



Effect of nostril dominance intervention programme on selected physiological of elite level athletes

Sajal Maji¹, Vinay Pawar²

¹ Research Scholar, Department of Physical Education, Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon, Maharashtra, India

² Guide, Department of Physical Education, Sports Smt. H.R. Patel Arts Mahila College, Shirpur, Maharashtra, India

Abstract

The purpose of the study was to find out the effect of effect of nostril dominance intervention programme on selected physiological of elite level athletes. For this study researcher had selected total of N= 80 male elite athletes were selected as the subjects. The mean age of selected subjects was 22.12+/- 2.13 years performing their regular practices at Manbhum Sports Association of Purulia district from West Bengal. The variable for the study was Breath Holding Capacity, (BHC). Analysis of Covariance (ANCOVA) was applied to compare the effect of the three different nostril dominance intervention groups and control group i.e., left nostril group, right nostril group and both nostril group on selected Physiological dependent variables after the pretest and post-test. Post Hoc was applied on selected three different nostril dominance intervention groups and control group i.e., left nostril group, right nostril group and both nostril group on selected Physiological dependent variables after post-test whenever the statistical significance difference was found. The results of the study showed that, there was statistically significant difference was found among the three different intervention groups.

Keywords: Breath holding capacity, (BHC) left nostril group, right nostril group

Introduction

Today, yoga is a topic that is attracting interest from a wide range of people. It may be used as science in many areas, including education, sports, and sports (health/family welfare, and psychology/medicine). This is according to recent study trends. Yoga is widely acknowledged as a spiritual discipline with freedom as its ultimate objective, therefore it cannot just be seen as a treatment. Yoga is now widely acknowledged to be utilized as therapy as well as for greater mental growth and social control (Rusak, 1975) [9]. Yoga should be a part of your everyday practice since it is the science of proper living. It has an impact on a person's entire existence, including their physical, mental, emotional, psychological, and spiritual aspects. Yoga aims to precisely synchronize the various physiological functions for the benefit of the entire body. (Khosravi, H., 2015) [1]. Pranayama controls and regulates breathing so it is very beneficial for people with disabilities. This technique dramatically improves endurance, balance, and muscle strength and ensures better sleep by improving vital energy circulation. Pranayama helps control the seizures that are common in these children. The sounds of animals make their performances interesting. Kukuriya pranayama (dog panting) is very popular with children. Sitari pranayama and Sitkari pranayama help people with Down syndrome who have a thick tongue and difficulty speaking. Just like Pranava Pranayama, Nada Pranayama helps relieve stress and sublimate pent-up emotions. Also known as a "breath cleaner," mukhavastrika helps remove stale, stagnant air from the lungs and clears out excess carbon dioxide in the blood. Practice shortens your reaction time and improves your memory and comprehension (Swami Satyananda Saraswati, 2004) [4]. Asanas should be performed in a certain way. Patanjali mentions three very short maxims dealing with the principle, purpose, effect, and mechanism of asanas. It should be emphasized again that the main concern here is the static aspect of Asana. This maxim gives

an idea about the overall goal of asanas (Koul H.K., 1991) [2]. One must slow down one's efforts and at the same time concentrate one's attention and contemplate infinity. This means that the asanas are relaxed and effortlessly performed. The mind is withdrawn from the body, passes into the infinite world, becomes unconscious of the body, and forgets the body. It is more important and effective to direct the mind to infinity, and in this state, the maximum benefits are obtained (Kuvalyanand Swami, 1956) [3]. This is done by paying attention to the incoming and outgoing breath flow and feeling it touching the tip of your nose. When you breathe in, you feel cool, and when you breathe out, you feel warm. Also, try to breathe a little deeper and more rhythmically. This also contributes to the fact that you can really relax when doing the asanas (Tengshe, Shrikrishna B. 1981) [5].

Methodology

The purpose of the study was to find out the effect of nostril dominance on selected physiological variables namely Breath Holding Capacity, (BHC) among Elite-level athletes. For the purpose of the study total of N= 80 male elite athletes were selected as the subjects. The mean age of selected subjects was 22.12+/- 2.13 years performing their regular practices at Manbhum Sports Association of Purulia district from West Bengal. Further, the assignment of selected subjects in three intervention groups and one control group were as follows: -

Table 1:

Groups	Subjects Numbers
A. Control Groups	20
B. Left Nostril Dominance Group	20
C. Right Nostril Dominance Group	20
D. Both Nostril Dominance Group	20
Total	80

Analysis of Covariance (ANCOVA) was applied to compare the effect of the three different nostril dominance intervention groups and control group i.e., left nostril group, right nostril group and both nostril group on selected Physiological dependent variables after the pretest and post-test. Post Hoc was applied on selected three different nostril

dominance intervention groups and control group i.e., left nostril group, right nostril group and both nostril group on selected Physiological dependent variables after post-test whenever the statistical significance difference was found.

