

YOGA AND ITS IMPACT ON ATTENTION DEFICIT HYPERACTIVITY DISORDER – A REVIEW

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ABSTRACT Attention Deficit Hyperactivity Disorder (ADHD) is a neurodevelopmental disorder with a complex symptomatology, and core symptoms as well as functional impairment often persist into adulthood. Objectives: The Purpose of present study is to motivate other researchers to conduct a study on yoga and its impact on people suffering with AttentionDeficit Hyperactivity Disorder and spread knowledge about yoga and it's benefits on neurodevelopmental disorders like ADHD, Attention-Deficit Disorder (ADD), and Autism Spectrum Disorder (ASD). **Method:** This article was compiled through previous studies which are available on the internet, in theses, and in books. Search through Electronic database to identify all related articles on Yoga and its impact or effect on the children suffering with ADHD. **Results:** Through this research or investigation, we have found that yoga has lots of benefits like reduction in inattentive & hyperactivity symptoms, lower stress level, increase focus,improved visual-motor precision, better psycho-emotional well-being, reduced anxiety, boost confidence,reduced aggression. **Conclusion:** From this study it was concluded that yoga is very beneficial in management of Attention Deficit Hyperactivity Disorder (ADHD) and its recommended for children suffering with ADHD to perform specific yogic exercises at least twice a week.

Keywords- Attention Deficit Hyperactivity Disorder, ADHD, Yoga, Meditation

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Introduction

ADHD is a neurodevelopmental disorder, characterized by an impaired level of inattention, hyperactivity, and impulsivity (American Psychiatric Association (APA), 2013). ADHD is considered one of the most common childhood disorders. The key symptoms of ADHD include hyperactivity (characterized by a significantly greater degree of activity), inattention (characterized by distractibility, difficulties in maintaining attention, following instructions, completing tasks, remembering daily routines), and impulsivity (characterized by engaging in a dangerous activity, verbal or physical fights with teachers, parents, or peers). Apart from these symptoms, a child with ADHD shows impairment in behavioural, cognitive, emotional, and social domains. ADHD is highly prevalent worldwide and the children affected changed over time and also differ in how it is rated.

In the Diagnostic and Statistical Manual of Mental Disorders-V (DSMV) the prevalence rate was 5% (APA, 2013). Faraone and Biederman (2005) found a prevalence rate in children and adolescents were 10%, but while considering the Indian scenario ADHD has a relatively high prevalence rate with an equivalence

of 8 to 17 % in different studies conducted in North and North-East India (Mukhopadhyay, Mishra, Mitra & Niyogi, 2003; Malhi & Singhi, 2000 and Bhatia, Chaudhary & Sidana, 1999). Venkata and Panicker (2013) found a prevalence rate of 11.32% in 6 to 11 years of aged children at the community level in Coimbatore, Tamilnadu, and among this, the age group of 9 and 10 years was highly affected. In adolescents, 14.18% were diagnosed with ADHD and were found in a hospital-based study at Nagpur, Maharashtra (Vaidya, Dua, Mujawar & Edbor, 2016). In Kerala, it was found to be 34.8% and the male-female ratio was 4.7:1 (Antony, 2016) in an outpatient clinic of Government Medical College, Kottayam, Kerala. The high prevalence rate and its effect on society were widely recognized regarding family stress, poor academic and vocational outcomes, and a negative impact on the self-esteem of the children (Barkley, 1998). These negative impacts led the researchers to focus on the pathology and management of ADHD. The psychopathology of ADHD is categorized as biopsychosocial factors. The biological causes of ADHD were dysfunction in the structural and neurotransmitter level.

