

EFFECT OF SAQ TRAINING ON SELECTED PSYCHOMOTOR AND GAME SKILLS VARIABLES AMONG BASKETBALL PLAYERS

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Abstract:

The purpose of the present study was to find out the effect of SAQ training on selected psychomotor and game skills variables among basketball players. To achieve the purpose of the present study, twenty women basketball players from the Providence women's college, Calicut were selected as subjects at random and their age ranged between 18 and 23 years. The subjects were randomly divided in to two equal groups namely experimental (SAQ training) and control group (CG). The experimental group underwent SAQ training for three days a week for a period of 6 weeks in addition to their regular training program. The control group was not exposed to any experimental training. Before the training pre test was conducted to assess the psychomotor variables namely agility, explosive power, differentiation ability, orientation ability and reaction ability and game skill variables namely passing, shooting and dribbling. Agility was assessed using 4x10m shuttle run, explosive power was assessed using sergeant vertical jump, differentiation ability measured using medicine ball throw, orientation ability assessed using numbered medicine ball test reaction and reaction ability was measured using ball reaction exercise test. The game skills variables were assessed using AAHPERD Basketball skills test battery for females for both the groups. After the experimental training period of 6 weeks, the post test was conducted. To find out the significant improvement suitable statistical tool was applied and the level of significance was tested at 0.05 level. It was concluded that there was significant improvement on selected psychomotor variables namely agility, explosive power, differentiation ability, orientation ability and reaction ability also it was concluded that the game skill variables passing, shooting and dribbling had significant improvement due to the effects of SAQ training

Key words: Mental Rehearsal, shooting, dribbling and imagery..

Introduction

Basketball is an extremely dynamic sport that requires movements in multiple planes of motion as well as rapid transitions from jogging to sprinting to jumping. The ability to quickly elude defenders, rapidly decelerate to take a jump shot, or explosively jump up to grab a rebound are all skills required to effectively play the sport.

It is equally important for the athlete to be able to perform these skills in a variety of directions and in a controlled manner to ensure injuries do not ensue. Due to the myriad of physical demands that come with the sport makes speed and agility training a crucial component to incorporate into a basketball training program.

Recently, acceleration, speed, and agility have been found to be independent, unrelated qualities that produce a limited transfer to each other ⁽¹⁾. The next step is to investigate methods that produce the integral effects that can be used in the conditioning of basketball players. But, we found that few studies have investigated the training methods that produce the integral effects on various abilities. One of the most popular training methods that produce the mentioned results is the SAQ (speed, agility, quickness) method ⁽²⁾.

A study that has investigated SAQ training and its effects on various abilities leads to the conclusion that programmed conditioning enhances power performance to a greater extent. However, random conditioning is not rejected, yet it comes as an advisable addition to programmed conditioning ⁽³⁾. That kind of conditioning uses randomized intermittent patterns seen in match performance. Both types follow the basic principles of conditioning and thus deliberately produce effects that can be in some way planned. The downside of random conditioning is that it has the inability to achieve the desired level of volume and intensity depending on motivation and effort, but on the other hand, the use of open skills produces specific demands that are used in a real match. Although the authors ⁽⁴⁾ found that programmed conditioning is more preferred when it comes to speed and agility, when it comes to endurance, it is speculated that random conditioning can have more effect. Thereby, both conditioning methods are valid in overall performance enhancing.

The SAQ training method more frequently uses the programmed than random type conditioning after the SAQ continuum. One SAQ session is composed of 7 components, where the main part of the session, explosion and expression of potential, are combinations of programmed and random conditioning. Integral planning and programming is required to progress from fundamental movement patterns to highly positional specific movements ⁽⁵⁾. A logical sequence in the learning process must not be neglected because it develops neural structures that are a prerequisite for elite-level upgrade. Consequently, elite players manipulate with their bodies without the loss of speed, balance, strength, and control. Also, with correct movement patterns (technique) and greater muscle power, they accelerate faster. Some studies ^(6,7,8,9,10) found that leg muscle power is a poor predictor of agility performance that emphasizes even more the integral influence within the vast range of capabilities.

Furthermore, the SAQ training method consolidates speed, agility, and quickness through the range of soccer specialized exercises. All exercises are performed with optimal biomechanical movement structures, and consequently, energy and time savings are made. Power performance aside from major abilities has the need for optimal joint mobility, dynamic balance, appropriate locomotor system, and energy production among others.

Agility is the ability to start (accelerate), stop (decelerate and stabilize), and quickly change direction while maintaining proper postural alignment⁽¹¹⁾. This requires high levels of neuromuscular efficiency (movement coordination) because the athlete is constantly regaining their center of gravity over their base of support while changing directions at various speeds. All of these elements are very common in basketball and will be important to train for.

