



# INTEGRATIVE APPROACH COMBINING COUNSELING, YOGA ASANAS AND MEDITATION WITH CONVENTIONAL MANAGEMENT ON PAIN AND FUNCTIONAL STATUS IN GUILLAIN-BARRE SYNDROME- A CASE STUDY.

Dr. Krishna B. Mehta (PT)

MPT in Musculoskeletal & Sports

Dr. Madhavi sontakkey (PT)

Assistant Professor, (Parul institute of Physiotherapy), waghodia, Vadodara,

Dr Bhavna Gadhavi (Dean and Principal)

Parul institute of physiotherapy), waghodia, Vadodara

## Abstract

**INTEGRATIVE APPROACH COMBINING COUNSELING, YOGA ASANAS AND MEDITATION WITH CONVENTIONAL MANAGEMENT ON PAIN AND FUNCTIONAL STATUS IN GUILLAIN-BARRE SYNDROME- A CASE STUDY.**

**Aim and Objectives:** To investigate the effects of an integrative approach, combining counselling, yoga asanas, and meditation with conventional management on pain and functional status in Guillain-Barre Syndrome (GBS) patient, addressing a knowledge gap and providing insights into holistic treatment benefits for GBS individuals.

### Participant information and methods:

A 32-year-old male GBS patient underwent a tailored intervention protocol, integrating counselling, yoga asanas, meditation, and conventional treatment for a 6 month duration program. Pain was assessed using the Visual Analog Scale (VAS), and functional status was measured with the Barthel Index.

### Analysis:

A 32-year-old male GBS patient's pre and post assessment was done utilizing VAS for Pain and Barthel Index for Functional Status as an outcome measure.

**Results:**

The Barthel Index scores increased from 10 to 75, and VAS scores decreased from severe pain to low levels post-intervention.

**Conclusion:**

This study concludes that an integrative approach positively influences pain management and functional status in GBS patients. It can be seamlessly integrated into conventional care to enhance outcomes for GBS individuals.

**Clinical implications:**

It includes a shift towards more personalized, multidisciplinary care that encompasses both physical and mental well-being for GBS patients, potentially improving their overall quality of life and treatment outcomes.

**Key words:** Guillain-Barre syndrome, Integrative approach, Functional Status.

**INTRODUCTION**

Guillain-Barré Syndrome (GBS) is an acute, autoimmune, inflammatory, demyelinating disease affecting multiple peripheral nerves. The disease onset is acute in nature. The clinical features include flaccid ascending symmetrical limb weakness/paralysis, absence of deep tendon reflexes, cranial nerve palsies, autonomic nervous system disturbances, pain and paraesthesia, also considered a neurological emergency due to its potential to lead to respiratory failure and autonomic dysfunction in severe cases. [1,2].

There are four subtypes of GBS: AIDP (acute inflammatory demyelinating polyradiculoneuropathy), AMAN (acute motor axonal neuropathy), AMSAN (acute motor and sensory axonal neuropathy) and Miller–Fisher syndrome [6].

The overall prognosis of the disease is generally favourable. A broad range of variations is observed during the long term follow up with persistent sensory and motor impairments as common sequelae [7,8].

In addition to physical disability, common challenges during rehabilitation include persistent pain, fatigue, numbness or tingling, mood swings, anxiety, depression, and sleep problems. [10,11]. Rehabilitation for GBS patients necessitates a multidisciplinary approach, involving pharmacological treatment, nutritional management, and carefully tailored exercises, such as gentle range-of-motion activities, assisted range-of-motion exercises, manual resistance, proper positioning, and orthotic interventions. [12,13]. Therapeutic approaches such as cognitive-behavioural therapy for pain management, along with psychological education programs tailored for both patients and their families, have proven effective in addressing pain and the psychological effects of GBS. [15,16].

