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Effect of Agility Drills and Speed Resistance Training in Combination with Endurance Run on Playing Abilities of Tribal Kho-Kho Players

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ABSTRACT

The study was to examine the isolated and combined agility drills and speed resistance training in combination with endurance run on playing abilities of tribal kho-kho players. Total recruited randomly N=80 (eighty) men tribal kho-kho players their age period ranged from 18 years to 25 years as per subject's secondary board of education certificate and, who at least participated inter collegiate level kho-kho games. The chosen men tribal kho-kho players was randomly recruited into four groups each group n=20 men tribal kho-kho players i.e. empirical groups I men tribal kho-kho players underwent: agility drills in combination with endurance run kho-kho players group (AERK), empirical group II men tribal kho-kho players underwent: speed resistance training in combination with endurance run kho-kho players group (SERK), empirical group III underwent: combined agility drills and speed resistance training in combination with endurance run Kho-kho players group (ASEK), and control group kho-kho players (CGK). CGK was practiced only their respective specialization game. The training period was fixed for 12- week's duration and four sessions in a week. The measurement of kho-kho playing abilities scores was collected through Judgment by experts (rating 1to10) before and after the completion of specific training. The collected score's were analyzed through ANCOVA and level of significant was restricted at 0.05 levels. The study found that isolated, combined agility drills and speed resistance training in combination with endurance run training program had positive significant impact to improve the playing abilities performance of tribal kho-kho players of three empirical group's players comparative to control group.

Keywords: – agility, speed, resistance, kho-kho

Introduction:

Sports are played worldwide. A large number of people perform different sports activities in different capacities such as players, spectators, coaches and trainers etc. In order to perform all kinds of sports activities accordingly, and to show good performance, one needs to be well trained. Regarding this, proper training and coaching principles are necessary to be learned and adopted in practical life. Due to non –availability of knowledge about the principles of training and coaching, a lot of players always feel difficulty while participating in sports activities.

Agility is especially important in kho-kho where chaser and defenders (also called runner) players have to maneuver around obstacles and opponents in play, as it provides chaser and runner players with the ability to

quickly accelerate, decelerate, change direction and maintain balance. A Kho-kho player use quick stops and starts to catch the chasers off guard. Sudden accelerations and decelerations can help players evade them. Since running speed depends on the length of the stride and number of strides in a given amount of time, the person must work on flexibility of the legs and ankles and must also increase strength in order to make the trust against the ground more forceful.

Statement of the Research Problem:

To analyze the "isolated and combined agility drills and speed resistance training in combination with endurance run on playing abilities of tribal kho-kho players".

Research Hypothesis:

- There will be a significant increase in score of playing abilities performance of empirical group's tribal kho-kho players after the twelve weeks impact of isolated and combined agility drills and speed resistance training in combination with endurance run when compared with control group tribal kho-kho players.
- The combined agility drills and speed resistance training in combination with endurance run will be more effective than the isolated training program.

Methodology:

The study was to measure the isolated, combined combined agility drills and speed resistance training in combination with endurance run on playing abilities of tribal kho-kho players. Total recruited randomly N=80 (eighty) men tribal kho-kho players their age period ranged from 18 years to 25 years as per subject's secondary board of education certificate and, who at least participated inter collegiate level kho-kho games. The chosen men tribal kho-kho players was randomly recruited into four groups each group n=20 men tribal kho-kho players i.e. empirical groups I men tribal kho-kho players underwent: agility drills in combination with endurance run kho-kho players group (AERK), empirical group II men tribal kho-kho players underwent: speed resistance training in combination with endurance run kho-kho players group (SERK), empirical group III underwent: combined agility drills and speed resistance training in combination with endurance run Kho-kho players group (ASEK), and control group kho-kho players (CGK). CGK was practiced only their respective specialization game. The training period was fixed for 12- week's duration and four sessions in a week. The measurement of kho-kho playing abilities scores was collected through Judgment by experts (rating 1to10) before and after the completion of specific training. The collected score's were analyzed through ANCOVA and level of significant was restricted at 0.05 levels. The collected score's were analyzed through ANCOVA and level of significant was restricted at 0.05 levels.

