



EFFECTS OF BRAIN GYM THERAPY ON ANXIETY, DEPRESSION AND MOOD IN PATIENT WITH PSYCHOSOMATIC CONDITION: A CASE REPORT

Physiotherapy

Vishwa Mehta

M.PT in Neuro Sciences, Assistant Professor at shree sahanand Institute of Physiotherapy, Bhavnagar, Gujrat, India

Adyata Dave

M.P.T. in Neurological and Psychosomatic Disorders, Assistant Professor at C.M. Patel College of Physiotherapy, KSV University, Gandhinagar, Gujarat, India.

ABSTRACT

Background: The word Psychosomatic means psyche (mind) and soma (body). Psychosomatic disorders are those in which mental states like worry or anxiousness directly cause or exacerbate physical symptoms. Depression and anxiety are very common psychosomatic disorders. A 38 year old female suffered from psychosomatic disorders. She is having Complain of auditory hallucination, involuntary neck movement and phobia of all things. On examination concluded that she was having severe anxiety and Extreme depression. **Purpose:** To evaluate the effect of brain gym therapy on anxiety, depression and mood in patient with psychosomatic condition. **Methodology:** Brain Gym Therapy was given for duration of 60 minute per session for 5 sessions per week for 4 weeks. Brain gym therapy included warm up for 10 minutes, General exercise for 45 min and cool down for 5 minutes. The effect on Anxiety, Depression and mood examined by Anxiety assessment tool, back's depression inventory and the positive and negative affect schedule respectively. **Result:** The findings of present study shows that pre and post-intervention measures were significantly reduction in anxiety, depression and reduced frequency of auditory hallucination and improved in mood. **Conclusion:** Brain gym Therapy is effective to reduce anxiety, depression and improve mood status.

KEYWORDS

Psychosomatic Condition, Brain gym, Anxiety, Depression, Auditory Hallucination, Mood.

BACKGROUND

Psychosomatic disorders are defined as disorders characterized by physiological changes that originate, at least in part, from emotional factors. Term psychosomatic is derived from Greek word "psyche" (mind) and "soma" (body)¹.

Depressive and anxiety disorders are common Psychosomatic disorders. It cause a high burden of disease with crossover from one to the other². Women are twice as likely as men to suffer from an episode of depression³.

The World Health Organization lists CMD as the main cause of disease burden for women aged 15–49 in India⁴. A depressed individual tends to center attention on the dysfunctional thoughts, reasoning about negative experiences, events, or emotions⁵.

The brain gym is a series of simple motion exercises and is an alternative therapy that aims to increase the flow of blood and oxygen to the brain and stimulate both parts of the brain to work. It can maintain an optimal balance between the right and left brain performance⁶.

Purpose: Psychosomatic disorder is common, occurring in about 5% to 7% of the general population. Women have somatic Symptoms about 10 times more often than men. There are some research shows Brain gym therapy reduce Anxiety and some research shows reduce Depression So, To evaluate the effect of brain gym therapy on anxiety with depression and mood in patient with psychosomatic condition.

Case Description: A 38 year old female presented with complain of Cervical dystonia, Auditory Hallucination, confused, Weight loss, Insomnia since 2 years. For that she referred to Dr. Gaurang Thanki (M.D. Psychiatrist) at Mann Psychiatric EEG Clinic, Gandhinagar, Gujarat. Dr. Diagnosed Depression and Anxiety for that prescribe medicines. She also referred Dr. Rahul Yadav (Consultant Neurologist). He suggested for MRI of Brain with Cervical Spine and it concluded that there was no any abnormality detected. Dr. Rahul Yadav Diagnosed Cervical Dystonia and Prescribe Medicine for that. She took medicine for 2 year but symptoms was not relieved So, her relative referred her for physiotherapy treatment for neck.

Investigation



Figure 1: cervical spine X-ray



Figure 2: Brain

Date : 30-11-2022 Cervical Spine AP X ray and Brain MRI– No abnormality detected

Examination

- Patient is Ectomorph and presented with involuntary neck movements.
- Patient presented with left side sternocleidomastoid, scalene, trapezius muscles wasting.
- Patient was oriented, sustained attention was normal, divided attention examined by walkie talkie test. It was affected. Selective attention examined by digital span test and it was affected, alternative attention examined by stroop test it was affected.
- Immediate, Short term, Long Term Memory was normal.
- Cervical ROM was normal and reduce muscle strength cervical extensors, left trapezius, left side neck rotators.
- Anxiety examined by Anxiety assessment tool (Generalized Anxiety Disorder – 7 item GAD – 7) scale score was 18/21 It concluded sever anxiety.
- Depression examined by Beck depression Inventory Scale score was 45/63 It concluded that extreme depression.
- Mood examined by the positive and negative affect schedule Positive Affect Score was 15/50 and Negative affect score was 43/50 It concluded that lower level of positive affect and higher level of negative affect
- Auditory Hallucination examined by Auditory vocal Hallucination Rating Scale (AVHRS)

