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A COMBINATION EFFECT OF SENSORY TRAINING AND YOGA IN POST COVID GUILLAIN BARRE SYBDROME. A CASE STUDY

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ABSTRACT

Background:

Purpose: Literature suggests, rehabilitation program consists of interventions aimed at improving Sensation, improve breathing problem, improving strength and range of motion. However sensory motor training remains a clinical challenge. Studies shown that sensory motor training will facilitate sensory inputs, correcting muscle imbalance, and ensuring correct program at the level of central nervous system. As there is paucity of literature on sensory motor training in LL.Hence there is a need of study to combine the effect sensory training with Yoga in post covid Guillain-Barre syndrome.

Methodology: A 61-year-old male patient came to Baramati with chief complaints of weakness and sensory loss over bilateral ankle, right leg was more affected than left leg, the patient had difficulty breathing and in basic activities of daily living. The patient had history of diabetes since 2 years. He was also history of Covid-19 in 2020 then after one year later he was diagnosed with Guillain-Barre syndrome.

Intervention: The patient received Sensory motor training and Yoga for 5 days a week for 4 weeks.

Result: In this study we assessed the patient on six-point sensory assessment scale and COVID-19 functional status scale, score for GBS (Guillain-Barre syndrome) which showed significant improvement in results.

Conclusion: In present case study, combination of Sensory Motor Training and Yoga have shown Efficacy on improving breathing pattern, ankle range of motion and strength, sensory discrimination, thereby implementing these combination techniques, will reduce functional dependence and improve quality of life.

Keywords:GBS, Sensory Motor Training, Yoga.

INTRODUCTION

Guillain-Barre syndrome often begins with tingling and weakness starting in your feet and legs and spreading to your upper body and arms. Some people notice the first symptoms in the arms or face. As Guillain-Barre syndrome progresses, muscle weakness can turn into paralysis.
Guillain-Barre syndrome is a rare disorder in which your body's immune system attacks your nerves. Weakness and tingling in your hands and feet are usually the first symptoms.

These sensations can quickly spread, eventually paralyzing your whole body. In its most severe form Guillain-Barre syndrome is a medical emergency. Most people with the condition must be hospitalized to receive treatment.

The exact cause of Guillain-Barre syndrome is unknown. But two-thirds of patients report symptoms of an infection in the six weeks preceding. These include a COVID-19, respiratory or a gastrointestinal infection or Zika virus.

There's no known cure for Guillain-Barre syndrome, but several treatments can ease symptoms and reduce the duration of the illness. Although most people recover completely from Guillain-Barre syndrome, some severe cases can be fatal. While recovery may take up to several years, most people are able to walk again six months after symptoms first started. Some people may have lasting effects from it, such as weakness, numbness or fatigue.

The word 'YOGA' is derived from a Sanskrit word 'YUJ' and its meaning being 'to join/unite' into 'oneness'. In spiritual terms YOGA means "union of individual consciousness with universal consciousness (man with god)".'YUJ' also means to focus one's attention or to concentrate.
Yoga is an ancient and complex practice, rooted in Indian philosophy. It began as a spiritual practice but has become popular as a way of promoting physical and mental well-being. It is science of life, it offers us simple, easy remedies and techniques and methods of health and hygiene to assure physical and mental fitness with a minimum of time, effort and expense.
Yoga is the union of the individual self(jivatma) with the Universal Self (Paramatma). The Sankhya philosophy is theoretical while Yoga is practical. Samkhya and Yoga combined give a dynamic exposition of the system of thought and life. Knowledge without action, and action without knowledge do not help man. They must be intermingled so the Samkhya and Yoga go together.
Yog asanas, Pranayama, Bandh, Shatkarma, Dhyana etc. such yogic processes carry specific effects on heart, lungs, nervous system and on endocrine glands. Pranayama and other yogic processes control various clinical disorders. It promotes vital capacities of various endocrine and exocrine glands. Moreover, yogic exercises regulate nervous system excretory system and normalizes the nerve stimuli. This helps to regulate and normalizes the physical, mental and social state of the person to lead a normal day to day life. Overall, the Yoga practice builds-up a positive attitude in a person, which itself relieves various ailments and offers a heavenly life. [12,13]
Eight Principles of Patanjali Yoga are:1. Yama: The universal moral laws, 2. Niyama: Personal moral roots of conduct, 3. Asan: Yogic postures, 4. Pranayama: Acquiring and controlling prana or energy, by means of the breath, 5. Pratyahara: The withdrawal of the senses from the outer environment, 6. Dharana: Concentration, 7. Dhyana: Meditation, 8. Samadhi: Enlightenment.[12]
Pranayama is an exact science. It is the fourth Anga or limb of Ashtanga Yoga. "Tasmin Sati Svasa prasvasayorgativicchedah Pranayamah"—Regulation of breath or the control of Prana is the stoppage of inhalation and exhalation, which follows after securing that steadiness of posture or seat, Asana. [13]