Yoga is essentially practiced as āsanas, and āsanas are addressed as an

alternate to exercises for a workout. To sweat out, a common feature of workouts, is evident in Yoga studios. No wonder that the Vikram Yoga is the hot spot. In India, traditionally Yoga is known as one of the six systems of Philosophy called Sat Darūanas – Nyaya, Vaisesika, Sankhya, Yoga, Pūrva Mimamsa, and Uttara Mimamsa. Taking into consideration the very meaning of Yoga (YujyateanenaitiYogah)(Nagendra H. R., 2008) So yoga is not only about asanas, asanas are only one aspect or limb of yoga as said by maharishi Patanjali. Yoga has 8 limbs that's why it's called Ashtang Yoga, here Asht means eight and Ang means parts or limbs, these include Yama, Niyama, Asana, Pranayama, Pratyahar, Dharna, Dhyana and Samadhi. Though yoga is only consider by asanas, pranayamasand meditation only but there are other aspects also to follow or one can say to practice for better mental, physical, emotional and spiritual health. So the

Importance of Yoga

Yoga is usually understood as being restricted to asanas or poses, and its advantages square measure solely appeared to be at the physical level. However, we tend to fail to comprehend the vast advantages yoga offers in uniting the body, mind, and breath. After you

Ashtang yoga targets holistic health instead of physical and mental health only.

The Purpose of present study is to motivate other researchers to conduct various studies on yoga and its impact on Attention Deficit Hyperactivity Disorder and spread knowledge about yoga and it's benefits on neurodevelopmental disorders like ADHD, Attention-Deficit Disorder (ADD), Autism Spectrum Disorder (ASD), learning disabilities, intellectual disability (also known as mental retardation).

Method

Electronic databases including pubmed, google scholar, research gate and shodhganga were searched to identify all related articles on Yoga, ADHD, and Neuro Developmental Disorders. Stratified analysis was performed using the nature of yoga, sex and/or ADHD and the methods of measuring ADHD. Hetrogeneity was also determined.

square measure harmonic, the journey through life is calmer, happier and additional fulfilling. So, if you're keen to turn, develop a robust and versatile body or being departed, then yoga will assist you to succeed it all. Yoga is a useful in treatment for ADHD sufferers. People who practise yoga and other mindfulness

techniques, such as meditation, may find it easier to concentrate and pay better

attention.

Benefits of Yoga

1. Yoga can help in Reduction of Inattentive & Hyperactivity Symptoms

Yoga can help with ADHD symptoms by reducing hyperactivity and attention deficits (ADHD). Yoga can help people with ADHD be present and focused because it places a strong emphasis on breath control and awareness. One study indicate reduced inattention and hyperactivity in those students who participated in the Hatha yoga practice in comparison with the students in the CG.(Saxena et al., 2020)This study design is within these parameters: high school students, 12-

2. Yoga help to Lower the Stress Level

When exposed to environments or situations that elicit anxiety, such as when you feel helpless and out of control, those who consistently practise meditation have been found to have lower levels of the stress hormones.From a biological standpoint, yoga can help to balance the production of neurotransmitters in

week intervention conducted two to three times per week. The Studies have reported benefits in high school students who practiced yoga for 10–18 weeks one to five times per week. Hatha yoga, if practiced consistently, might be a tool that could delay or potentially prevent onset of a clinical diagnosis of ADHD. (Saxena et al., 2020) An another study shows that core symptoms of ADHD were improved: parent ratings on the Conners Parent–Teacher Questionnaire, which assesses attention, hyperactivity and impulsivity, were significantly reduced over the course of the programme. (Harrison et al., 2004) the brain and reduce stress levels.According to a few experts in the field, the ability to be able to focus and concentrate emerges from restraining mental distractions in a process neurologists call “neural inhibition.”According to several studies, yoga can lessen pain, depressive symptoms, and stress. Yoga lowers cortisol levels, slows heart rate, and helps the brain's neurotransmitters

function properly. Yoga especially raises GABA levels in the brain, which improves mood. GABA deficiency makes you feel more worried and overwhelmed. Biweekly yoga sessions have been reported to be effective in lowering depressive symptoms, which can be brought on by this rise in GABA levels in the brain. Yoga Poses and routines in yoga are a fantastic way to release stress and to relax. Deep breathing and breathing exercises help your brain receive more oxygen, which improves your capacity to maintain calm. Being calm helps you to bring reason into your thought process and lowers your stress level, ultimately making you a happier and more confident individual.

