



Effect of Selected Yogic Asanas Practices and Aerobics Exercises on Psychological, Physiological and Physical Variables of Junior VolleyBall Players

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ABSTRACT

In the present society, with PCs, TVs and vehicles the vast majority don't have adequate physical exercise to keep up satisfactory health. Truth be told, numerous individuals have turned out to be sedentary to the point; that their way of life has turned into a genuine danger to their health and their absence of physical exercise has started to prompt an expanded crumbling of the human health and regularly to an untimely illness and death. All through the ages, man has must be physically dynamic so as to obtain his every day food to prevail in the skirmish of survival. Exercise assumes a noteworthy job in improving the quality and probably the life span of our lives. For each individual physical activity is basic for agreeable physical and mental advancement. The body is the sanctuary of soul and to achieve an amicability of the mind, body and soul, the body must be physically fit. The vast majority who exercise normally will concur that one of the primary explanations behind their exercise is that it makes them feel better, and help them to accomplish or keep up great health and physical fitness. The impact of ordinary physical activity essentially improves health, physical fitness and work limit and empowers individuals to utilize their relaxation time all the more usefully and in this manner helps with adding life to years and furthermore years to lives. The motivation behind the present investigation was to discover the impact of Yoga rehearses on Physical, physiological and Psychological variables of junior volleyball players.

KEYWORDS : Physical Exercise, Yoga, Aerobics, Fitness, volleyball players.

INTRODUCTION

Yoga appears to provide a comparable improvement in stress, anxiety and health status (Caroline *et al.* 2007) [3]. Yogic practices can be used as psycho-physiologic stimuli to increase endogenous secretion of melatonin, which in turn, might be responsible for improved sense of well-being (Harinath *et al.* 2004) [5]. Today yoga being an academic as well as professional subject of varied interests, has gained worldwide popularity. Recent research trends have shown that it can serve as an applied science in a number of fields such as education, physical education and sports, health and family welfare, medical field and also one of the valuable means for the development of human resources for better performance and productivity of life. It has generally been believed that yoga is a spiritual science having emancipation as its goals and hence cannot be treated only as a therapy (Sachan *et al.* 2015) [8]. Pranayama involves systemic and disciplined inspiration and expiration with retention or holding of breathe in specific proportion or specific manner. Pranayama is the first step towards reorienting and improving the functioning of mind and body by learning to utilize the air we breathe. Pranayama (breathing exercise), one of the yogic techniques can produce different physiological responses in healthy individuals (Upadhyay *et al.* 2008) [13].

Due to gradual enhancement of population, pollution and demands of personal need of the individuals, peoples are facing so many psycho-physiological problems in their daily life, mainly mental stress, anxiety, hypertension, obesity and problems of cardio-respiratory system too. Mainly air pollution gradually deteriorates the ventilator efficiency of our lungs which reducing our functional capacity. This deteriorating ventilator function of lungs may lead to chronic respiratory diseases like bronchial asthma, chronic bronchitis and bronchiectasis. Breathing exercises improve the functions of respiratory apparatus and improve lung functions. Pranayama, the controlled and conscious breathing exercise not only improves the psycho-physiological functions, but also improves the general wellbeing of the individuals. It helps maintain a better homeostasis and prevents body from degeneration and dysfunctions.

Yogic practices in its true essence helps the individual to imbibe the higher universal energies and grow him spiritually. Pranayama is ventilatory function improving technique. Due to proper working of these organs, vital energy flows to maintain the normal homeostasis of the body and thus it helps for prevention, control and rehabilitation of many mental and respiratory diseases. Pranayama is a type of yogic practice which produces many systemic psycho-physical effects in the body, besides its specific effects on the respiratory functions. So, it has become a standard fare at health clubs and community recreation programmes (Mishra 1997) [7]. Hence, in the present study the investigator made an attempt to investigate the beneficial effects if any, of selected yogic practices in those subjects with reference to psycho-physiological characteristics.

Exercise assumes a significant job in day today life, in light of the fact that expanded requests and quick life approach needs a fit and sound mental and physical fitness. Man from the earliest starting point of the life was free and was very much aware of its needs every now and then. Be that as it may, for each reason and each progression it needs legitimate fitness and striking choices based on which it is predominant on other living species. So fitness remains the primary worry for him from the date of development of human life on this planet. In current world to accomplish total or criteria required fitness for the specific undertaking various endeavors were made to accomplish it through various methods and strategies and is particularly fruitful in that. The most prevalent and most satisfactory procedure is explore. By this procedure everybody attempts to add to field of life.

