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Effects of Yogic Practices on Physical and Physiological, Performance Related Variables of Male Handball Players

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ABSTRACT

Handball includes steady tossing of ball into the objective post and requires constant adjustments to changing circumstances by the group in general also by the individual players. Forty men intercollegiate handball players (18 to 25 years) of Koviloor Andavar school of Physical Education and sports science, Koviloor, Karaikudi were chosen as subjects for the examination. In view of abnormal state execution, accessibility of hardware, achievability part of estimation, distinctive factors, for example, physical factors like adaptability and cardio respiratory frameworks physiology factors to be specific pulse, systolic circulatory strain and diastolic circulatory strain were picked. Our outcome demonstrates that the preparation impacts of yogic practices applied critical impact over the physical, physiological, and execution related factors of male Handballers. It emphatically upgrades adaptability, cardio respiratory perseverance, handball passes and shooting scores. Furthermore, yoga rehearses decreased pulse just as systolic and diastolic circulatory strain. In general, these discoveries demonstrate that ordinary yoga rehearses fundamentally improved execution of players. Accordingly this examination gives knowledge to the execution of compelling yoga rehearses for better games exhibitions.

Keywords: Flexibility, Heart Rate, Systolic Blood Pressure, Diastolic Blood Pressure

INTRODUCTION

Participation in modern sports is impacted by different physical, Physiological, factors. Amid preparing, other than great constitution and physical wellness of the competitor, more accentuation is laid on the improvement of different kinds of engine abilities engaged with the amusement just as on showing the procedures, systems and strategies of the diversion. The present competitors face some one of kind difficulties. The models are higher, the challenge is harder, and the stakes are more noteworthy. Among the best, Physical arrangement is to be progressively finished, and the mental part is more fundamental than any time in recent memory.

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Handball is a round of steady shooting and requires persistent going of ball to changing circumstances by the group overall also by the individual players. In spite of the fact that it is a group amusement, there is adequate space for players to show their brightness through individual execution with the ball just as through the group play including ad lib and strategic information. One of the best qualities of the diversion is its speed as it is the one of the quickest amusement on the planet. No other game is so effectively accessible thus quickly motivating. The most energizing nature of Handball is that it is a brisk moving and a quick streaming amusement. The straightforwardness of the guidelines and commonality of the strategic moves make each development of the play quickly flighty.

Quality is essential for Handball players on the grounds that the shooter must shoot the ball persistently, which should be possible just with the assistance of the quality of his arms and legs. Since the amusement sets aside a lot of effort to complete, a group needs to play around 60 minutes. So handball must have a decent cardio respiratory perseverance to play proficiently notwithstanding amid the latest possible time. Being adaptable empowers more noteworthy scope of development in the execution of shooting, and developments around the court might be simpler. Great adaptability may likewise decrease the rate of damage in the long haul. Co-appointment is a critical segment for any player to exceed expectations in any diversion. In Handball it is exceptionally essential in light of the fact that regularly the ball will be noticeable all around, ground and the player must facilitate with his hand, eye and leg before shootinging, passing and tribbling. Co-appointment is a compelling and valuable quality for any Handball whether player is in shoot, passing, tribbling. Deftness assumes a urgent job in this amusement. Amid the play a player needs to move rapidly in all the heading to recover the ball. Speed in which a player moves to passing or shooting the ball is contributing more to win. It is likewise a critical segment for handball to create before rivalry. The capacity to hop likewise assumes a critical job while shooting.

YOGA

The word 'Yoga' itself originates from a Sanskrit word signifying 'Burden' or 'association'. It passes on saddling oneself to a control and in the meantime of binding together the piece of oneself, body, psyche and soul and the individual self with something more prominent and extraordinary, an idea which might be communicated as God, the Absolute, the Greater self, the general progression of life, etc, as per one's religious and philosophical position. Yoga is a workmanship, a science and a theory. It contacts the life of man at each dimension physical, mental and otherworldly. It is a handy strategy for making one's life intentional, valuable and respectable.

