



P-ISSN: 2394-1685
E-ISSN: 2394-1693
Impact Factor (ISRA): 5.38
IJPESH 2017; 4(5): 25-29
© 2017 IJPESH
www.kheljournal.com
Received: 20-07-2017
Accepted: 22-08-2017

Ashok Kumar
PGT Physical Education, DAV
Safidon, Haryana, India

Impact of yoga practices on motor ability of the adolescent boys and girls

Ashok Kumar

Abstract

Nowadays health issue is a concern throughout the world, and practicing the yoga regularly can promote positive health benefits to the individual. Performing of the yoga must be done from very young age, it helps in developing a better health of the individual. Yoga literally means to 'yoke' or to be in union. Yoga helps in transformation of the individual to well fully emotional, mature and perfect human being. Yoga gives a permanent peace, joy and selfless dedication to the entire creation. Research shows that yoga may promote mental and physical health, and that yoga has been effectively utilized to treat a number of psychiatric and medical problem. Various studies revealed that regular yoga performing people especially young boys and girls perform better in sports and in academics. The motor abilities have been reported to be significant with performing of the yoga.

Keywords: Yoga, health, performance and motor abilities

Introduction

Yoga has a long history which has its roots in ancient philosophical and religious tradition and is thought to have originated in India in at least 1000 B.C. Yoga is referred to large body of values, attitudes and techniques whose primary objective is the pursuit of enlightenment or self-knowledge. Yoga word is a Sanskrit word "Yuj" means to "unite" and in the higher levels of yoga this is often said to mean the experience of union of the individual self with the universal self (Feuerstein, 1990).

During the last many centuries, yoga has evolved in multidimensional ways, which helps individual to gain self-realization and self-confidence. The major paths of the yoga are; Karma Yoga, which is the pathway of selfless service through charity work for example, Jnana Yoga, which means intellectual understanding through philosophical study, Bhakti Yoga, which is the practice of love and devotion, and Raja Yoga, which translates as the "royal path". Raja Yoga is a psychological approach, which incorporates guidelines about behaviour, physical posture and exercises for steadying the breath and ultimately the mind. The method of Raja Yoga was formally systematized in a body of writing known as the Yoga Sutras, authored by Patanjali sometime between 200B.C. and 300A.D (Feuerstein, 1990).

Australian Institute of Health and Welfare, (1998) has reported that promotion approach related to the benefits of physical activity are immense viz. physical, social and emotional wellbeing. Researchers believe that those individuals who lack physical activities or with inadequate physical activity are facing a risk of diseases including cardiovascular disease, diabetes, certain kinds of cancer, and mental disorders. Therefore, with the changing pattern in lifestyle in the educators argue that even small amounts of moderate physical activity can produce significant physical and mental health benefits. Therefore, keeping this in concern, studies have necessitated the expansion of the scope of inquiry into two related health fields, namely physical exercise and relaxation in reference to the yoga.

Yoga has been reported to enhance endurance, immunity, flexibility, respiratory efficiency and strong strength. It helps in diminishing of anxiety and depression. It also helps in acquiring good mood, attention, learning efficiency.

Yoga overall is very beneficial for the human beings.

Flessas and Lussier, (2001) have reported that physical exercise especially yoga helps in the concentration and good mood in children who perform yoga regularly, while those children's

Correspondence

Ashok Kumar
PGT Physical Education, DAV
Safidon, Haryana, India

who do not do physical exercise face academic failure as they do not focus on their studies.

Danielson *et al.*, (2018) have reported that Rates of Attention-Deficit/Hyperactivity Disorder (ADHD) in schools and colleges and is constantly increasing and thus physical activity is must.

Duncan *et al.*, 2007; McClelland *et al.*, 2013 have reported that for developing motor abilities physical activity is important. Physical activity also enhances the cognitive functions viz. individual’s mental processes, including memory, attention, learning, problem solving, reasoning, and decision-making.

