relaxing muscles in head, back, and neck, boosting circulation to brain and upper body, and improving the posture. The best time to treat a headache is at the first sign of the pain, before the muscles go into spasm. To reduce the amount of headache, following yoga poses can be incorporated in daily routine.

The following *Vyayama*, *asana*, *pranayama*'s can be advised in tension headache^{12,13}:

1) Neck Movement: Forward- Backward and Sideways and Rotation:

Sukshma vyayama mainly concentrates on neck movements. Neck movements with rhythmical breathing which includes the forward and backwards bending, side bending, lateral bending, and clockwise and anticlockwise rotation of the head. During the start of each neck movement patient inhales and exhales when returning to normal pose. Patient breathes normally in the final position. All movements are performed in standing position with eyes closed and with slow breathing. Each neck movement has to be performed 5 times and the duration taken will be 5 minutes.

2) Yogasanas or yogic postures are typical physical postures of the body where in different muscles get simultaneously stretched and relaxed.

Asana postures beneficial in tension headache are *supta matsyendrasana*, *triyaka bhujangasana* and *shavasana*.

These *asana* are done mainly with concentration on neck muscles and back muscles.

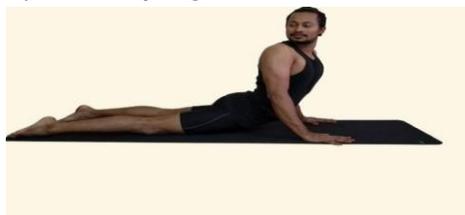
a) Supta matsyendrasana:



Patient is allowed to lie in supine position with eyes closed with normal breathing. The hands are placed sideward on the floor at the level of shoulders. Both legs are slowly

folded at the knees and then bend the knees to right side. Simultaneously the neck is bent to the left side. This is repeated on the opposite side.

b) Triyaka bhujangasana:



Patient is allowed to lie in prone position with eyes closed with normal breathing. Legs are brought together slowly and the palms are placed on either side of the chest. The head and chest are slowly raised and while inhaling head is slowly turned towards the right side. This is done on the other side also. Each *asana* is performed for 30 seconds on each side. This is practiced for 4 min and in between two asanas, person is allowed to relax for 1 min.

c) Shavasana:



Patient is allowed to lie down in supine position with eyes closed with normal breathing. Patient is taught the modified special breathing technique which involves selection of numbers from sixty and counting the number in reverse manner up to one, wherein with every counted number deep inhalation and forceful exhalation is done. This is practiced for one to two times. The procedure takes 20 minutes.

d) Makarasana:



Patient is made to lie in prone position keeping the leg close to each other with soles facing upward, hands sideward with palms on the ground and chin touching the ground. Widen both feet about half a meter apart with heels inward and touching the ground. Bending the right elbow, place the right palm on the left shoulder. In the same pattern, keep the left palm on the right shoulder. Support the neck at the crossing point of the hands. Relax with eyes closed. Maintain this position for two minutes and slowly return to the original position. By performing this *asana*, the vital centers in the brain get sufficient rest.

3) Pranayama: As *pranayama* has a greater beneficial effect on the nervous system, mind becomes calm and quiet and mental tranquility is sought. Mental tranquility reduces the mental stress and strain.

Some of the *pranayama* types which are beneficial in tension headache are:

a) Sitkari, Cooling Breath:



Technique: Gently open mouth, keeping the upper and lower teeth touching each other and inhale through mouth with a hissing sound. Then performing *kumbhaka* (breath retention) with *bandhas* and exhale through nostrils. This *pranayama* helps to calm the mind and emotions.

b) **Nadi Shodhana**, Alternate nostril breathing:



Technique: Sit comfortably and close the eyes. Place the index and middle fingers of the right hand between the eyebrows so that the ring and little fingers rest on the left nostril and the thumb on the right. Start by closing the right nostril with the thumb and exhaling through the left nostril. Breathe in through the left nostril, pressing it closed before opening the right nostril and breathing out. Repeat with long, deep smooth breaths. *Nadishodhana* manages stress and also overcome many symptoms that results from chronic stress.

DISCUSSION

Yoga is very beneficial in treating tension headache. Since olden days, *yoga* is used for improving health. To cure different ailments, *yoga* has been practiced in several countries, particularly related to mental stress¹⁴. Studies have shown that chronic pain goes beyond the nociceptive pathway and has a negative effect on various other aspects of a person's life. *Yoga* has documented good clinical outcome in treating patients with Migraine as well as tension headache.

Muscle relaxation techniques like; listening to music has shown to reduce anxiety. Stress can produce spasms by interfering with coordination of different muscle groups involved in the functioning of neck.

In a study, the *Yoga*-based guided relaxation was shown to reduce sympathetic activity as

measured by autonomic parameters, oxygen consumption, and volume of breaths. *Yoga asana* has been found to act on disorders with lower levels of gamma-aminobutyric acid (GABA)-like depression and anxiety.

Hatha *yoga* promotes physical relaxation by decreasing activity of sympathetic nervous system, which lowers heart rate and increases breathe volume. The effect of stress is mainly deposited in the neck muscles; muscle relaxation attained through stretching of neck muscles was the main aim in practicing of *asana* for reduction of pain and stiffness in neck muscles. A deep breathing exercise provides extra oxygen to the blood and causes the body to release endorphins, which are naturally occurring hormones that reenergize and promote relaxation¹⁵. *Yoga asana* and relaxation techniques help in the reduction of anxiety levels and treated as a complimentary therapy¹⁶. The decreased peripheral nervous system (PNS) and GABAergic activity that underlies stress-related disorders can be corrected by *yoga* practices resulting in amelioration of disease symptoms that occur due to the underlying stress¹⁷.

Various studies which have concluded that *yoga* decreases nuchal rigidity, increases endorphins, and GABAergic activity prove that *yoga* reduces tension¹⁸.

CONCLUSION

-*Yoga* is interrelated with physical, mental and spiritual healings; thereby it reduces stress and anxiety.

-By doing *Yoga* one can attain physical and metabolic stability.

-The results of several studies reveal that *yoga* has potential beneficial role in treatment for tension type of headache.

-Yoga is a safe and cost-effective intervention for managing pain and reducing stress levels.

-Yoga namely *asana*, breathing exercises and relaxation techniques are beneficial on tension headache.

-Yoga has proved to be a boon to humanity in this modern stress-age.

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