Results and finding

Table 2: Analysis of covariance of three experimental & control groups on physiological variables i.e., breath-holding capacity

Mean	Left Nostril	Right Nostril	Both Nostril	Control group	Sum of square	d.f	Mean sum of square	F-ratio
Pre-test	43.35	44.65	44.55	43.05	A	40.20	3	13.400
					W	2771.0	76	36.461
Post-test	58.58	58.90	61.10	44.50	A	3493.7	3	1164.58
					W	1749.1	76	23.06
Adjusted post-test	59.01	59.69	60.91	44.74	A	3316.5	3	1105.51
					W	1524.6	75	20.33

* Pre-test sig. 0.77, post-test sig. 0.00, adjusted mean sig. 0.00

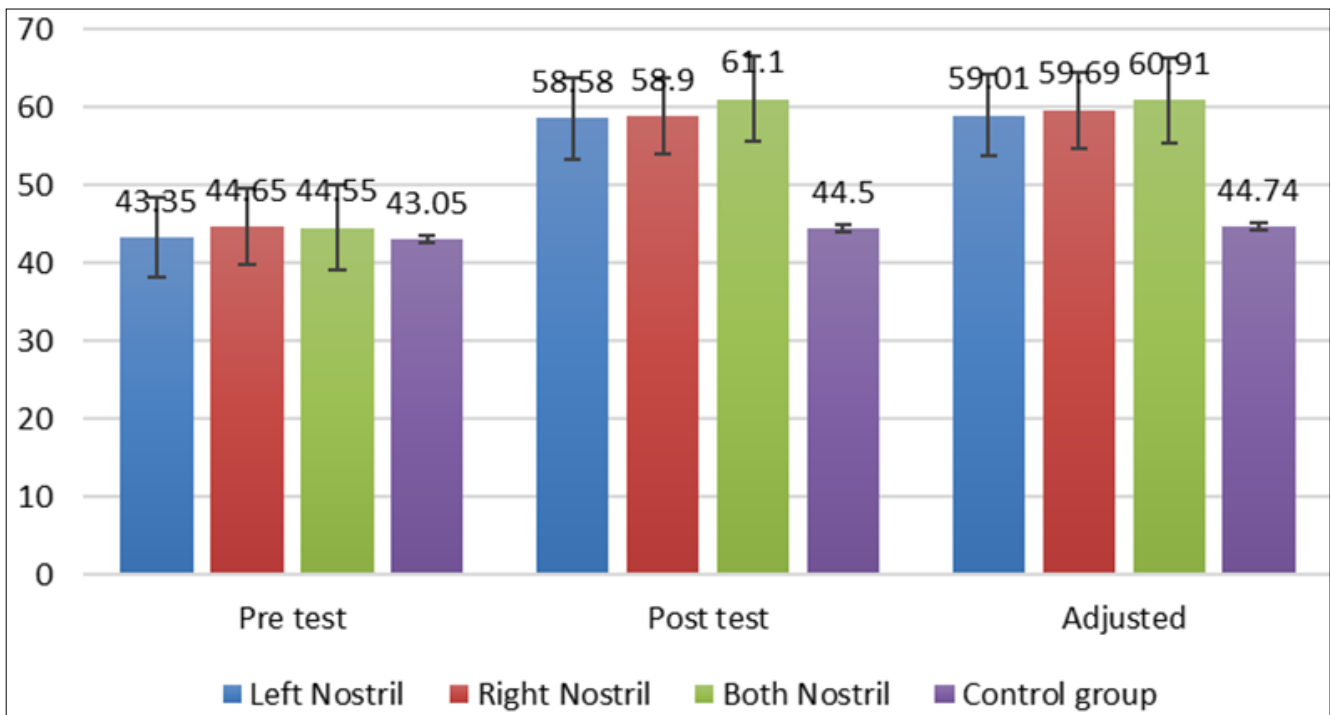


Fig 1:

Table 3: Post hoc mean difference (LSD) comparison of three experimental & control groups on physiological variable i.e., breath holding capacity after 16 weeks of a selected nostril dominance with yoga danda practices

(I) Group	(J) Group	Mean Difference (I-J)	Sig.
Left Nostril group	Right Nostril group	-0.0500	0.974
	Both Nostril group	-2.2500	0.142
	Control group	14.3500*	0.000
Right Nostril group	Left Nostril group	0.0500	0.974
	Both Nostril group	-2.2000	0.151
	Control group	14.4000*	0.000
Both Nostril group	Left Nostril group	2.2500	0.142
	Right Nostril group	2.2000	0.151
	Control group	16.6000*	0.000
Control group	Left Nostril group	-14.3500*	0.000
	Right Nostril group	-14.4000*	0.000
	Both Nostril group	-16.6000*	0.000

Discussion of findings

In sports science, numerous global studies are conducted annually to determine the most effective training regimen that will unquestionably boost performance. Yoga has seen a meteoric rise in popularity among athletes seeking to

improve their performance in recent years. Breathing exercises are a very powerful technique for nervous system balancing. There are nerves that connect to the brain's centre in each of our nostrils. There are two sides of the brain. The right side is calming, creative, and inspirational. The left

side functions mechanically and analytically. The yogis have discovered that every hour and twenty-eight minutes, there is a bodily rhythm. The natural occurrence of nasal cycle, an ultrafine rhythm with a periodicity of 2–8 hours that is defined by the left and right nostrils' alternating patency, is what causes nostril dominance at rest (Kumaran, 2015)^[8]. The Breath-Holding Capacity (BHC) data revealed that there was a noteworthy distinction between the Left Nostrils Dominance Group, Right Nostrils Dominance Group, and Both Nostrils Dominance Group following a sixteen-week treatment program. In the Left Nostril Dominance Group topic, there was a 32% rise. The subject's Right Nostril Dominance Group exhibited a 32% increase. However, the subject's percentage climbed by 36% in the Both Nostrils Dominance Group. This suggests that the training program was successful in bringing about change among participants in three different programs compared with the control groups. On the other hand, Both Nostril Dominance group participants showed better results than the other two study groups. According to yoga, nostril dominance, or svara dominance, can indicate a person's state of being and can have physiological effects. Some say that the dominance of one nostril can reflect on a person's personality and help determine which characteristics are dominant. For example, when the left nostril is dominant, a person may feel calmer and more relaxed, and their mind may Favor cognitive senses like taste, touch, sight, smell, and hearing. This can lead to actions that are restful, receptive, and inwardly oriented. Breathing from the left nostril can also activate the parasympathetic nervous system, which can decrease arousal and Favor mind wandering (Ashwini, 2015; Keerthi, 2013)^[6,7].

References

1. Khosravi H, Kazemzadeh Y, Sedaghati S. The effect of yoga practice on muscle fitness and body composition in middle-aged women with overweight. *Res Trends Biol Forum*,2015;7(1):1924-1930.
2. Koul HK. *Pranayama for health*. Delhi: Subject Publication; 1991. p. 17.
3. Kuvalyanand Swami. Experiments on pranayama. *Yoga Mimamsa*,1956:6:9-20.
4. Saraswati SS. *Asana Pranayama Mudra Bandha*. Munger, Bihar, India: Yoga Publications Trust, 2004, 1-2.
5. Tengshe SB. *Yoga and pranayama technique respiration* [Doctoral thesis]. Delhi: A.I.M.S., Delhi University, 1981, 201-8.
6. Ashwini D, Veliath S, Das S, Anandraj V, Kavitha U. Effect of left and right nostril breathing on R-R interval among adult males: A cross-sectional study. *Int J Biomed Res*,2015:6:87-91.
7. Keerthi GS, Bandi HK, Suresh M, Reddy MN. Immediate effect of suryanadi pranayama on pulmonary function (ventilatory volumes and capacities) in healthy volunteers. *Int J Med Res Health Sci*,2013:2:724-9.
8. Kumaran EM. Alternation in nasal cycle rhythm as an index of the disease condition. *Open J Biophys*. 2015;
9. Rusak B, Zucker I. Biological rhythms and animal behavior. *Annu Rev Psychol*,1975:26:137-71.