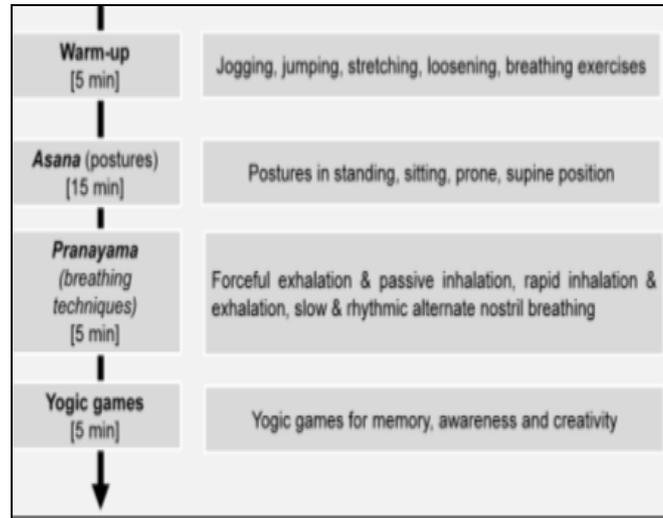


Fig 1: Details of the Yoga program

Rossner (1995) yoga would allow relaxation to improve attention to task and spatial relationships in the environment. They also reported the importance of practicing yoga at

Kindergarten as it helps reach higher cognitive performance and consequently potentially higher academics performances in children.

Table 1: The eight limbs of Ashtanga Yoga for different body functions

1	Yama	Ethical relationships, such as nonviolence
2	Niyama	Internal awareness and cleanliness.
3	Asana	Physical postures
4	Pranayama	Breath
5	Prathyahara	Withdrawal of senses
6	Dharana	Concentration
7	Dhyana	Meditation
8	Samadhi	Transcending consciousness

Table 2: Positive aspects of the practice of yoga

Physically	Helps in; Weight loss Increased muscle strength, including lung musculature
Physiologically	Improves; • Cardiovascular system • Immune system • Sleep quality and length • Blood pressure • Breathing control Enhances • Melatonin levels • Natural killer cells, which fight the growth of cancer cells
Psychologically	Decreases: • Depression • Anxiety • Stress
Emotionally	Control over negative thoughts Increased positive affect Management of difficult situations Healthy expression of negative emotions
Spiritually	Assists a practitioner in: Becoming one with God “De-embedding” one’s self from thoughts, feelings, and actions Identifying one’s self as independent of thoughts, feelings, and actions Puts practitioners in a state: Similar to sleep Unaware of space, time, or body sense Brings a practitioner’s mind to peace

Different studies conducted related to yoga in building motor abilities

Murugesan and Alexandar (2015) have reported that yoga training helps in building motor abilities in the young boys and girls. The physical variables were viz. Flexibility, Agility, Speed, Strength and Endurance and performance variables were specific overhead pass, Jump shot, and Goal keeping. A significant result was obtained in the study who were performing yoga at regular basis.

Khodaskar (2015) in his study revealed that yoga yogic enhances health related physical fitness (HRPF), psychological and physiological parameters. It was reported that young male and female showed significant change in HRPF factor (Cardio-vascular Endurance, Flexibility, Muscular Strength and Body Fat Percentage) and greatly Positive effect in ORS.

Karuppiah and Palanisamy (2015) have reported that Resting heart rate and hemoglobin and flexibility with the assistance of yogic practice elasticity of muscle enhance and enhance scope of motion. Muscle extending therefore creates versatile protection. It likewise inferred that the chose yogic exercise enhances the Flexibility, Hemoglobin and decrease resting pulse rate. It was also reported that there was an improvement with various cardiovascular parameters viz. Mean Arterial Pressure (MAP), Resting Heart Rate (RHR), Heart Rate Post Exercise (HRPE) and Heart Rate Recovery Time (HRRT). It was also reported that Normal and aerobic capacity was significantly higher with yogic practices and physical exercise and was limited with those who do not perform yoga or physical exercise routinely. Agility was found to be more in yogic and physical activity individuals as compared to non-yogic. There was also significant differences in the aggregate excess post-exercise among yogic practices and physical exercise. The after effects of this examination propose that agility were better enhanced through yogic practice and aerobic power was better enhanced through physical exercise. Sathish (2012) in his studies have conducted a survey and concluded that the individuals who perform yoga on regular basis were having more leg strength and flexibility. He conducted a survey on various individuals who were performing yoga on regular basis and those who do not perform yoga on routinely or in continuous basis and come to the conclusion that yogic people have more strength in their leg and are more flexible. Similarly young boys and girls have enhanced motor abilities who perform physical activity and yoga. Their strength is increased, their different variables which are important for the performance also increases. The various variables which do increase with the yoga are