Cases of Guillain-Barré syndrome (GBS) have been documented following infections with Epstein-Barr virus (EBV), Campylobacter jejuni, and Zika virus, as well as after vaccinations for polio, hepatitis B, rabies, and influenza (Sejvar et al., 2011). There have also been reports of GBS following COVID-19 vaccination, although studies on this topic are limited, and no definitive conclusions can be drawn regarding a significant link between COVID-19 vaccination and GBS (Kanabar and Wilkinson, 2021). Furthermore, recent reports indicate that some patients developed GBS after contracting COVID-19. This systematic review aims to analyze the available evidence on the potential connection between COVID-19 and GBS in adults, offering insights into clinical symptoms to improve recognition, prevention, and management of adverse outcomes and lingering symptoms.

**NEED OF THE STUDY**

Apart from physical disability, persistent pain, fatigue, paraesthesia, mood changes, anxiety, depression and sleep disturbances are common during rehabilitation. There are no studies in literature that have tried to observe the

effect of counseling, yoga and meditation during rehabilitation of GBS. This study addresses a knowledge gap and offers insights into holistic

treatment benefits which not just only focuses on improving symptoms but also the psychological aspects of GBS individuals.

Integrated yoga that includes postures, pranayama, relaxation and meditation have been found to be effective in the long-term rehabilitation of diseases like rheumatoid arthritis [17], bronchial asthma [18] and major depression [19]. Yoga as an add-on to physiotherapy has shown benefits in patients with chronic neck pain [20]. The addition of yogic prana energization technique hastens the callus formation in the fracture of long bones [21]. Many other studies have shown demonstrable benefits of yoga after a short duration of intensive integrated programs either as an inpatient [22] or outpatient [23] with better quality of sleep in the elderly [24] and in cancer patients [25] have been documented. There are no studies in the literature that have tried to observe the effect of yogic relaxation techniques during the rehabilitation of GBS patients. The present pilot study aimed to examine the effect of yoga as an add-on therapy in patients with GBS undergoing in-patient rehabilitation.

## METHODOLOGY

A GBS patient with documented symptoms and functional limitations was chosen for this study. A tailored intervention protocol implemented over a 6-month duration (3 times a week) demonstrated promising results in the 32-year-old male participant.

## METHODS

A 32 year old male patient underwent a tailored intervention plan comprising counseling, yoga asanas ( sukhasana , vajrasana, marjarasana, bhujangasana, setubandhasana) and meditation (MSRT) with conventional management. Pre and Post assessment was done in which Pain was assessed with VAS and Functional Status with Barthel Index.

## RESULTS

Barthel Index score improved from 10 to 75 and VAS scores decreased from severe pain to low levels post-intervention.

## DISCUSSION

This case study examines the effects of an integrative approach, which includes counselling, yoga, and meditation alongside conventional treatment, on pain and functional status in a 32-year-old male patient over six months. The results demonstrate a substantial reduction in pain (VAS scores: from severe to low) and a significant improvement in functional status (Barthel Index: from 10 to 75).

MSRT is an eight-step guided meditation technique in which participants are led to experience the calming resonance of sound throughout the body while slowly chanting Vedic syllables (such as a, u, m, and om) in a low pitch.

The Barthel Index (BI) [30] includes 10 items (bladder and bowel function in the past week, grooming in the last 24–48 hours, toilet use, feeding, transfers, mobility, dressing, stairs, and bathing), with scores ranging from 0 to 100.

The term "Asanas" in Sanskrit refers to postures. There are approximately 84 Asanas, each with its own unique name, form, and method of execution. These postures are intended to foster mental and physical well-being or overall health. This can be described as the state achieved when all organs function efficiently under the mindful control of the brain. Asanas possess a remarkable ability to restore, revitalize, and bring the entire body into balance. Their purpose is to regulate neuromuscular tonic impulses and enhance overall muscle tone. Yogic