Table - I
Analysis of Covariance for Kho-Kho playing abilities - Judgment by experts (Rating 1 to 10) of the AERK, SERK, ASEK and CGK groups for tribal Kho-Kho men players

Groups	AERK	SERK	ASEK	CGK	SOV	Sum of squares	df	Mean Square	F' Ratio
Pre test mean	6.50	6.175	6.150	6.425	B	1.863	3	0.621	
SD	0.959	0.892	0.745	0.815	W	55.825	76	0.735	0.845^{NS}
Post test mean	7.425	6.900	7.870	6.300	B	27.675	3	9.225	
SD	0.67	0.699	0.625	0.732	W	35.575	76	0.468	13.507*
Adjusted mean	7.300	6.992	7.983	6.225	B	31.648	3	10.549	
					W	10.819	75	0.144	66.061*
Mean difference	+0.925	+0.725	+1.720	-0.125	-	-	-	-	-

Note: Table F-ratio value at 0.05 level of confidence for 3 and 76 (df) =2.68, 3 and 75 (df) =2.68 *Significant & NS: Not significant.

AERK: Agility drills in combination with endurance run kho-kho players group.
SERK: Speed resistance training in combination with endurance run kho-kho players group.
ASEK: Combined agility drills and speed resistance training in combination with endurance run Kho-kho players group.
CGK : Control group kho-kho players

The above table-I shows that there is a significant difference on kho-kho playing abilities performance among the four groups such as AERK: Agility drills in combination with endurance run kho-kho players group, SERK: Speed resistance training in combination with endurance run kho-kho players group, ASEK: Combined agility drills and speed resistance training in combination with endurance run Kho-kho players group and CGK: Control group kho-kho players. Since the 'F' value required being significant at 0.05 level for 3, 76 d/f and 3, 75 are 2.68, but the computation values of kho-kho playing abilities post and adjusted posttest 'F' values are 13.507 and 66.061 respectively. Which are greater than the tabulated value, it shows that training is effective for positive changes in kho-kho playing abilities. Since the obtained 'F' ratio is found significant.

TABLE: 2

THE KHO-KHO PLAYING ABILITIES RESULTS OF SCHEFFE'S METHOD TEST MEAN DIFFERENCES BETWEEN AERK, SERK, ASEK AND CGK GROUPS OF TRIBAL KHO-KHO MEN PLAYERS

AERK	SERK	ASEK	CGK	MD	CI
7.300	6.992	-	-	0.308	**0.339**
7.300	-	7.983	-	0.683*	
7.300	-	-	6.225	1.075*	
-	6.992	7.983	-	0.991*	
-	6.992	-	6.225	0.767*	
-	-	7.983	6.225	1.758*	

Note: * Significant & NS: No significant

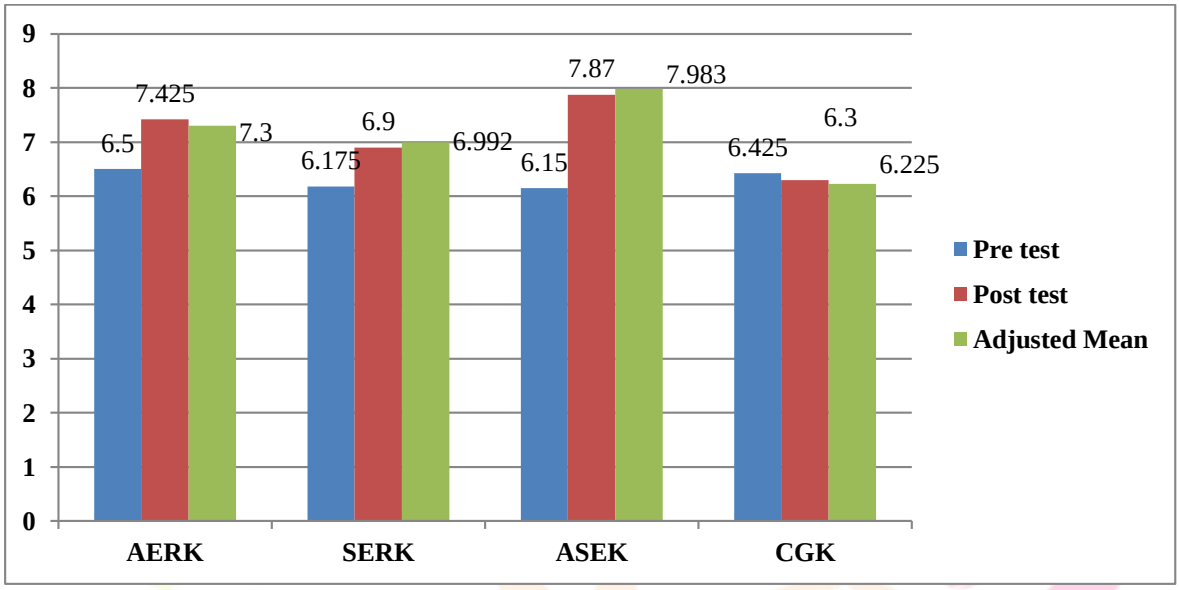
AERK: Agility drills in combination with endurance run kho-kho players group.
SERK: Speed resistance training in combination with endurance run kho-kho players group.
ASEK: Combined agility drills and speed resistance training in combination with endurance run Kho-kho players group.
CGK : Control group kho-kho players

