



**PROTOCOL**

**Impact of Brain-gym as an Exercise Program on Sleep Quality in Young Adults: A Research Hypotheses.**

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**SUMMARY**

Evolving times and improvements in the era of technology have taken a toll on human fitness. About 60% of the populace presently suffers from bad sleep quality, and 7% meet the criteria of an insomnia disease. Poor sleep exceptional is unbridled in every age organization accordingly a non-pharmacological cure is slowly turning into a necessity of the instances. Mind fitness center physical activities are a robust contender in the race. But nevertheless, a variety of work must be accomplished to ultimately finish its efficacy as a treatment. We recommend speculation that brain gym activities can be a successful intervention for improving sleep and treating mild to moderate insomnia.

## INTRODUCTION

Sleep problems have a great impact on everyday life (1). According to recent data poor quality and insufficient amount of sleep has been found to contribute to high-risk factors for health outcomes in developing countries in terms of the quality of life (2). We experience different changes and have to cope up with various stress and changing environments. This cost us the loss of peace of mind and disturbance in sleep patterns (3). Sleep deprivation is found to affect immune function, brain maturation, development of the body, metabolic process and cognition (4). Lack of sleep and high stress makes the person one step more closure to mental and physical illness (5). Insomnia presents with symptoms like increased rapid eye movement duration , mid night wake ups and irritability due to lack of sleep (6). Sleep maintains normal homeostasis of the body. Thus proper amount of sleep is important for active functioning of the brain and the body (7) (8).

Brain gym exercises are the strong contender in the race (9). Educational kinesiology is another name for brain gym exercises and was developed by Dennison and Dennison in the 1970 and it consist of series of movements that activates the brain, promote the neurological re-patterning and facilitate whole brain learning (10). The program is based on the principle that learning problems that are caused due to in co-ordination of different sections of the body and the brain thereby blocking an individual's ability to learn (11). Brain gym exercises includes three dimension movement that is focus, centring and laterality (12). It promises its subscriber that brain gym will improve the learning ability and take them to new level of excellence (13).

Brain gym exercises were discovered to stimulate, release and relax the brain by performing various movement patterns (14). There are total 26 movement patterns with each having specific goal like few are directed to increase memory and attention, some for improving cognition, and various other function like inducing relaxation and reducing anxiety (15).

## **HYPOTHESIS**

After having a glance on how to alleviate sleep disturbances in terms of its quality of sleep, being a non-pharmacological method of cure we found Brain Gym can be an answer solvent. Several researches have been done to evaluate efficacy of brain gym exercises for improving attention, memory, cognition and to induce relaxation.

### **SUPPORT FOR THE HYPOTHESIS:**

Supporting hypothesis: In 2019, Elmeida Effendy, Novi Prasanty and Nurul Utami studied the effects of Brain Gym on sleep quality and anxiety in older adults and found that after 8 weeks of intervention, Brain Gym significantly improved sleep quality and reduced anxiety in older adults. Exercise has been shown to be as effective as hypnotics in reducing insomnia. As Dr. said. Jenny Lyo showed that people fell asleep 13 minutes faster after 4 weeks of exercise and 18 minutes longer after regular exercise (17)(18).

Preliminary work in this field primarily which was focused on effectiveness of brain gym as an intervention was carried out by Lucinda Spaulding , Mark Mostert and Andrea Beam. They reported that brain gym exercises has great potential in better learning and scientific understanding how brain functions (19).

A few methodologies for further developing sleep quality are utilized in clinical work including unwinding strategies, exercise, pressure point massage, and medicine yet at the same time the Brain Gym activities are yet to be included (20).

### **IMPLICATION OF HYPOTHESIS:**

If our hypothesis stands true then Brain Gym Exercises can be implemented not only in schools , colleges as a part of curriculum but also in geriatric care centres. This would be of great assistance for the people suffering from poor quality of sleep and insomnia.

Brain Gym Exercises being feasible and non-pharmacological intervention would be the boom to the society to overcome the major constraints.

### **TESTING OF HYPOTHESIS:**

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In this Hypothesis, we expect to evaluate the adequacy of Brain Gym activities for working on the nature of sleep and treating sleep deprivation. Brain Gym activities are now demonstrated to work on cognition, memory, perception and promote relaxation.

Pre and Post interventional assessment using Pittsburgh Sleep Quality Index scale (11) can be used as an outcome measure, readings would be recorded and exercise intervention will be given for the month. After the result has been obtained, data collection and statistical analysis could be done then the conclusion to the hypothesis would be given.

If our hypothesis stands true brain gym exercises will improve the quality of sleep and reduce insomnia with significant clinical relevance, this will reduce the dependency on hypnotic drugs and improve the quality of life of the sufferers.

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