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YOGIC PRACTICES AND PLYOMETRIC TRAINING ON AGILITY AMONG COLLEGE MEN PLAYERS

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ABSTRACT

Yoga is essential for women at every stage of life. Their capability to handle challenges and highly depends on the health. Yoga makes one more aware of the strengths and weaknesses while exploring the new horizons in fast paced life. The purpose of the study was the analysis of Yogic practices and plyometric training on Agility. It was conducted on 45 men players from club Polytechnic college level , Avadi, Chennai which involved talents from all over the game, after the physical fitness tests, The randomly assigned in to three groups namely Experimental group-I Control Group (CG). Experimental group-II yogic training, group-II plyometric training group, Each group consists of 15 subjects, they were examined by used of Shuttle run to evaluate the Agility. The ages ranges between 16-22. The Analysis of Covariance (ANACOVA) and post hoc test was used to assess the collected data. From the analysis of data it was proved that there was a significant reduction in the timing of agility, The obtained data on Agility in women players have significant differences between the Experimental group and control group players.

Keywords: Regular Yogic practices, Plyometric training activity – Agility.

Introduction

Recreation is an essential part of human life and finds many different forms which are shaped naturally by individual interests but also by the surrounding social construction. Recreational activities can be communal or solitary, active or passive, outdoors or indoors, healthy or harmful, and useful for society or detrimental.

Plyometric drills usually involve stopping, starting, and changing directions in an explosive manner. These changes of direction may be categorized as agility exercises.29 Agility is the ability to rapidly change directions without loss of speed, balance, and body control. The ability to combine muscle and explosive strength, balance, acceleration, and deceleration determines agility. Agility training is a reinforcement of motor programming through neuromuscular conditioning and neural adaptation. As movement occurs, the Central Nervous System decides which muscles are recruited and the sequence to be contracted. Improved performance in tests of agility should be one goal of a plyometric program, since plyometrics are aimed at reducing the amount of time spent on the ground in preparation for movement.

Yoga is essential for women at every stage of life. Their capability to handle challenges and highly depends on the health. Yoga makes one more aware of the strengths and weaknesses while exploring the new horizons in fast paced life. Yoga asanas which strengthen the abdominal muscles are good for reducing common women's problems related to lower abdomen.

Gurmej Singh Dhaliwal was conducted the study to determine the effects of selected asanas in hatha yoga on agilityand flexibility level.The subjects for the study were selected on the basis of random group design. Thirty (N=30) male students were selected as subject for the present study from D.A.V. Institute of Engineering and Technology, Jalandhar (Punjab), INDIA. All the subjects ranged between the chronological age of 18-25 years. The selected subjects were further divided into two groups. Experimental treatment was then assigned to group "A" while group "B" acts as control. "Hexagonal Obstacle Test" was used to measure Agility whereas "Sit and Reach Test" was used to measure Flexibility. The subjects were subjected to the six week yogasanas training programme that includes Swastikasana, Mayurasana, Matsyendrasana, Paschimottanasana and Gomukhasana. The difference in the mean of each group for selected variable was tested for the significance of difference by "t" test. The level of significance was set at 0.05. The results have shown the significant improvement in flexibility, since cal. t (= 8.122) > tab t.05 (14) (= 2.145). The treatment of six week yogasanas training programme also shown significant improvement in case of agility, since cal. t (= 7.376) > tab t .05 (14) (=2.145).

Pardeshi & Mali (2011) Experimental group showed higher performance score in flexibility & coordination, balance & accuracy than the control group. In speed & agility it is found that experimental group could also exhibit higher performance of trunk strength. In the entire test experimental group was significantly better than the control group.

