

Case Report

INTEGRATIVE YOGA THERAPY FOR THE MANAGEMENT OF BRONCHIAL ASTHMA AND MIGRAINE IN A YOUNG FEMALE: A CASE REPORT

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ABSTRACT

Bronchial asthma and migraine are chronic disorders that significantly affect physical health, emotional well-being, and quality of life. Asthma is characterized by chronic airway inflammation and reversible airflow obstruction, whereas migraine is a recurrent neurovascular disorder associated with severe headache and autonomic symptoms. Increasing evidence suggests that psychological stress, autonomic imbalance, and inflammatory pathways contribute to the progression of both conditions. Yoga, as a holistic mind-body intervention, has demonstrated beneficial effects through breathing regulation, relaxation techniques, meditation, and therapeutic postures that improve respiratory efficiency, reduce stress, and restore autonomic balance. This case report describes the therapeutic outcome of an integrated yoga program in a 26-year-old female suffering from bronchial asthma for three months and migraine for six months. A structured yoga protocol consisting of loosening exercises, breathing practices (Pranayama), selected asanas, relaxation techniques, and meditation was practiced regularly under supervision for twelve weeks. Following the intervention, the patient experienced a marked reduction in asthma symptoms, decreased frequency and intensity of migraine attacks, improved respiratory function, enhanced sleep quality, and better psychological well-being. This case highlights the potential role of yoga as a safe, cost-effective, and complementary therapy in the management of asthma and migraine while improving overall quality of life.

Keywords: Yoga Therapy, Bronchial Asthma, Migraine, Pranayama

INTRODUCTION

Bronchial asthma is a chronic inflammatory disease of the airways characterized by wheezing, breathlessness, chest tightness, and recurrent episodes of coughing. Worldwide, asthma affects more than 260 million individuals and remains a major cause of disability despite advances in pharmacological management. Although medications effectively control symptoms, many patients continue to experience recurrent exacerbations, anxiety, and impaired quality of life. [1,2]

Migraine is a chronic neurological disorder characterized by recurrent attacks of moderate-to-severe headache often associated with nausea, vomiting, photophobia, and phonophobia. It affects approximately 15% of the global population and is one of the leading causes of disability among young adults. Emotional stress, sleep disturbances, hormonal changes, and autonomic dysfunction are recognized triggers for migraine episodes. [3, 4]

Recent evidence suggests that asthma and migraine frequently coexist because both disorders share

inflammatory mechanisms, autonomic nervous system dysregulation, and heightened stress responses. Psychological stress increases airway hyper-responsiveness while simultaneously lowering the threshold for migraine attacks. Therefore, interventions that target both physical and psychological health may provide significant therapeutic benefits. [5, 6]

Yoga is an ancient mind-body discipline that integrates physical postures (Asanas), breathing techniques (Pranayama), meditation, and relaxation practices. Clinical studies have demonstrated that yoga improves pulmonary function, enhances parasympathetic activity, reduces systemic inflammation, decreases perceived stress, and improves pain tolerance. Consequently, yoga is increasingly being recognized as a valuable complementary therapy in chronic respiratory and neurological disorders. [7–10]

This case report describes the effect of an integrated yoga therapy program in a young female diagnosed with bronchial asthma and migraine.

CASE REPORT

A 26-year-old female presented to the yoga therapy clinic with complaints of episodic breathlessness, wheezing, chest tightness, and dry cough for the previous three months. She had been diagnosed with bronchial asthma by a pulmonologist and was

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prescribed inhaled bronchodilator medication on an as-needed basis.

She also reported recurrent unilateral throbbing headaches for the previous six months, accompanied by photophobia, nausea, and occasional vomiting. Migraine episodes occurred three to four times per week, lasting between four and eight hours, significantly interfering with her daily routine and occupational performance. Stress and inadequate sleep frequently triggered headache attacks.

Clinical assessment revealed shallow thoracic breathing, reduced respiratory endurance, anxiety, disturbed sleep, and moderate perceived stress. Baseline quality-of-life assessment suggested limitations in physical activity due to fear of asthma attacks and frequent migraine episodes.

A comprehensive integrated yoga protocol was initiated under certified supervision for twelve weeks. Sessions were conducted for approximately 60 minutes daily, six days per week.

Considering the patient's age, vascular status, and cardiovascular history, a mild therapeutic yoga regimen was recommended under supervision as a complementary supportive intervention alongside medical treatment. The primary objectives of the yoga program were to encourage relaxation, improve circulation, enhance flexibility, and reduce physical as well as psychological stress.

The therapeutic protocol consisted of diaphragmatic breathing exercises, slow Anulom Vilom Pranayama performed without breath retention, gentle ankle and toe mobilization exercises, chair-assisted Tadasana, modified spinal stretching movements, and guided relaxation through Shavasana. The practices were selected carefully to minimize cardiovascular strain and avoid unnecessary pressure on the affected limb.