PHYSICAL ASPECTS OF YOGA

Yoga is a great strategy for improving the execution of games members. Striking component of yoga is the blend of both physical molding and centered fixation. Physical wellness can be accomplished perfectly by enjoying yogic daily schedule. Yogic activities manage the imperative organs of the body on which wellbeing depends. The antecedent for physical wellness lies in the proficient working of the fundamental organs of the body and yoga goes for it. The different chose 'asanas' giving diverse developments to the spine, controlled breath, unwinding method and focus practice all in all structure a great daily schedule to deal with the wellbeing of crucial organs of the body. In spite of the fact that very few logical specialists have been done, crafted by Oken, et.al., 2000, Govindaraju, et.al., (2003), Johnson Prem

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kumar and Marriayyah (2006) have indicated enough proof about how yoga could be productively utilized in the advancement of physical elements.

PHYSIOLOGICAL ASPECTS OF YOGA

Yogic activities improve course crucial to legitimate working of the body. Yoga nourishs invigorates and keep up the parity of the endocrine organs which administer development and advancement. Standard routine with regards to yoga improves capacities, for example, processing and breath so that there is more vitality accessible for the developing youngster. It expands the supply of new blood to the mind in this manner upgrades mental limit. Yogic activities rehearsed legitimately fortify the muscle strands and nerves and there by improves physiological working of the considerable number of frameworks. It additionally advances legitimate basic improvements by dealing with the joints, directs breath and blood pressure.

METHODS OF MATERIALS:

Forty male intercollegiate handball players of Koviloor Andavar college of Physical Education and sports science, Koviloor, Karaikudi were selected as subjects for the study. They play handball at College level rivalries. Their age ranges from 18 to 25 years. In light of the significant writing that are seen and as per the perspectives on expert physical training identities, the significance of factors at the abnormal state execution, accessibility of gear, practicality part of estimation, the accompanying factors are chosen for this investigation. The dependent physical and physiological variables are flexibility, cardio respiratory endurance, heart rate, systolic blood pressure and diastolic blood pressure

TABLE: - 1

RESULTS OF ANOVA BETWEEN YOGIC PRACTICES AND CONTROL GROUPS WITH RESPECT TO PHYSICAL VARIABLES FLEXIBILITY AND CARDIO RESPIRATORY ENDURANCE

Variable	Test	Source of Variance	Sum of squares	Df	Mean Square	F-Ratio
Flexibility	Initial	Between Groups	0.23	1	0.23	0.013
		Within Groups	672.55	38	17.70	
	Final	Between Groups	81.23	1	81.23	4.855*
		Within Groups	635.75	38	16.73	
Cardio respiratory endurance	Initial	Between Groups	774.40	1	774.40	0.008
		Within Groups	3486465.20	38	91749.084	
	Final	Between Groups	326705.63	1	326705.63	4.440*
		Within Groups	2796113.75	38	73581.94	

* P < 0.05 Table F, df (1, 38) (0.05) = 4.098

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In table - 1, the consequences of single direction ANOVA for both beginning and last test scores of physical factors adaptability and cardio respiratory perseverance are displayed. From the table it tends to be seen that the determined F estimation of .013 for beginning test for adaptability between the gatherings are immaterial (P>0.05) demonstrating that the arbitrary inspecting is fruitful. The determined F estimation of 4.885 for definite trial of adaptability between the yogic practices gathering and control bunch were more noteworthy than the table estimation of 4.098 demonstrating that it was critical at 0.05 dimension (P<0.05). The determined F estimation of .008 for starting test for Cardio respiratory perseverance between the gatherings are irrelevant (P>0.05) showing that the irregular inspecting was effective. The determined F estimation of 4.440 for conclusive trial of Cardio respiratory continuance between the yogic practice gathering and control bunch were more prominent than the table estimation of 4.098 demonstrating that it is noteworthy at 0.05 dimension (P<0.05). The last F esteem demonstrated that there were noteworthy contrasts in adaptability and Cardio respiratory continuance between the gatherings in the last test as a result of the treatment impact.