METHODOLOGY

Treatment Protocol

- Procedure : In this program following exercises included
- Time: 60 min

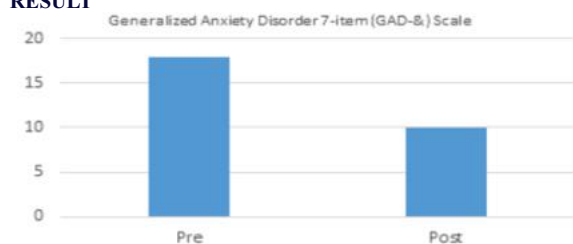
Table 1: Treatment Protocol

Exercise	Duration
• Warm up exercise	10 minutes
➤ Walking in different directions	
➤ Walking with long deliberate steps	
➤ Walking with small deliberate steps	
• General exercise	45 minutes
1. Belly breathing	3 minutes
2. Neck roll	3 minutes
3. The owl	3 minutes
4. Arm activation	3 minutes
5. Gravity glider	3 minutes
6. The energizer	3 minutes
7. Foot Flex	3 minutes
8. Lazy eight	3 minutes
9. Elephant	3 minutes

10. Calf-pump	3 minutes
11. The grounder	3 minutes
12. Cross crawl	3 minutes
13. Hook up	3 minutes
14. Brain button	3 minutes
15. Cross lateral walking in place	3 minutes
• Cooling off activities	5 minutes
General Stretching exercises	

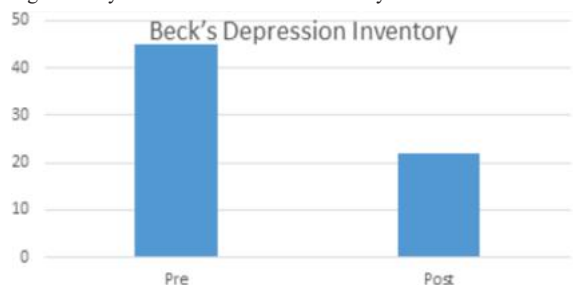
- **Total Duration :- For 60 minutes/session**
1 session/day
5 session/week
For 4 weeks.

RESULT



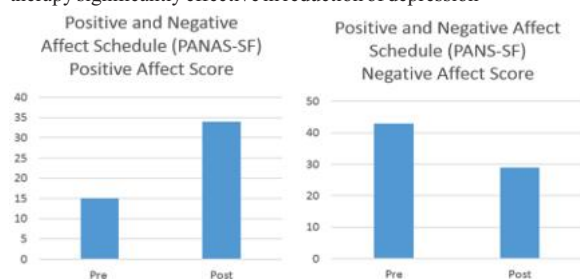
Graph 1: Analysis of Anxiety Disorder

Evaluate the effect of brain gym therapy on anxiety with using Generalized Anxiety Disorder 7-item (GAD-7) Scale it found 38.1% improvement in reduction of Anxiety. The MCID for GAD -7 ranges from 1.5 to 3.8. In this study it found 8 So, it suggest brain gym therapy Significantly effective in reduction of anxiety.



Graph 2: Analysis of Depression

Evaluate the effect of brain gym therapy on depression with using Beck's depression inventory. It found 36.5% improvement in reduction of depression. The MCID for Beck's depression inventory is 17.5%. In this study it was greater than MCID score that suggest brain gym therapy significantly effective in reduction of depression



Graph 3: Analysis of Mood

Evaluate the effect of brain gym therapy on mood by using Positive and negative affect schedule. In Positive affect found 38% improvement and negative affect found 68% improvement. MCID for PANAS is 38% so, this study found significant improvement.

DISCUSSION

- The present study was conducted to find out the effect of brain gym therapy on anxiety, depression, and mood in patient with psychosomatic condition.
- This study showed significant difference in pre and post treatment value for reduction of anxiety and depression and in positive negative affect score.

- The brain gym provides a repair stimulus to fibres in the corpus callosum that provide many two-way neural connections between the cortical areas of the two hemispheres of the brain, including the hippocampus and amygdala⁶
- Vaishnavi V Siroya et al. conducted study on 220 students on psychological perception. The study was found beneficial in reducing depression, anxiety and emotional stress in undergraduate students⁷.
- Kulkarni, Khandale et. al in 2019 conducted a study on effect of brain gym exercises on the young adults. The study found a significant improvement in attention span, as well as the fact that brain gym can aid with focus and memory, as well as combating hyperactivity and excessive dreaming.
- The brain gym therapy given for 5 times in week for 4 week. It found significantly reduction in anxiety, depression and improve mood in patient with psychosomatic condition.

CONCLUSION

Brain gym Therapy is effective to reduce anxiety, depression and improve mood status.

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