1. Shanyasana:

Shanyasana is a restorative yoga posture that promotes deep physical and mental relaxation by allowing the body to rest in a comfortable supported position. It helps reduce fatigue, relieve muscular tension, calm the nervous system, and encourage slow, deep breathing. [Figure 1]



Figure 1: Shanyasana

2. Purvottanasana:

Purvottanasana is a strengthening backward extension that stretches the entire front of the body while improving the strength of the arms, shoulders, back, and legs. It helps expand the chest, enhances posture, and promotes better respiratory function and overall body stability. [Figure 2]



Figure 2: Purvottanasana

3. Supta Baddha Konasana on Bolster (Reclining Bound Angle Pose):

Supta Baddha Konasana performed with a bolster provides gentle support to the spine, allowing the chest and abdomen to open comfortably. It promotes deep relaxation, reduces stress, improves diaphragmatic breathing, and helps relieve fatigue while encouraging gentle hip opening. [Figure 3]



Figure 3: Supta Baddha Konasana

4. Supta Sukhasana on Bolster:

Supta Sukhasana on a bolster is a restorative yoga posture that gently opens the chest, shoulders, and hips while providing full support to the spine. It promotes deep relaxation, improves breathing efficiency, and helps reduce stress, fatigue, and muscular tension. [Figure 4]



Figure 4: Supta Sukhasana

5. Uttanasana

Uttanasana stretches the entire posterior chain, relaxes the nervous system, improves blood circulation to the brain, and helps relieve stress and headache symptoms. [Figure 5]



Figure 5: Uttanasana

6. Sirsasana

Often called the "King of Asanas," Sirsasana enhances cerebral circulation, improves concentration, stimulates the nervous system, and promotes mental clarity. It should be practiced only under expert supervision. [Figure 6]



Figure 6: Sirsasana

7. Chakrasana

Chakrasana opens the chest, strengthens the back and limbs, improves spinal flexibility, and enhances lung capacity while energizing the entire body. [Figure 7]



Figure 7: Chakrasana

8. Bharadvajasana

This seated spinal twist improves spinal flexibility, massages abdominal organs, relieves back stiffness, and supports healthy digestion and posture. [Figure 8]



Figure 8: Bharadvajasana

9. Sarvangasana (Shoulder Stand)

Sarvangasana, or Shoulder Stand, is an inverted yoga posture in which the body is balanced on the shoulders with the legs extended vertically upward. It helps improve blood circulation, stimulates the thyroid gland, and promotes relaxation, balance, and overall well-being. [Figure 9]



Figure 9: Shavasana

10. Setu Bandha Sarvangasana

This supported backbend expands the chest, strengthens the back muscles, improves breathing efficiency, stimulates the thyroid gland, and promotes relaxation while reducing fatigue. [Figure 10]



Figure 10: Setu Bandha Sarvangasana

11. Jathara Parivartanasana

A gentle supine twist that strengthens the core, improves spinal mobility, massages abdominal organs, and relieves lower back discomfort. [Figure 11]



Figure 11: Jathara Parivartanasana

12. Supta Padangusthasana

This posture stretches the hamstrings, calves, and hips while improving flexibility, lower limb circulation, and pelvic alignment. [Figure 12]



Figure 12: Supta Padangusthasana

13. Pranayam pillow with sufficient weight on thighs shoulder and palm

Pranayama performed with pillow support provides comfort to the spine and chest, allowing relaxed and effortless breathing. It promotes diaphragmatic breathing, improves lung expansion, reduces stress, and enhances relaxation during the practice. [Figure 13]



Figure 13: Pranayam pillow with sufficient weight on thighs shoulder and palm

After twelve weeks, the patient demonstrated considerable improvement. Breathlessness episodes became infrequent, wheezing significantly reduced, respiratory endurance improved, and inhaler use decreased substantially. Migraine frequency reduced from three to four episodes weekly to approximately one mild episode every two to three weeks. Headache intensity also decreased considerably with reduced analgesic requirement. Sleep quality, concentration, emotional stability, and daily functioning improved markedly. The patient reported enhanced confidence in performing daily activities and experienced better overall quality of life.

DISCUSSION

Yoga has emerged as a promising complementary intervention for chronic respiratory and neurological disorders through its multidimensional effects on physical, physiological, and psychological health. In bronchial asthma, controlled breathing exercises such as Anulom Vilom, Nadi Shodhana, and Ujjayi

Pranayama improve diaphragmatic function, reduce airway resistance, enhance pulmonary ventilation, and promote parasympathetic dominance. These mechanisms may reduce bronchospasm, improve oxygenation, and decrease symptom severity. [7,8]

Similarly, relaxation techniques including Yoga Nidra, meditation, and Bhramari Pranayama reduce sympathetic overactivity, lower cortisol secretion, decrease perceived stress, and improve autonomic balance. Since stress is a common precipitating factor for both asthma exacerbations and migraine attacks, reducing psychological stress may contribute substantially to symptom improvement. [9,10]

Physical postures practiced during yoga improve thoracic mobility, respiratory muscle strength, spinal flexibility, and circulation. Enhanced respiratory mechanics facilitate more efficient breathing while improved musculoskeletal flexibility reduces physical tension that may contribute to headache severity. Moreover, meditation enhances emotional regulation and reduces anxiety, both of which are strongly associated with chronic pain disorders. [5,8,10]

Several randomized controlled trials have demonstrated significant improvements in pulmonary function tests, asthma control scores, headache frequency, pain intensity, sleep quality, and quality of life following structured yoga interventions. The present case demonstrates findings consistent with previous research, suggesting that yoga may provide synergistic benefits for patients experiencing both bronchial asthma and migraine. Although pharmacological treatment remains the cornerstone of disease management, yoga offers a safe, economical, and patient-centered complementary approach that addresses both physiological dysfunction and psychosocial contributors. [2,6–10]

Further controlled clinical studies with larger sample sizes and long-term follow-up are warranted to establish standardized yoga protocols for individuals with coexisting asthma and migraine.

CONCLUSION

This case report demonstrates that a structured twelve-week integrated yoga therapy program may effectively reduce asthma symptoms, decrease migraine frequency and intensity, improve respiratory function, enhance sleep quality, reduce stress, and improve overall quality of life in a young female patient. Yoga can be considered a valuable complementary intervention alongside standard medical treatment for patients with coexisting bronchial asthma and migraine.

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