1. Agility
2. Endurance
3. Flexibility
4. speed

Similarly it was reported that after yogic exercises there was a reduction in the anxiety and depression. Ray *et al.* (2001) when conducted a survey have reported that the individuals who perform yoga do have little anxiety and depression as compared to non-yogic individuals.

Korkman *et al.*, (1998) have reported that children’s who do yoga regularly improved their skills related to cognitive functions, they also reported that yoga or sensorimotor training for young children can reduce deficits in attention and improve academic performances.

Chaya *et al.*, (2012); Chou and Huang, (2017); Bazzano *et al.*, (2018) and Cohen *et al.*, (2018) have reported that Yoga is suggested to play an important role in sensory-motor training

for children to reduce behavioral and emotional problems and improve cognitive functions which might have a positive impact on academic performance. They also reported for better motor abilities in children yoga plays an important role. It was reported that yoga exercises have a significant effects on various biochemical, physiological and psychological variables as compared to non yogic individuals.

Blood Glucose

Studies concluded that blood glucose level decreases significantly after yoga exercise. The individuals who do yoga showed decreased sugar level immediately after the yoga as compared to non yoga individuals.

1. Total Cholesterol

Various studies have reported that total cholesterol also decreases with yoga. Doing yoga on continuous basis enhances in decreasing the bad cholesterol

2. Triglycerides

Triglycerides level was lower in yoga individuals as compared to those who do not perform yoga. High density lipoprotein and low density lipoprotein was also lower as compared to the non yogic individuals.

Biochemical Properties of Yoga performing individuals after the yoga exercises is depicted in table 2.

Table 2: After yoga changes in biochemical properties

Biochemical properties	After yoga
Blood glucose	Decreases
Total Cholesterol	Decreases
Triglycerides	Decreases
High density lipoprotein	Decreases
low density lipoprotein	Decreases

Thus the studies confirmed that yoga exercises has a positive impact on the health of the individual. The biochemical parameters decrease immediately after completing the yoga exercises.

Various studies have analyzed the changes in the children after the yoga exercises

Table 3: Depicts the trials for the yoga doing children’s

Daily yoga for up to 45 minutes	Stress level dropped in yoga performing children as compared to the children’s who do not perform yoga or physical activity
2-3 sessions per week for 10 weeks	Negative thoughts got significantly reduced as compared to non yogic individuals
30 minutes of yoga, 2 to 3 times in a week	Helps in improving mental health especially in stress regulation
1 to 2 yoga sessions per week for one year	Helps in reduction of stress level and increased self regulation

Flessas and Lussier, (2001) and Delvolvé, (2005) have reported that a sensory-motorability in children influences behavior of inattention and hyperactivity and cognitive performance increases with physical activity and performing yoga. It was reported that the children with yoga performance has much cognitive performance as compared to those who do not perform yoga. Cognitive performance was found to be significantly positive with the yoga performing children’s as compared to non performing ones.

It has been reported that there are growing evidences in the potential of the yoga which supports it has cognitive benefits

in children's.

Galantino *et al.*, (2008) have reported that Yoga practice was an effective tool when working with students with Down syndrome, cerebral palsy, autism, sensory integration disorder, learning difficulties.

