

Yogic Routine and Systolic Pressure Among University Soccer and Hockey Players – The Facts and Effects of Training



PHYSICAL EDUCATION

KEYWORDS : Control group, Experimental group, Sphygmomanometer and Stethoscope, Systolic Pressure, Yogic Practices.

Dr. C. Johnson Premkumar

Department of Physical Education and Sports, University of Madras, Chetpet, Chennai-31, South India

D. Regilin Kiruba

Physical Training Instructor, University VOC College of Engineering, Thoothukududi, Tamilnadu

M. Siva

Director of Physical Education, PSN College of Engineering and Technology, Tirunelveli, Tamilnadu

S. Jayasingh Albert Chandrasekar

Director of Physical Education, SRM University, Katangulathur, Chennai, Tamilnadu

ABSTRACT

The Purpose of the study was to find out, the intervened effect of yoga on Systolic Pressure among the university soccer and hockey players. The subjects chosen for the study were 30 Sportsmen (15 Soccer and 15 Hockey Players) from University of Madras, aged between 20 and 25 years, on the basis being soccer and hockey are endurance sport. They were randomly divided into two groups of 15 each, one being the experimental group and the other a control group. The experimental group underwent a scheduled yoga practice for a period of 8 weeks, 6 days/week as the control group was on daily regular routine. The status of Systolic pressure was measured before (Pre-test) and after (Post-test) the experimental period using Sphygmomanometer and Stethoscope. The data were analyzed statistically for significant differences. Later applying analysis of variance and analysis of co-variance (in case of insignificance), significance in variance is shown, and further Scheffe's test was applied. The result proves that the yogic scheduled practices have made a significant impact on the Systolic pressure of the experimental group compared to the control group.

1. INTRODUCTION

The technology of today not only advance us to the next phase but increases the risks of daily survival and makes life in this concrete jungle more complex and competitive making people at heavy stress and pressure due to which people make life miserable. The spirit of sports is limited only to win laurels, people would only want winners and not losers hence sportsmen are injected with forced result than a performance oriented result. To stabilize sportsmen from this fact of sports arena, we need to establish integration between our head (Thinking), heart (Feeling) and hands (Behavior), which means discarding discrepancies in our thinking, feeling and behavior towards sports and its performance. To achieve this, yoga psychology recommends leading a disciplined lifestyle and developing a positive attitude towards the events of life. Blood pressure is the lateral pressure exerted by blood on the vessel walls while flowing through it. The highest level systolic blood pressure to which the arterial blood pressure rises during the systolic ejection of blood from the ventricle (**Lawrence E. Morehouse, 1976**). The science of yoga proclaims that yogic techniques and practices aim at selective as well as wholesome shaping of human body and mind. Hence a selective package of yogic practices consisting Asana (Physical Postures), Pranayama (Breathing Practices) and Meditation (Mental Practices) was designed with performance norms intended to create a positive impacts among the experimental subject on Systolic pressure. The capsule is expected to assist the enhancement and regulation of the Systolic pressure so as to suit the tested variable. The degree and range of impacts of the capsule subjected to statistical analysis is the culmination of the research challenge.

1.1. Yoga

The term 'yoga' is used to indicate both the 'End' as well as the 'mean'. In the sense of the 'End', the word 'Yoga' signifies 'Integration' at its highest level. All the means that subscribe to reach this goal also constitute yoga, in the sense of 'yukti' the means or technique. All the practices, whether high or low are calculated to help the progress of the aspirant towards such integration are together known by the name 'yoga'. Yoga is thus an integral subject, which takes into consideration man as a whole. It does not divide him into watertight compartment as body, mind and spirit etc.

1.2. Asana

Asana are those postures with dynamic moments oriented to create physical and physiological changes in the human system. It works on the principle of sthiram – sugam- asanam (seat). Local compression of various structures affects the whole body during flexing and extending which in turn tunes the tissues locally so as to stimulate nerves, blood, lymph, endocrine organs and neural plexus. Thus the wide range of posturing, improving suppleness and flexibility in the body are achieved particularly toning up the nervous system. Functions of all vital organs, stimulation of glands and regulation of the blood flow are achieved by proper postures and the muscles in our body are thus firmed and strengthened.

1.3. Pranayama

Pranayama is the practice of breathing exercises with the three scientific phases namely **Puraka** (Inhalation), **Kumbhaka** (Holding the air in the lungs) and **Rechaka** (Exhalation) in a progressive manner that works centrally and the effects spread to the periphery, too. One must understand that the objective of pranayama is to affect the proper balance between Ida (Moon Breath) and Pingala (Sun Breath) nadis and to gain the physiological, spiritual upliftment through the attainment of light and knowledge from the sushumna nadi. From the physical point of view, a proper balance among the nadis ensures health, strength, peace and longevity. Pranayama have seasonal effects in its technique and practice. Hence the selection of pranayama for the practice schedule should be based on the seasonal requirements. During practice the three phases, inhalation, holding the breath and exhalation should be observed as 1:1:1 (Initial Stage) 1:2:2 (Intermediate Stage) and 1:4:2 (Advanced Stage).

1.4. Meditation

Meditation is a systematic method of mental practice that gives a complete mental, physical and emotional relaxation.

1.5. Capsule Training Package

The Scientific basis of yoga offers a wide range of variations in its scopes and benefits on how to utilize those effects for various needs and requirements of general health and fitness more specifically in personal life style. An intensive review of related

literature on these area and consultations with the experts in yoga a selected yoga-training package was designed for the subjects under study. The principle of training load was maintained for the capsule packages during the experimentation in terms of physical, physiological and psychological requirements for the training period.