As of late, the vast majority of the general population around the globe are rehearsing yoga normally to get and remain fit and healthy. In present day age, life is ending up exceptionally complex that seen and concealed dangers to health and have multiplied to a disturbing numerous illnesses like asthma, ulcer, migraine, heart attack, back pain, blood pressure, diabetes and so forth. Today in this quickly developing world the capabilities for the survival have gone up and one need to face part of rivalries. One may be wealthy in materialistic sense. Be that as it may, keeping a healthy perspective is

troublesome because of the enormous number of issue of day by day life. Because of the pollution likewise the health status is aggravated. Numerous individuals don't breathe appropriately and are uninformed of this reality. Legitimate breathing significantly improves our entire physical and mental prosperity. The breath is personally associated with our condition of health and inappropriate breathing will regularly reflect different aggravations of body and mind. The breath is maybe the main physiological procedure that can be either voluntary or involuntary. Customarily when individuals talk about Pranayama they by and large mean those yogic practices, which included some sort of control of the breathing activity. Yet, when one takes a gander at the convention of the yoga. One finds that the idea of Pranayama has a lot more noteworthy width and its procedures incorporate huge range of extremely unpretentious components separated from the straightforward control of breathing activity. One can breathe with mindfulness and control the breathing procedure intentionally or one can overlook it and breathe reflexively or unwittingly. In the event that the breath is oblivious, it falls under the control of crude pieces of the mind, where feelings, musings and sentiments of which we have practically zero mindfulness turned out to be included. Thusly the normality and cadence of the breath are bothered and it streams in an awkward manner, making ruin in the body and mind.

High-impact exercise is physical exercise that expects to improve the effectiveness of the cardiovascular system in engrossing and transporting oxygen. Vigorous exercise is commonly translated to mean with oxygen and high-impact, "to mean without oxygen". The mechanics of high-impact exercise expects oxygen to be acquired by the lungs and moved to the blood vessels. Oxygen rich blood is then siphoned by the heart to muscles. The muscles use oxygen for muscle constriction. Albeit both procedure use oxygen, Aerobic limit is a profitable segment of most fitness programs the measure of work that can be cultivated utilizing the oxidative system changing over supplements in to energy. It is clear that oxygen consuming energy is the prime wellspring of energy for any sport; the game volleyball is no special case. I will likely discover this impact of oxygen consuming exercise on playing volleyball. The American College of Sports Medicine (ACSM) characterizes oxygen consuming exercise as –any activity that utilizes huge muscle gatherings, can be kept up constantly and is musical in nature || . Normal vigorous exercise diminishes the heart rate and blood pressure very still and at some random dimension of exercise the capacity to take in and utilization of oxygen .

High-impact exercise alludes to exercise that includes or improve oxygen utilization by the body. High-impact alludes to the utilization of oxygen in the body's metabolic or energy producing process. One such benefit of oxygen consuming training is an expanded cardio-respiratory continuance, which thusly diminishes the general danger of death related with absence of maximal vigorous limit (VO2 max). The body changes over food to fuel by means of a few distinctive energy pathways. In the most straightforward terms, the body can change over supplements to energy with or without the nearness of oxygen. These two energy systems are called:

- ▶ Anaerobic metabolism (without oxygen)
- ▶ Aerobic metabolism (with oxygen)

The mechanics of aerobic exercise necessitate that oxygen be gotten by the lungs and moved to the blood vessels. Blood which is rich in Oxygen is then siphoned by the heart to the muscles. The muscles use oxygen for muscle compression. Through routine aerobic activity, the body turns out to be progressively productive at preparing oxygen. Instances of aerobic activity incorporate running, running, biking, paddling, and strolling. Truth be told any exercise that joins enormous muscle gatherings raises the heart rate, breathing rate and body temperature is considered as aerobic in nature.

OBJECTIVES OF THE STUDY

1. To understand the concept of Yoga and Aerobics.
2. To understand the Effect of selected yogic practices and Aerobics Exercises on Psychological, Physiological and Physical variables of junior volleyball players

METHODOLOGY

For the Research Study we chose 40 junior college volleyball players to discover the understand the Effect of chosen yogic practices and Aerobics Exercises on Psychological, Physiological and Physical variables of junior volleyball players. The subjects were partitioned in to two groups similarly with 19 each as experimental and control group. Every one of the player that were chosen for the Research, were under physical Training Classes. The pre and post-test were led on chosen variables of physical fitness variables of 50 meter dash, standing broad jump, sit ups and sit and reach, physiological variables of crucial limit, resting heart rate, breath holding time, respiratory rate, systolic pressure and diastolic pressure and psychological variables of mental health, fearlessness and anxiety. Every one of the tests were done with standardized method. The psychological parameters were surveyed through standardized psychological poll. For surveying fearlessness, self-assurance scale poll structured and standardized.