postures not only strengthen the body but also calm the mind, whereas physical exercise primarily impacts the body. The caloric expenditure in yogic Asanas ranges from 0.8 to 3 calories per minute, while physical exercises burn between 3 and 20 calories per minute. Each Asana position exerts a squeezing action on a specific organ or gland, stimulating that area and improving blood flow to muscles and ligaments, while also relaxing them and relieving pressure on nearby nerves. Stretching is a key component of all Asanas, as it has a beneficial impact on the body. While holding a yoga posture, breathing is slow and deep, with focus on abdominal or low breathing, which increases oxygen and prana flow to the targeted organ or gland, thus enhancing the Asana's effects. When combined with physical exercise, Asanas alternate between muscle contraction and passive stretching, which not only builds strength but also adds new sarcomeres to the muscle ends. Yogic exercises aim to prevent and treat various ailments, whereas physical exercises expend more energy through quick movements, leading to increased lactic acid buildup in muscle fibers. In contrast, yoga practices do not waste energy and, unlike physical exercises, do not strain the cardiovascular system, ultimately improving physical fitness and muscle strength.

The MSRT session procedure was adapted from the book *Mind Sound Resonance Technique*. Mind Sound Resonance Technique (MSRT) is an advanced guided yoga relaxation method that can be practiced in either a supine or seated posture to promote positive health, strengthen willpower, enhance concentration, and achieve deep relaxation [17]. This technique [Table 1] was developed by drawing on concepts from traditional texts, including the *Mandukya Upanishad*, which highlights the power of Om, and the *Hatha Yoga Pradipika*, which discusses *Nadanusandhana* (sound resonance) for attaining mastery over mental fluctuations, as defined by Patanjali's description of yoga. MSRT reveals the profound principles behind traditional chants known as mantras.

#### Types of yoga

Yoga is one of the six philosophical systems of Indian Vedic tradition (Darshan). Maharishi Patanjali, often regarded as the "Father of Yoga," systematically compiled and refined the principles of yoga in his *Yoga Sutras* (aphorisms). In this text, he introduced the eightfold path, known as "Ashtanga Yoga," aimed at fostering the holistic development of the human personality.

The eightfold path of yoga includes Yama (moral principles), Niyama (self-discipline and self-study), Asana (postures), Pranayama (breath regulation), Pratyahara (withdrawal of senses), Dharana (focused concentration), Dhyana (meditation), and Samadhi (profound absorption). These principles are designed based on a comprehensive psychological understanding of human personality. Additionally, yoga philosophies are categorized into four main streams: Work, Worship, Philosophy, and Psychic Control.

**Karma Yoga**, the path of work, encourages finding joy in labor without dwelling on success or failure, allowing the mind to remain free and the task to be performed skillfully. **Bhakti Yoga**, the path of worship, systematically engages the mind in cultivating divine love, softening emotions, and calming the mind. **Gyana Yoga**, the path of knowledge, enlightens the mind about life's truths through contemplation, dispelling ignorance (Avidya) and leading the mind to a natural state of rest. **Raja Yoga**, the path of psychic control, focuses on training the mind systematically and is rooted in Patanjali's eightfold path.

In counseling patient was advised to take proper sleep and diet. Regular exercises to be done. Importance of each exercise and meditation.

Recent research using functional magnetic resonance imaging, electroencephalography, and evoked potentials suggests that meditation may decrease activation in the prefrontal cortex, amygdala, and hippocampus when individuals are exposed to pain, potentially leading to a more neutral perception of pain.

Meditation has been practiced for thousands of years across various civilizations, both as a tool for promoting well-being and for religious purposes. In recent years, it has become a focus of scientific research exploring its impact on the brain and body, as well as its use in clinical contexts. This chapter will explore the effects of meditation on physiology, attention, and emotion, along with the scientific methods used to investigate these effects. It will conclude by discussing its clinical application in emotion regulation.

Studies have shown that the yoga increases blood oxygen content and probably enhances the brain activity and improves cognitive ability.[16]

The most striking finding of this study was meditation training and counseling which improved in showing addition to highly the significant conventional physiotherapy.

## CONCLUSION

This study concludes that an integrative approach positively influences pain management and functional status in GBS patient. It can be integrated into conventional care to enhance outcomes for GBS individuals.

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