2. RESEARCH PROBLEM

The Purpose of the study was to find out, the intervened effect of yoga on systolic pressure among the sportsmen of endurance genre.

3. MATERIALS AND METHODS

The subjects chosen for the study were 30 endurance sports genre players who represented University of Madras, Chennai aged between 20 and 25 years. They were randomly divided into two groups of 15 each, one being the experimental group and the other a control group. The experimental group underwent a scheduled yoga practice for a period of 8 weeks, 6 days/week as the control group was on daily regular routine. The status of systolic pressure was measured before (Pre-test) and after (Post-test) after the experimental period. The data were analyzed statistically for significant differences. Later applying analysis of variance and analysis of co-variance (in case of insignificance), significance in variance is shown, and further Scheffe's test was applied. The subject was asked to sit comfortably on the chair with the left arm slightly flexed and the whole forearm supported at the heart level on the table. The subject was asked to have weight of the body on the forearm and the fingers were relaxed. The center of the rubber composer bag was squarely, placed over the brachial artery and placed to wrap the silk cuff after the manner of the bandage tuck the ends in neatly avoiding any tucks in wrapping. The systolic and diastolic points were determined from the different sounds made by blood in the artery as the artery is subjected to various degrees of compression. The sounds were heard by means of stethoscope applied just below the armband at the bifurcation of the brachial artery. For Systolic pressure, pressure was applied by means of the pressure ball and with the left hand palpating the pulse, the pressure was continued for about a further 10 mm, above the point of pulse disappearance. The stethoscope was applied to the brachial artery and releasing the pressure in the rubber composer bag slowly and evenly by means of slight movement of the release screw of the control valve heard intently by heart sound. The first sound is usually clear and easy to distinguish; the first regular beat being heard should be read as the point of systolic pressure.

YOGA TRAINING CAPSULE

Asana - Padmasana, Vajrasana, Paschimothanasana, Matsyasana, ArthaMatsyendrasana, Halasana, Bhujangasana, Dhanurasana, Shalabhasana, Sarvangasana, Pawanmuktanasana, Chakrasana, Utthita Parvakonasana, Virabhadrasana, Uttakatasana, Vrksasana, Tadasana, Garudasana, Shavasana.

Pranayama - Nadisuddhi, Nadi Shodhana, Ujjayi, Kapalabhati, Bhramari, Bhastrika, Sitalai, Sitakari

Meditation-Observing the breath (Swami Satyananda Saraswathi, 1993)

TIME SPILT - TRAINING SCHEDULE

Sl. No.	Description	Period
1	Training duration	8 Weeks
2	Days	6 days
3	Training Session/ Day	1 Session
4	Duration of Session	90 Min
5	Preparation / Warm-up	15 Min
6	Training for specific components	45 Min
7	Distributed rests	15 Min
8	Relaxation / Warm-down	15 Min
Total		90 Min

4. ANALYSIS AND FINDINGS

The collected scores from Pre-test and Post-test after statistical analysis reveal significance in the final output of the scores arrived after the experimentation period in post-test scores. The Table-1 presents the result of statistical result of significance.

TABLE - 1 Analysis of Variance and Analysis of Systolic Pressure of Control and Experimental Group

V	df	SS x	SS y	MSx (Vx)	MSy (Vy)	Fx	Fy
B	1	4.03	403	4.03	403	0.04	6.48*
W	28	2699	1743	9.39	62		
T	29	2703	2147				

*V - Variance / *B - Between / *W - Within / *T - Total

Table Value DF (1,28) at 0.05 level : 4.20 / DF (1,28) at 0.01 level : 7.64

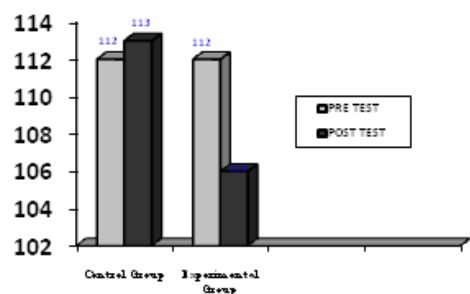
TABLE - 2 Scheffe's test for significance of the Difference between Paired means

Mean Values		MD	LS
Group-1	Group-2		
113.33	106.00	7.33	0.05

CI- Value for 0.05 level : 5.90 / 0.01 level : 7.96

Table-2 indicates that after the training programme significant difference was found in (Systolic Pressure) computation of Analysis of variance as the obtained 'F'-ratio computed from adjusted mean sum of squares was 6.48 against the prescribed tabulated value of 4.20 at 0.05 level of confidence for 1 and 28 degrees of freedom. So the obtained 'F'-ratio was significant at 0.05 level of confidence. The result of investigation revealed that there was significant improvement in Systolic pressure through scheduled yoga practice programme. The results by and large were in conformity with the findings of **Saahein and Udupa (1988)**. The means of Pre and Post-test scores of two groups in Systolic Pressure have been presented graphically in Fig-1.

FIGURE - 1



Mean Systolic Pressure (Pre and Post-test) of Control and Experimental Group

5. CONCLUSION

The Scheduled yogic practices made impacts on systolic pressure during post training assessment among the endurance genre sportsmen. Based on the finding it is concluded that the yogic practices package could be of a notable capsule training to maintain and develop a positive systolic pressure.

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