TABLE: 2

RESULTS OF ANOVA BETWEEN YOGIC PRACTICES AND CONTROL GROUPS WITH RESPECT TO PHYSIOLOGICAL VARIABLES HEART RATE, SYSTOLIC BLOOD PRESSURE AND DIASTOLIC BLOOD PRESSURE

Variable	Test	Source of Variance	Sum of squares	df	Mean Square	F-Ratio
Heart rate	Initial	Between Groups	0.23	1	0.25	0.003
		Within Groups	3245.55	38	85.41	
	Final	Between Groups	302.50	1	302.50	4.502*
		Within Groups	2553.50	38	67.20	
Systolic blood pressure	Initial	Between Groups	28.90	1	28.93	2.717
		Within Groups	404.20	38	10.64	
	Final	Between Groups	62.50	1	62.50	4.276*
		Within Groups	555.40	38	14.62	
Diastolic blood pressure	Initial	Between Groups	3.03	1	3.06	0.158
		Within Groups	727.75	38	19.15	
	Final	Between Groups	75.63	1	75.625	4.230*
		Within Groups	679.35	38	17.88	

* P < 0.05 Table F, df (1, 38) (0.05) = 4.098

In table 2, the results of single direction ANOVA for both starting and last test scores of physiological factors Heart rate, Systolic pulse and Diastolic circulatory strain are introduced. From the table it tends to be seen that the determined F estimation of 0.003 for introductory test for pulse between the gatherings are inconsequential (P>0.05) showing that the irregular examining is effective. The determined F estimation of 4.502 for conclusive trial of pulse between the yogic practice gathering and control bunch are more prominent than the table

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estimation of 4.098 demonstrating that it is huge at 0.05 dimension (P<0.05). The determined F estimation of 2.717 for introductory test for Systolic circulatory strain between the gatherings are unimportant (P>0.05) showing that the arbitrary inspecting is fruitful. The determined F estimation of 4.276 the last trial of Systolic pulse between the yogic practice gathering and control bunch are more noteworthy than the table estimation of 4.098 demonstrating that it was critical at 0.05 dimension (P<0.05). The determined F estimation of 0.158 for introductory test for Diastolic pulse between the gatherings are inconsequential (P>0.05) showing that the irregular examining is fruitful. The determined F estimation of 4.230 for definite trial of Diastolic circulatory strain between the yogic practices gathering and control bunch are more prominent than the table estimation of 4.098 showing that it is huge at 0.05 dimension (P<0.05).The last F esteem for Heart rate, Systolic pulse and Diastolic circulatory strain demonstrated that there are huge contrasts between the gatherings in the last test in light of the treatment impact

DISCUSSION ON FINDINGS

Physical Variables

The results of physical variables-flexibility and cardio respiratory endurance have shown that there is an increase in the level of flexibility and cardio respiratory endurance due to the training effects of yogic practices. The physical variable flexibility and cardio respiratory endurance are essential not only for a handballer but for all the players. Lack of flexibility has many ill effects, ranging from imperfect skill acquisition to its execution. Lack of cardio respiratory endurance also affects a player while the competition prolongs. A player who is lacking in cardio respiratory endurance cannot perform well.

The asanas such as Pachimottanasana, Halasana, Dhanurasana, Matsyasana, and Bhujangasana are responsible for improving flexibility. Pranayamas like Nadisuddhi, Nadishodhana, Ujjai and meditation like breath counting meditation increases the circulation to the brain which stimulates the brain nerve cells. These results in increased vitality improve brain functions and calm the body and the mind, thereby increasing cardio respiratory endurance. The physical movements involved in some of these asanas could be the viable source to develop the flexibility. In yogic practices, the movement to reach the maximum range of motion is very slow and the hold on period also lasts for long. Thus the yogic practices improve flexibility and cardio respiratory endurance. The results of this investigation are supported by the following findings **Oken, et.al., (2006), Baldwin,(1999), Govindarajalu et.al., (2003), Johnson PremKumar and Mariayyah,(2006), Mishra, et.al., (2003)** and **Bera and Rajapurkar (1993)**.