ANALYSIS

The gathered data of experimental and control groups were factually broke down by utilizing mean standard deviation and t-test and displayed in Table 1 and 2. The dimension of hugeness was fixed at 0 .05 dimension of confidence with the table estimation of 2.10. The t-estimations of 2.10 and above were viewed as huge in this investigation. In the tables it was meant by star (*) which demonstrates 0.05 noteworthy dimension.

Table 1: The mean, standard deviation and t-value of Control group

S.No	Physical Physiological And Psychological Parameters	Pre-Test Mean	Post-Test Mean	SD	Mean Difference	t'-Value
1	Standing Broad Jump	2.15	2.50	5.42	-0.05	1.45
2	50 Meters Dash	8.18	7.35	2.03	0.24	2.67*
3	Sit-Ups	18.67	19.02	9.08	-0.18	1.63
4	Resting Heart Rate	66.33	62.53	4.54	1.69	0.65
5	Vital Capacity	2.43	3.04	0.98	-0.07	3.18*
6	Respiratory Rate	15.56	18.45	1.05	-1.87	1.43
7	Sit and Reach	19.78	19.89	0.23	-0.01	0.66
8	Breath Holding Time	22.68	24.23	3.88	-1.55	1.23
9	Diastolic Blood Pressure	78.66	81.42	1.43	-2.76	1.98
10	Systolic Blood Pressure	122.43	123.18	0.69	-0.75	0.39
11	Self -Confidence	35.86	33.08	0.64	2.78	1.98
12	Anxiety	22.86	26.28	1.04	-3.43	0.74
13	Mental Health	122.55	120.86	8.86	1.69	2.02

Table - 1 uncovers the mean, standard deviation and t-value of pre and post test scores of control group. The mean estimation of post test scores of standing broad jump, sit ups, sit and reach, resting heart rate and breathe holding time were demonstrated the non-huge improvement though the mean estimation of post test scores of respiratory rate, systolic pressure, diastolic pressure, mental health, anxiety and self-assurance were not demonstrated any improvement. The t-value of 50 m dash (2.91) and crucial limit (3.20) were having critical improvement.

Table 2. The mean, standard deviation and t-value of experimental group

S.No	Physical Physiological And Psychological Parameters	Pre-Test Mean	Post-Test Mean	SD	Mean Difference	t'-Value
1	Standing Broad Jump	1.97	2.69	5.42	-0.08	2.45*
2	50 Meters Dash	8.08	7.25	0.08	0.24	2.47*
3	Sit-Ups	18.67	19.78	4.08	-1.58	3.63*
4	Resting Heart Rate	65.33	62.53	3.54	2.69	2.45*
5	Vital Capacity	2.53	3.14	4.98	-0.28	4.18*
6	Respiratory Rate	17.56	14.45	3.05	2.87	3.43*
7	Sit and Reach	19.78	20.89	4.23	-2.01	6.66*
8	Breath Holding Time	24.68	27.23	2.88	-2.55	3.23*
9	Diastolic Blood Pressure	82.66	77.42	1.99	4.76	2.98*
10	Systolic Blood Pressure	119.43	115.18	11.69	1.75	2.39*
11	Self -Confidence	34.86	43.08	1.64	-6.78	6.98*
12	Anxiety	24.86	23.28	0.44	5.43	2.44*
13	Mental Health	119.55	123.86	1.86	-6.69	2.02

Table - 2 uncovers the mean, standard deviation and t-value of pre and post test scores of experimental group. The mean value post test scores of all the chose variables were improved and it demonstrated the effectiveness of yoga training in the physical, physiological and psychological parameters. The most astounding critical value were found in sit and reach (6.69) trailed without anyone else confidence (6.08) and mental health (5.64).The t-value of all the chose variables were over the table value of 2.10 and it appeared noteworthy improvement in the chose variables.