The word Pranayama is made of two basic Sanskrit words- 'Pran' means Life or Universal Life Energy and 'Ayam' means to Extend and Elongate.[14]

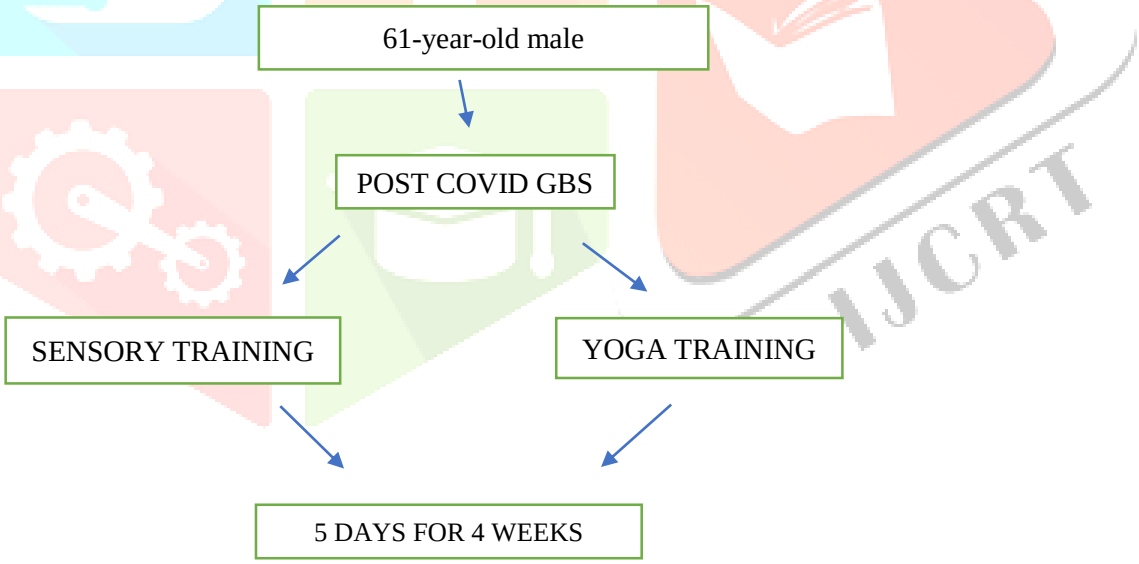
The concept of pranayama is often mistaken for deep breathing. In the later situation, movement of breath is fast and forceful. There is no time for the cells to get soaked in the inhaled oxygen. In pranayama, the movements are so slow that there is adequate time for every alveoli to soak in oxygen.

Previous studies which were performed aimed at individually improving breathing problem, range of motion and strength in lower limbs but not on overall augmentation in the performance of the lower limbs in individuals with GBS.[6]

NEED OF STUDY

Literature suggests, sensory function of UL has an important role for a person's ability to explore and interact with the surroundings as well as for movement control and ability to use the hands in many daily activities. It is also described that lack of accurate proprioceptive information from lower extremities in distal sensorimotor polyneuropathy patients has resulted in postural instability. The activity limitations may in turn lead to restriction in social roles and perceived participation. Despite these problems, little attention is paid to the sensory impairment in GBS rehabilitation of the LL. Hence there is a need of study to combine the effect on use of Sensory Motor training and Yoga consequently there is a great need to develop more efficient rehabilitation interventions for the LL in persons with sensorimotor impairments and difficulty in breathing after post covid GBS.