Benefits of performing yoga

1. Facilitates; Respiration- transport of oxygen from the lungs to the tissues and carbon dioxide from the tissue to the lungs.
2. Maintenance of body temperature and osmotic pressure.
3. Defense against infection.
4. Decreases, depression and anxiety
5. deficit hyperactive disorder
6. yoga reduces negativity and aggression in children's
7. helps in verbal memory
8. support cognitive functioning
9. increases mental capacity
10. enhances balance and agility
11. enhances cardiovascular endurance
12. enhances leg strength and flexibility
13. increases aerobic power
14. increases Flexibility

Conclusion

In conclusion yoga is effective for increasing positive body image and enhancing good mood.

The results of the biochemical variables like Blood parameters viz. Glucose, Triglycerides, High Density Lipoprotein and Very Low Density Lipoprotein decreases immediately after the yoga. similarly, the total cholesterol and low-density lipoprotein also decreases significantly with performing yoga on a long run.

References

1. Dorling Kindersley. Yoga Mind and Body (London: Sivananda Yoga Vedanta Centre).
2. Bharati Joshi. Yoga for everybody (New Delhi: Rupa publishers), 9.
3. Iyengar BKS. The Art of Yoga (New Delhi: Harper Collins Publishers), 13-14.
4. Gopaalananda B. Simple Techniques of Yoga for Women (Chennai: New Century Book House Pvt Ltd.).
5. Iyengar BKS, The Art of Yoga, (New Delhi: Harper Collins Publishers), 14.
6. Sharma PD. Yogasana and Pranayama for Health (Gala Publishers, 7-9.
7. Gore M. Anatomy and Physiology of Yogic Practices (Lonavala: Kanchan Prahasan).
8. Koziar, Erb's. Fundamentals of Nursing Concepts, Process, and Practice (Pearson Education), 338.
9. Dorling Kindersley. Yoga Mind and Body (London: Sivananda Yoga Vedanta Centre), 156.
10. Dorling Kindersley. Yoga Mind and Body (London: Sivananda Yoga Vedanta Centre), 153.
11. Koziar, Erb's. Fundamentals of Nursing Concepts, Process, and Practice (Pearson Education), 338.
12. Dorling Kindersley. Yoga Mind and Body (London: Sivananda Yoga Vedanta Centre), 158.
13. Dorling Kindersley. Yoga Mind and Body (London: Sivananda Yoga Vedanta Centre), 157.
14. Georges Gorreem, Jean Barbier. The Love of Christ: Mother Teresa (London Collins Fount Paperbacks), 8-9.
15. Tietz N. Fundamental of Clinical Chemistry (Philadphhia: W.S Saunders Company).