CONCLUSION

Yoga advocates unselfishness and enormous love. Yoga advocates virtue and patience. Yoga additionally gives gladness, ground-breaking tonic for the mind, masculinity, considerateness with the limit with respect to block attempt and self-examination. The consequences of the present examination demonstrate the adequacy of yogasanas in physical fitness, physiological systems and psychological effectiveness of Junior Volleyball Players . The control group posttest means score demonstrates that the physical training alone insufficient to improve the psychological proficiency. In the experimental group all the chose variables were altogether improved in some degree and it instruct us that yoga training is valuable to everybody in especially sports people to accomplish the higher exhibition level in light of the fact that the chose variables in the examination were progressively identified with the sports men as well. From the investigation it is accepted that the yoga training isn't gainful for psychological advancement yet additionally physiological and physical fitness improvement. It is reasoned that yogic practices group observed to be superior to anything aerobic exercises group in improving breath holding time, resting heart rate, systolic blood pressure, diastolic blood pressure.

REFERENCES

1. Bal BS. Effect of anulom vilom and bhastrika pranayama on the vital capacity and maximal ventilatory volume. *Journal of Physical Education and Sport Management*, 2010; 1(1):11-15.
2. Biswas S, Biswas P, Singh, Rasool S, Annepaka E, Yadav PK, Kar SK. Effect of forty days of Pranayama Training on Cardiorespiratory Parameters. *Indian Journal of Basic and Applied Medical Research*. 2014; 3(4):196-202.
3. Caroline SHH, Jane B-M, Kerena E. A randomised comparative trial of yoga and relaxation to reduce stress and anxiety, *Complementary Ther. Med.* 2007; 15(2):77-83.
4. Chattopadhyay PK, Mallick NB. Adaptation of the State-Trait Anxiety Inventory for Bengali Students, In: Spielberger CD, Guerrero RD. (Eds). *Cross Cultural Anxiety*, 3. Hemisphere, Washington, DC, 1986.
5. Harinath K, Malhotra AS, Pal K, Prasad R, Kumar R, Kain TC *et al.* Effects of Hatha yoga and Omkar meditation on cardiorespiratory performance, psychologic profile, and melatonin secretion, *J Altern. Complement Med.* 2004; 10(2):261-268.
6. Mathur SS. *Educational Psychology*. Vinod Pustak Mandir, 10th Edition: Agra-2, 1983.
7. Sachan A, Punia R. Effect of Anuloma-Viloma Pranayama and Kapalbhati on breath hilding time. *Proceedings of International Conference on Physical Education & Sports Science on Global Excellence in Fitness and Sports Science*. 2015; 2:121-124.
8. 9. Singh S, Vishaw Gaurav, Ved Parkash. Effects of a 6-week nadi shodhana pranayama training on cardio-pulmonary parameters *Journal of Physical Education and Sports Management*. 2011; 2(4):44-47.
9. Spielberger CD. *Anxiety and Behavior*, Academic Press, New York, 1966.
10. Govindasamy K. Effect of Pranayama with Meditation on Selected Psychological Variables Among school Girls. *Modern Perspectives of Sports Science and Yoga for the Enhancement of Sports Performance*, 2018, 209-211.
11. Dham S, Shah V, Hirsch S, Banerji MA. The Role of Complementary and Alternative Medicine in Diabetes. *Curr Diab Rep.* 2006; 6(3):251-8.
12. Anitha J, Kumaravelu P, Lakshmanan C, Govindasamy K *et al.* Effect of plyometric training and circuit training on selected physical and physiological variables among male Volleyball players. *International Journal of Yoga, Physiotherapy and Physical Education*. 2018; 3(4):26-32.
13. Gangadhar NB, Shivaram V. Yoga therapy for Schizophrenia. *Int. J Yoga*. 2012; 5(2):85-91.
14. Dtey KK, Gharote ML, Solipani. *Yoga and your Heart 5th*, Bombay: Jaico Publishing House, 1983, pp. 43.
15. Spielberger CD. *Anxiety and Behavior*, Academic Press, New York, 1966.
16. Sachan A, Punia R. Effect of Anuloma-Viloma Pranayama and Kapalbhati on breath hilding time. *Proceedings of International Conference on Physical Education & Sports Science on Global Excellence in Fitness and Sports Science*. 2015; 2:121-124.
17. Chattopadhyay PK, Mallick NB. Adaptation of the State-Trait Anxiety Inventory for Bengali Students, In: Spielberger CD, Guerrero RD. (Eds). *Cross Cultural Anxiety*, 3. Hemisphere, Washington, DC, 1986.