Quadri (2010) studied the effect of physical fitness and ageing process on Positive Mental Health, here positive mental health was measured by three dimensional scale and physical fitness by Cooper's Cardio Respiratory Fitness Test from which it was concluded that ageing and mental health were significantly related & the factor of physical fitness was more effective in developing positive

mental health

Rameshkannana and B. Chittibabu (2014) study was to determined whether eight weeks of plyometric training can improve male handball players agility. To achieve the purpose thirty (30) male handball players were selected randomly from Department of Physical Education and Sports Sciences, Annamalai University, Chidambaram, Tamilnadu. These players were divided into two groups namely, plyometric training group (15) and control group (15). The plyometric training group performed 2 days per week for eight weeks of plyometric training program and the control group did not perform any plyometric training. Agility of these players was measured by specific agility test T-test. The data was collected before and after training in both the groups. The collected data was analysed using analysis of covariance (ANCOVA). The result of the study showed that adjusted post test mean showed significant ($F = 17.96$, $p < 0.000$) difference among the groups on agility. It elicited that 0.61sec (4.91%) improvement was noticed in plyometric training group. It is concluded that plyometric training is an effective training technique to improve male handball players agility.

STATEMENT OF THE PROBLEM

The study involved through experimentation of Yogic practices and Plyometric training to find out the Agility among students of men in polytechnic college club players, of Chennai.

HYPOTHESES

Based on the available literatures the following hypothesis were drawn:

It was hypothesized that there may be significant difference in Yogic Practice, plyometric training group on Agility when comparably control group.

It was hypothesized that there may be significant difference on Agility, how soever the most favour significance difference may be in plyometric training group when comparably compare with other groups.

AGILITY

"Agility is defined as the ability to change the direction of the body or the part of the body rapidly".

According to Cratty and Hutton agility can be defined as the accuracy and speed with which an individual integrates his body parts in various ways.

Bal *et.al.,* studied was conducted to determine the effects of selected asanas in hatha yoga on agility and flexibility level. Subjects for the study were selected on the basis of random group design. Thirty(N=30) male students were selected as subject for the present study from D.A.V. Institute of Engineering and Technology, Jalandhar (Punjab), INDIA. The subjects were subjected to the six week yogasanas training programme that includes Swastikasana, Mayurasana, Matsyendrasana, Paschimottanasana and Gomukhasana. The difference in the mean of each group for selected variable was tested for the significance of difference by "t" test. The level of significance was set at 0.05. The results have shown the significant improvement in agility, since cal. t(= 7.376) > tab t .05 (14) (= 2.145).

METHODOLOGY

The subjects for this study was selected from the polytechnic college club players. The investigator met the college men various games of players and explained to them about the purpose and the nature of the study. Around fifty men gave their voluntary consent to work as subjects for the study. Out of those volunteers forty five of them who were selected as the subjects and their ages ranges between 16-22 years were selected for this study, The remaining forty five subjects.

Randomly was selected to achieve the purpose. (N=30) were divided. The experiment group -I practiced yogasana and pranayama and experiment group –II gone to plyometric training for weekly five days (N=15), and group-III acted as Control group (N=15). All the selected subjects were tested prior, and after the training in agility, The data collected from these four groups pre and post completion of the training period as pre and post test on selected variables which were statistically examined for significant differences if any, by applying a Analysis of covariance (ANCOVA).

ANALYSIS OF COVARIANCE ON AGILITY BETWEEN PRE AND POST TEST OF YOGIC PRACTICE GROUP PLYOMETRIC TRAINING GROUP AND CONTROL GROUP

	Control Group	Plyometric training Group	Yogic Practice Group	SOV	Sum of squares	df	Mean Square	'F' Ratio
Pre-test Mean	17.85	17.89	17.88	B:	0.02	2	0.09	0.59
S.D.	0.74	0.14	0.16	W:	0.70	42	0.07	
Post-test Mean	17.84	16.98	38.53	B:	7.92	2	3.96	16.27*
S.D.	0.70	0.71	0.47	W:	10.22	42	0.24	
Adjusted Post-test Mean	17.76	16.92	16.91	B:	6.09	2	3.05	30.57*
				W:	4.08	41	0.10	

SCHEFEE'S POST HOC TEST FOR THE DIFFERENCE BETWEEN THREE PAIRED ADJUSTED POSTTEST MEANS OF AGILITY

Adjusted Posttest Mean Test			Mean difference	Confidence interval
17.76	16.92		0.84	0.33
	16.92	16.91	0.01	0.33
17.76		16.91	0.85	0.33

* Signature at 0.05 level of confidence.