Physiological Variables

The outcomes show that there is a reduction in the pulse of the male handballers because of the preparation impacts of yogic practices. The pulse is managed or constrained by neural, hormonal and parasympathetic nerves - a sub division of autonomic nerves framework. At the point when the thoughtful nerves are managed, they emit epinephrine and nor epinephrine on the nerve endings of the heart. These concoction substances increment pulse. As a hormonal reaction, adrenal medulla secretes adrenaline and secretes nor adrenaline when in energized states which thusly expands pulse. As an impact of yogic practice, pulse is diminished empowering the ventricles to suit more prominent volume of blood. At the point when the

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pulse diminishes there is more opportunity for filling the ventricles with blood and more opportunity for conveyance of oxygen just as supplements to while initiating the para thoughtful nerves framework the body.

Routine with regards to asana, for example, Padmasana, Halasana, Vajrasana and Shavasana has been appeared to loosen up the body and the brain. Pranayama like Nadisuddhi and Nadishodhana quiet the thoughtful nerves framework while enacting the Para thoughtful nerves framework. The yogic practices control the adrenal hormone level which likewise impacts the pulse. Henceforth the yogic practices diminish the pulse of male Handballers.

The consequences of systolic circulatory strain and diastolic pulse demonstrate that there is a decrease of circulatory strain because of the preparation impacts of yogic practices for the male handballers. There are five imperative elements in charge of keeping up blood weights. They are cardiovascular yield, fringe obstruction, versatility of the blood vessel divider, blood volume and the volume of the vascular space. The fringe obstruction is straightforwardly corresponding to blood weights. The capacity of circulation system relies on lumen of the veins. On the off chance that the lumen is limited (vasoconstriction) the weight increments. In the event that it enlarges (vasodilation) the circulatory strain diminishes (Sarada Subramanian, 2001)

The asanas, for example, Matsyasana, Halasana, Sarvangasana and Yogamudra, pranayama, for example, Nadisuddhi, Nadishodhana and Sitali impact the circulatory strain to end up ordinary including the impacts of epinephrine and nor epinephrine. The preparation impacts of yogic practices have appeared to control the hormones epinephrine and nor epinephrine in order to upgrade the lumen of veins. Thus the systolic circulatory strain and diastolic pulse are diminished considerably.(vishnudevananda.1998; Disclaimer, 2001). The consequences of this examination are additionally bolstered by the accompanying discoveries of Schell, et.al. (1994), Telles, et.al., (2004), Pete Arambula, et.al., (2004), Gore,et.al., (2003), Shenbagavalli and Rajkumar, (2007) and Gore, (2005).

Performance Related Variables

The results of handball passes and shooting scores have shown that there was an increased dimension of scores because of the preparation impacts of yogic practices among men handballers. The preparation impacts of yogic practices have appeared there was an improvement in all the physical, physiological, men handballers. Pranayamas, for example, Nadisuddhi, Nadishodhana and reflection produce a quieting impact and builds focus. This is in charge of progress of handball passes and shooting scores of men handballers. The consequences of this examination are upheld by the accompanying discoveries of Raja Gopal and Jim Reeves (2007), Samsudeen and Kalidasan (2007), Viveganandan and Aravinda (2007), Kalidasan (1998) and Duncan et.al. (2006).

CONCLUSIONS

Inside the confinements, the consequences of present investigation appear to allow the accompanying end on school level male hand hotshot:

The preparation impacts of yogic practices confirm huge impact over the physical, physiological, and execution related factors of male hand hotshot. Especially by decidedly expanding adaptability, cardio respiratory continuance, handball passes and shooting scores.

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What's more, pulse, systolic circulatory strain, diastolic circulatory strain, levels was diminished.

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