16. Collen Smith, Allan Marks D *et al.* Basic Medical Biochemistry- A Clinical approach (Lippincott Williams and Wilkins), 583-503.
17. Robert Murray K *et al.* Harper's Biochemistry (New York McGraw Hill Book Company).
18. Kuppuswamy. Advanced Educational Psychology, New Delhi: Sterling Publishers Pvt. Ltd. 382.
19. Satyananda Saraswati. Yoga Education for Children, 85.
20. Cohen SCL, Harvey DJ, Shields RH, Shields GS, Rashedi RN, Tancredi DJ *et al.* Effects of yoga on attention, impulsivity, and hyperactivity in preschool-aged children with attention-deficit hyperactivity disorder symptoms. *J Dev. Behav. Pediatr.* 2018; 39:200-209. doi: 10.1097/DBP.0000000000000552
21. De Greeff JW, Bosker RJ, Oosterlaan J, Visscher C, Hartman E. Effects of physical activity on executive functions, attention and academic performance in preadolescent children: a meta-analysis. *J. Sci. Med. Sport* 2018; 21:501-507. doi:10.1016/j.jsams.2017.09.595
22. Desai R, Tailor A, Bhatt T. Effects of yoga on brain waves and structural activation: a review. *Complement. Ther. Clin. Pract.* 2015; 21:112-118. doi:10.1016/j.ctcp.2015.02.002
23. Hillman CH, Pontifex MB, Castelli DM, Khan NA, Raine LB, Scudder MR *et al.* Effects of the FIT Kids randomized controlled trial on executive control and brain function. *Pediatrics* 2014; 134:e1063-e1071. doi:10.1542/peds.2013-3219
24. Harrison LJ, Manocha R, Rubia K. Sahaja yoga meditation as a family treatment programme for children with attention deficithyperactivity disorder. *Clin. Child Psychol. Psychiatry* 2004; 9:479-497. doi:10.1177/1359104504046155
25. Innes KE, Bourguignon C, Taylor AG. Risk indices associated with the insulin resistance syndrome, cardiovascular disease, and possible protection with yoga: a systematic review. *J Am. Board Fam. Pract.* 2005; 18:491-519. doi: 10.3122/jabfm.18.6.491
26. Gothe N, Pontifex MB, Hillman C, McAuley E. The acute effects of yoga on executive function. *J Phys. Act. Health.* 2013; 10:488-495. doi: 10.1123/jpah.10.4.488
27. Jensen PS, Kenny DT. The effects of yoga on the attention and behavior of boys with Attention-Deficit/hyperactivity Disorder (ADHD). *J Atten. Disord.* 2004; 7:205-216. doi:10.1177/1087054704007004
28. Korkman M, Kirk U, Kemp S. NEPSY: A Developmental Neuropsychological Assessment Manual. San Antonio, TX: The Psychological Corporation, 1998.
29. Ludyga S, Gerber M, Brand S, Holsboer-Trachsler E, Pühse U. Acute effects of moderate aerobic exercise on specific aspects of executive function in different age and fitness groups: a meta-analysis. *Psychophysiology.* 2016; 53:1611-1626. doi:10.1111/psyp.12736
30. Mak C, Whittingham K, Cunnington R, Boyd RN. Effect of mindfulness yoga programme MiYoga on attention, behaviour, and physical outcomes in cerebral palsy: a randomized controlled trial. *Dev. Med. Child Neurol.* 2018; 60:922-932. doi:10.1111/dmcn.13923
31. McClelland MM, Acock AC, Piccinin A, Rhea SA, Stallings MC. Relations between preschool attention span-persistence and age 25 educational outcomes. *Early Child Res.* 2013; Q.28:314-324. doi: 10.1016/j.ecresq.2012.07.008
32. Miyake A, Friedman NP, Emerson MJ, Witzki AH, Howerter A, Wager TD. The unity and diversity of

- executive functions and their contributions to complex “frontal lobe” tasks: a latent variable analysis. *Cogn. Psychol.* 2000; 41:49-100. doi:10.1006/cogp.1999.0734
33. Schaeffer DJ, Krafft CE, Schwarz NF, Chi L, Rodrigue AL, Pierce JE. *et al.* An 8-month exercise intervention alters frontotemporal white matter integrity in overweight children. *Psychophysiology* 2014; 51:728-733. doi:10.1111/psyp.12227
 34. Singh A, Saliassi E, Van den Berg V, Uijtdewilligen L, de Groot RHM, Jolles J *et al.* Effects of physical activity interventions on cognitive and academic performance in children and adolescents: a novel combination of a systematic review and recommendations from an expert panel. *Br. J Sports Med.* 2018. doi: 10.1136/bjsports-2017-098136 [Epubaheadofprint].
 35. Singh A, Uijtdewilligen L, Twisk JWR, Van Mechelen, W, Chinapaw MJM. Physical activity and performance at school: a systematic review of the literature including a methodological quality assessment. *Arch. Pediatr. Adolesc. Med.* 2012; 166:49-55. doi:10.1001/archpediatrics.2011.716
 36. Verburgh L, Königs M, Scherder EJ, Oosterlaan J. Physical exercise and executive functions in preadolescent children, adolescents and young adults: a meta-analysis. *Br. J Sports Med.* 2014; 48:973-979. doi: 10.1136/bjsports-2012-091441
 37. World Medical Association. Declaration of helsinki: ethical principles for medical research involving human subjects. *JAMA* 2013; 310:2191–2194. doi:10.1001/jama.2013.281053