3. Yoga Increases Focus

By focusing on your breathing and staying focused while performing difficult yoga poses, yoga can be a great way to improve personal attention. By concentrating on balance and posture, you can also get rid of any worries or discomforts in your mind. Your self-confidence grows as you become more focused and able to think clearly about your own needs and

desires in life. Being committed to your goals and principles makes it easier for you to resist distractions and operate as a leader rather than a follower.

4. Yoga Improve Visual-Motor Precision

Twelve weeks of two 30-min yoga sessions per week improved certain param visual-motor precision, and reduced behavior of inattention and hyperactivity in 5-year-old Kindergarten children (Jarraya et al., 2019, p. 9). Yoga has a significant positive impact on the development of visual attention, visuomotor precision.

5. Yoga helps to maintain Psycho-emotional Well-being

The prefrontal cortex, a region of the brain that may be smaller or function less well in certain persons with ADHD, can be strengthened by regular yoga practise. Decision-making, planning, and focus are all functions of the prefrontal cortex that are more challenging for someone with ADHD to control. Yoga had a role in stabilizing emotions and reducing oppositional behaviour (Jensen & Kenny, 2004, p. 214).

6. Yoga can help to Reduce Anxiety

Some individuals may find yoga practice more appealing than pharmacological therapies as it allows participants to be actively engaged in therapy, and as yoga can be utilised at periods of high anxiety/depression, which empowers the individual in self-management. Additionally, yoga practice may not be perceived to ‘artificially’ affect biochemical processes in the manner that pharmaceutical interventions may be. (Pascoe & Bauer, 2015) Lowering levels of hormone neurotransmitters— which include epinephrine, dopamine and norepinephrine (our “feel-good” hormones)— creates a calming feeling, and studies that looked at how adults felt after yoga class often cited that people described themselves as being in a better mood, more content, calm and relaxed.

7. Yoga help to Boost Confidence

Everyone should be capable of having self-confidence. You must be proud of who you are if you want to

live a life that is truly happy. Confidence, which should not be confused with conceit, is the absence of self-doubt and the belief in oneself. Weak to the world and more prone to depression without self-confidence. Yoga is one of the best techniques to improve self-confidence, despite the fact that we all come from diverse groups and backgrounds. In a study associated symptoms of ADHD, such as anxiety and poor confidence, were reduced; parent ratings of child self-esteem showed significant improvements in children’s confidence, social abilities and involvement. (Harrison et al., 2004)

8. Yoga can help in Reducing Aggression

The perception of the parents as well as the teachers was that the yoga programme contributed to an improvement in concentration and self-esteem, and reduced aggression and anxiety in most of the participants during the time of the investigation. (Beart & Lessing, 2013)

The aim of the current review was to synthesis previous literature that examined Yoga and establish its potential

Discussion

effect on reduction in inattentive & hyperactivity symptoms, lower stress level, increase focus, improved visual-motor precision, better psycho-emotional well-being, reduced anxiety, boost confidence, reduced aggression. In addition, this review aimed to identify an optimal Yoga protocol with regard to session structure, intensity, frequency, repetition and duration. In accord with this aim, some studies were evaluated

providing evidence suggesting that yoga can improve certain health parameters in children and youngsters. These studies have revealed that yoga can significantly improve focus, maintain attention and lower stress level. Yoga is a feasible and time efficient approach for reducing inattentive & hyperactivity symptoms, anxiety, aggression and to boost confidence level in people with ADHD.

Conclusion

Yoga is a time-effective method for improving Attention Deficit Hyperactivity Disorder. Yoga has a lots of benefits like reduce inattentive & hyperactivity symptoms, lower stress level, increase focus, improved visual-motor precision, better psycho-emotional well-being, reduced anxiety, boost confidence, reduced aggression. From this study it was concluded that yoga is very beneficial in management of Attention Deficit Hyperactivity Disorder (ADHD) and its recommended for children suffering with ADHD to perform specific yogic exercises at least twice a week.

Conflicts of interest

Authors have no conflict of interest to disclose.

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