Psychomotor variables act as the medium for the realization of cognitive and affective domains of learning and motor behavior. All these domains of learning are inseparable identities and work in perfect harmony and unison with one another. The psychomotor variables are primarily concerned with muscular contraction. Performance of motor skills involves neural, physiological and psychological aspects and is a continuum that runs the gamut from physical to cognitive and there is always integration between these aspects of human behavior. ⁽¹²⁾

Basketball is a fast-paced game that requires the knowledge and instinct to perform quickly and properly. The sport of basketball requires five basic skills. While some players might be more experienced with some skills than others, it is best to have at least some ability in all five areas namely dribbling, running, passing, shooting and jumping.

Statement of the Problem:

The purpose of the present study was to find out the effect of SAQ training on selected psychomotor and game skills variables among basketball players.

Methods:

To achieve the purpose of the present study, twenty women basketball players from the Providence women's college, Calicut were selected as subjects at random and their age ranged between 18 and 23 years. The subjects were randomly divided into two equal groups namely experimental (SAQ training) and control group (CG). The experimental group underwent SAQ training for three days a week for a period of 6 weeks in addition to their regular training program. Experimental treatment was given only in the evening between 5.p.m. and 6.00.p.m. The control group was not exposed to any experimental training. Before the training pre test was conducted to assess the psychomotor variables namely agility, explosive power, differentiation ability, orientation ability and reaction ability and game skill variables namely passing, shooting and dribbling. Agility was assessed using 4x10m shuttle run, explosive power was assessed using sergeant vertical jump, differentiation ability measured using medicine ball throw, orientation ability assessed using numbered medicine ball test reaction and reaction ability was measured using ball reaction exercise test. The game skills variables were assessed using AAHPERD Basketball skills test battery for females for both the groups. After the experimental training period of 6 weeks, the

post test was conducted. To find out the significant improvement suitable statistical tool was applied and the level of significance was tested at 0.05 level.

Analysis of Data

The data collected from the basketball players on selected criterion variables were statistically examined by using analysis of Covariance (ANCOVA) to determine the effect of SAQ training on selected psychomotor and game skills variables among basketball players. The level of significance was tested at 0.05 level.

Table I

Computation of Mean and Dependent 't' Test of Experimental and Control Group on Selected Psychomotor and Game Skills Variables among Basketball Players

S.No	Variable	Test	Speed Agility Quickness Training Group	Control Group
1.	Agility	Pretest Mean	11.38	11.59
		Posttest Mean	10.53	11.57
		't' test	11.84*	1.70
2.	Explosive Power	Pretest Mean	33.9	33.8
		Posttest Mean	38.5	34.1
		't' test	17.25*	1.15
3.	Differentiation Ability	Pretest Mean	14.7	14.6
		Posttest Mean	16.6	14.5
		't' test	19.00*	1.00
4.	Orientation Ability	Pretest Mean	10.14	10.41
		Posttest Mean	9.61	10.41
		't' test	21.11*	0.79
5.	Reaction Ability	Pretest Mean	3.17	3.31
		Posttest Mean	3.02	3.30
		't' test	5.45*	1.30
6.	Passing	Pretest Mean	34.9	32.9
		Posttest Mean	36.8	33.3
		't' test	19.00*	1.81
7.	Shooting	Pretest Mean	15.2	15
		Posttest Mean	17.6	14.9
		't' test	10.85*	0.32
8.	Dribbling	Pretest Mean	10.67	10.88
		Posttest Mean	10.00	10.86
		't' test	9.12*	1.74

*significant at 0.05 level

Table - I shows that the pre-test mean value of psychomotor and game skill variables namely on agility, explosive power, differentiation ability, orientation ability,

reaction ability, passing, shooting and dribbling of SAQ training and control groups are 11.38, 33.9, 14.7, 10.14, 3.17, 34.9, 15.2 & 10.67 and 11.59, 33.8, 14.6, 10.41, 3.31 32.9, 15 & 10.88 respectively. The Post-test means are 10.53, 38.5, 16.6, 9.61, 3.02, 36.8, 17.6 & 10.00 and 11.57, 34.1, 14.5, 10.41, 3.30, 33.3, 14.9 & 10.86 respectively. The obtained dependent t-ratio values of SAQ training group on agility, explosive power, differentiation ability, orientation ability, reaction ability, passing, shooting and dribbling are 11.84, 17.25, 19.00, 21.11, 5.45, 19.00, 10.85 and 9.12 which was found to be greater than the required table value of 2.13 with df 14 at 0.05 level of significance. The obtained dependent t-ratio values of control group on agility, explosive power, differentiation ability, orientation ability, reaction ability, passing, shooting and dribbling are 1.70, 1.25, 1.00, 0.79, 1.30, 1.81, 0.32 and 1.74 respectively which was found to be less than the required table value of 2.13 with df 14 at 0.05 level of significance.