METHODOLOGY



OUTCOME MEASURES

A] Six-point sensory assessment scale

0- absent
1- Slight
2- Moderate
3- Strong
4- Very strong
5- Extremely strong

B] COVID-19 functional status scale

Grade

0- No Functional Limitations
1- Negligible Functional Limitation
2- Slight Functional Limitations
3- Moderate Functional Limitations
4- Severe Functional Limitation

INTERVENTION

INTERVENTION	**DOSE/ DURATION**
SENSORY TRAINING	
1. TO IMPROVE SENSORY DISCRIMINATION • Use of sponge, hard cloth, soft cloth, • Velcro, paper • Place foot into box filled with grass, mud, stones.	Begin with eyes closed to eyes open. Each exercise 10 reps and practiced for about 10-15 min up to 4 weeks.
• Flexibility • ROM exercise, toe Curls) • Strengthening • Fine motor task- chess board, peg board • Aerobic	Flexibility- ≥ 2- 3 days/week, stretch to a point of tightness, hold stretch for 10-30 sec, 2-4 reps. 5 reps for 10 min upto 4 weeks. Resistance- 3 days/ week , Moderate(50-69% of 1RM and progress to vigorous 70-85%), 1-3 sets of 8-10 reps (weight cuff, TheraBand) 5 reps for 10 min up to 4 weeks. Aerobic- 3-5 days/ week, moderate (11-12 RPE) and progress to (14-17 RPE), 150 min/week (Cycling)

YOGA	45 MINS
PRATHANA	2 MINS
SUKSMA VYAYAM	5 MINS
YOGASANA	15 MINS
KAPALBHATI	5MINS
ANULOM VILOM	5 MINS
FULL YOGIC BREATHING	5 MINS
SURYABHEDAN PRANAYAMA	5 MINS
OMKAR CHANTING	3 MINS

RESULT

OUTCOME MEASURES	**PRE- TEST**	**POST- TEST**
Six-point sensory assessment scale	1	4
COVID-19 functional status scale	9	7

DISCUSSION

In post COVID-19 Guillain-Barre syndrome various interventions have been studied in an attempt to improve breathing in last few years. GBS often begins with tingling and weakness starting in your feet and legs and spreading to your upper body and arms. Some people notice the first symptoms in the arms or face. As Guillain-Barre syndrome progresses, muscle weakness can turn into paralysis. Guillain-Barre syndrome is a rare disorder in which your body's immune system attacks your nerves but two-thirds of patients report symptoms of an infection in the 6 weeks preceding. These include a COVID-19, respiratory or a gastrointestinal infection or Zika virus. There's no known cure for Guillain-Barre syndrome, but several treatments can ease symptoms and reduce the duration of the illness. Although most people recover completely from Guillain-Barre syndrome, some severe cases can be fatal. While recovery may take up to several years, most people are able to walk again six months after symptoms first started. Some people may have lasting effects from it, such as weakness, numbness or fatigue. Literature suggests, sensory function of UL has an important role for a person's ability to explore and interact with the surroundings as well as for movement control and ability to use the hands in many daily activities. It is also described that lack of accurate proprioceptive information from lower extremities in distal sensorimotor polyneuropathy patients has resulted in postural instability. The activity limitations may in turn lead to restriction in social roles and perceived participation. Despite these problems, little attention is paid to the sensory impairment in GBS rehabilitation of the LL. Hence there is a need of study to combine the effect on use of Sensory Motor training and yoga consequently there is a great need to develop more efficient rehabilitation interventions for the LL in persons with sensorimotor impairments and difficulty in breathing after post covid GBS. In this case 61 yr male who has history of covid and after that he diagnosed with GBS. the patient had difficulty in breathing and had sensory issue because of this reason

patient come to our Centre there we assessed the patient and ask him to come for 4 weeks. We give patients sensory integration treatment and yoga. In present case study, from the results of this study, it can be concluded that combination of Sensory Motor Training and Yoga have shown Efficacy on improving ankle range of motion and strength, sensory discrimination have reduced functional dependence and improve quality of life. Hence the study result that there is combination effect of sensory training and yoga in post covid Guillain-Barre syndrome.

CONCLUSION

In present case study, from the results of this study, it can be concluded that combination of Sensory Motor Training and Yoga have shown Efficacy on improving post covid Guillain-Barre syndrome.

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