(The table value required for significance at .05 level of confidence with df 2and 42 and 2 and 41 are 3.23 and 3.22 respectively)

RESULTS & DISCUSSION

The results of the study also shown that there was a significant improvement in Agility through yogic practices and plyometric training..

DISCUSSION ON FINDINGS

Plyometric training involves exercises that generate quick, powerful movements involving explosive concentric muscle contraction preceded by an eccentric muscle action (Chu, 1998). These types of explosive muscular contractions can be seen in practical instances such as jump shot in handball. Researchers have shown that plyometric training, when used with a periodized strength-training program, can contribute to improvements in vertical jump performance, acceleration, leg strength, muscular power, increased joint awareness, and overall proprioception (Miller et al., 2002). Plyometric drills usually involve stopping, starting, and changing directions in an explosive manner. These movements are components that can assist in developing agility (Miller et al., 2001; Parsons & Jones, 1998; Yap & Brown, 2000; Young, McDowell & Scarlett, 2001). Therefore, the purpose of the study was to determine whether eight weeks of plyometric training can improve male handball players agility.

The research aims to investigate the effect of 8-weeks of plyometric on agility of male handball players. In the present study 0.60 sec (4.91%) improvement was noticed in plyometric training group on agility. This findings is in accordance with Miller et al., (2006); Robinson and Owens, (2004); Young, McDowell, Scarlett, (2001); Alricsson, Harms-Ringdahl and Werner, (2001); Ebben, (2002); Bal, Kaur, Singh, (2011); Asadi and Arazi, (2012); Shalla by, (2010); Lim, Wee, Chan and Ler, (2012). Plyometric training show improved performance in agility tests either because of better motor recruitment or neural adaptations.

Yoga has been around for over 3,000 years, and still remains one of the most popular forms of exercise in the world. In fact, yoga popularity has increased tremendously over the past few years, and is rapidly becoming one of the most popular forms of exercise among young people. Yogic exercise can be used to strengthen the mind, body and spirit by people of all ages and levels of physical health. It doesn't matter if we are in good shape or not, we can reap huge benefits from practicing yoga. There are actually several types of yoga, ranging from the high speed and high intensity level to a gentle, free flowing style of yoga and everything in between. Regardless of which form or style of yoga exercise that you choose, there are some major benefits that you can expect to achieve from yoga.

The yoga practice group have improved their Agility than the control group and also has significant difference also occurs between yoga practice group and control group in favor of yogic practice group. The result is in line with the findings of **Mark D. Tran, et al** who were found that there was a significant improvement in isokinetic Agility after the yoga practice.

Narayanakumar.P (2014). Conducted study on "Effect of Yoga and Physical Exercises on the selected Motor Ability Component variables of Hockey Players". To achieve the purpose of study 90 men school students were selected as subjects, dived into three groups namely physical exercises programme, yogic exercises programme and control group, each group consist of 30 men school students, (Age 16 to 19 years). The following variable namely cardio respiratory endurance, flexibility and agility above selected variable were tested through standard test. The pre test was conduct before the experimental training. The experimental training were given to the experimental groups for the period of six weeks, the control group was not exposed to any experimental training. The post test conducted at the end experimental period. The Analysis of covariance (ANCOVA), Scheffe's post hoc test were used. The result of the study shows that there was a significance exist between physical exercise group and yoga training group on cardio respiratory endurance, flexibility and agility when compared to the control group. Pradeep.C.S, Ajeesh.P.T and Arun.C.Nair. (2012) conducted study on "Impact of Selected Minor Games on Physiological Factors and Relationship between Obesity; Among School Students". To achieve the purpose of study 230 School Students were selected from the subjects and impact of minor games group was 230 participants, The result of the study shows that there was minor game programme resulted in agility difference, reducing overweight and obesity rates in Kerala school children.

DISCUSSION ON HYPOTHESES

In first hypothesis that there would be significant increase in agility through yogic practices and plyometric training, the study showed result that there was a significant increase in agility. So, the researcher's first

hypothesis was accepted.

In the second, it was hypothesized that there would be a significant increase in agility after the yoga and plyometric practices. However favour may be in plyometric group.The result of the study also revealed that there was a significant increase in plyometaric group on agility. So, the researcher's second hypothesis was accepted.

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