Table II

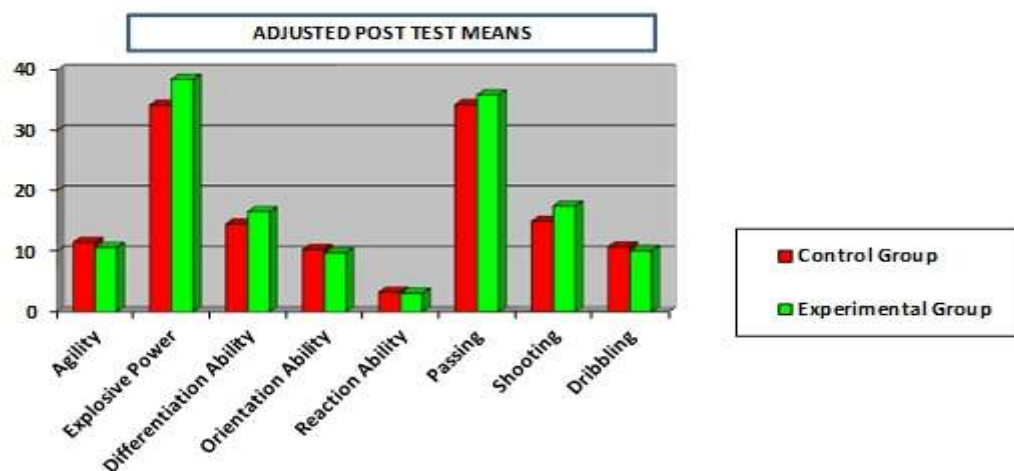
Analysis of Covariance of Experimental and Control Groups on Selected Psychomotor and Game Skills Variables among Basketball Players

S.No	Variable	Adjusted Post Test Means		Source of Variance	Sum of Squares	df	Mean Squares	F
		Ex.Group	Control Group					
1.	Agility	10.64	11.47	B	3.35	1	3.35	126.25*
				W	0.45	17	0.03	
2.	Explosive Power	38.45	34.15	B	92.36	1	92.36	125.74*
				W	12.48	17	0.73	
3.	Differentiation Ability	16.55	14.55	B	20.06	1	20.06	200.02*
				W	1.70	17	0.10	
4.	Orientation Ability	9.74	10.29	B	1.41	1	1.406	435.93*
				W	0.05	17	0.003	
5.	Reaction Ability	3.09	3.24	B	0.105	1	0.105	24.04*
				W	0.07	17	0.004	
6.	Passing	35.85	34.25	B	11.61	1	11.61	41.09*
				W	4.80	17	0.28	
7.	Shooting	17.52	14.98	B	32.13	1	32.13	46.15*
				W	11.83	17	0.69	
8.	Dribbling	10.12	10.75	B	1.93	1	1.93	79.78*
				W	0.41	17	0.02	

*P < 0.05 Table F, df (1, 17) at (0.05) = 4.45

Table –II shows that the adjusted post test means of SAQ training and control group on agility, explosive power, differentiation ability, orientation ability, reaction ability, passing, shooting and dribbling are 10.64, 38.45, 16.55, 9.74, 3.09, 35.85, 17.52 & 10.12 and 11.47, 34.15, 14.55, 10.29, 3.24, 34.25, 14.98 & 10.75 respectively. The obtained 'F' ratio values of agility, explosive power, differentiation ability, orientation ability, reaction ability, passing, shooting and dribbling are 126.25, 125.74, 200.02, 435.93, 24.04, 41.09, 46.15 and 79.78 respectively which are higher than the table value of 4.45 with df (1, 27) at 0.05 level of significance. Since, the obtained F value found to be

higher than the required table value; it indicates that there is significant difference among the adjusted post test means of SAQ training and control group on selected psychomotor and game Skills variables among basketball Players.



Discussion:

The present research studied the effect of SAQ training on selected psychomotor and game skills variables among basketball players and the results is being studied with comparable and close researches. From the results of this research it is clear that SAQ training had showed significant improvement on selected psychomotor and game skills variables among basketball players.

The results of this study supported by the available literature conducted by Ramesh & Madan (2019) effect of 12 weeks SAQ training programme on selected skill performance variables of youth basketball players which was strongly revealed that S.A.Q training had significant effect on performance variables dribbling and passing ability of youth basketball players. A study conducted by Sharma, & Dhapola, (2015) determine the effect of speed, agility, quickness (SAQ) training programme on selected physical fitness variables and playing abilities in basketball University players and the SAQ training programme were imparted a total period of six weeks. The result of the study showed significant effect on speed, agility and quickness and the playing abilities of basketball players. Sudha et.al, (2012).

Conclusion:

On the basis of the findings of the study, it was concluded that there was significant improvement on selected psychomotor variables namely agility, explosive power, differentiation ability, orientation ability and reaction ability also it was concluded that the game skill variables passing, shooting and dribbling had significant improvement due to the effects of SAQ training.

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