In above table : 2 display the mean differences between the agility drills in combination with endurance run kho-kho players group (AERK) and control group kho-kho players (CGK), speed resistance training in combination with endurance run kho-kho players group (SERK) and control group kho-kho players (CGK) and combined agility drills and speed resistance training in combination with endurance run Kho-kho players group (ASEK) and control group kho-kho players (CGK) are 1.075, 0.767and 1.758. These means differences values are higher than CI value 0.339. Therefore researcher noted significant differences present between training groups and control groups tribal kho-kho players after treatment period.

The mean differences between agility drills in combination with endurance run kho-kho players group (AERK) and combined agility drills and speed resistance training in combination with endurance run Kho-kho players group (ASEK) and speed resistance training in combination with endurance run kho-kho players group (SERK) and combined agility drills and speed resistance training in combination with endurance run Kho-kho players group (ASEK) are 0.683 and 0.991. These means differences values are higher than CI value 0.339. Therefore researcher recorded significant differences present between both isolated training and combined training groups tribal men kho-kho players. Whereas, agility drills in combination with endurance run kho-kho players group (AERK) and speed resistance training in combination with endurance run kho-kho players group (SERK) is 0.308, which lower than CI value 0.339. Therefore researcher noted no significant differences present between both isolated training groups tribal men kho-kho players after twelve weeks treatment program.

Researcher recorded that impact of 12-weeks progressive agility drills in combination with endurance run, speed resistance training in combination with endurance run and combined agility drills and speed resistance training in combination with endurance run training program are effective for improving Kho-Kho playing abilities - Judgment by experts (Rating 1 to 10) performance of tribal kho-kho players comparative to control tribal group kho-kho players. Further, results reveal that combined agility drills and speed resistance training in combination with endurance run training program is more effective than isolated agility drills in combination with endurance run & speed resistance training in combination with endurance run for improving Kho-Kho playing abilities - Judgment by experts (Rating 1 to 10) of tribal kho-kho players. Therefore, both isolated training agility drills in combination with endurance run & speed resistance training in combination with endurance run are equally effective for improving Kho-Kho playing abilities - Judgment by experts (Rating 1 to 10) performance of tribal kho-kho players.

FIGURE: 1 THE KHO-KHO PLAYING ABILITIES PRE POST AND ADJUSTED POST TEST MEAN NUMBERS OF AERK, SERK, ASEK AND CGK GROUPS OF TRIBAL KHO-KHO MEN PLAYERS PRESENTED IN BAR GRAPH



AERK: Agility drills in combination with endurance run kho-kho players group.
SERK: Speed resistance training in combination with endurance run kho-kho players group.
ASEK: Combined agility drills and speed resistance training in combination with endurance run Kho-kho players group.
CGK : Control group kho-kho players

Discussion on Hypothesis:

- The first hypotheses stated that there will be significant increase in score of playing abilities performance of empirical group's tribal kho-kho players after the twelve weeks impact of isolated and combined agility drills and speed resistance training in combination with endurance run when compared with control group tribal kho-kho players. The statistical analysis proved that isolated, combined agility drills and speed resistance training in combination with endurance run program significantly increased the playing abilities performance. Hence research first hypothesis accepted.
- The second hypotheses stated that combined agility drills and speed resistance training in combination with endurance run will be more effective than the isolated training program. The statistical analysis proved combined training is superior to isolated training method. Hence research second hypotheses accepted.

Discussion and Findings:

The implementation of 12-weeks progressive agility drills in combination with endurance run, speed resistance training in combination with endurance run and combined agility drills and speed resistance training in combination with endurance run training program are effective for improving Kho-Kho playing abilities - Judgment by experts (Rating 1 to 10) performance of tribal kho-kho players comparative to control tribal group kho-kho players. The various sports training effect on Kho-Kho playing abilities are Munner et al., (2018) study shows that the performance related variables performance (Kho-Kho skills and abilities of defensive and

offensive tactics) were significantly improve due to the influence of ix Weeks (Three Times /Week) circuit training and plyometric training among university level women kho-kho players. Gajendra (2022) analysis proved that six weeks interval training is significantly effective for improving playing abilities performance of men kho-kho players. Reena (2021) notice that 12-weeks speed agility and quickness training significantly improved the on coordinative and paying abilities performance of Kho-Kho player of Junior and senior section. Rathva (2019) conclude that the 12 weeks duration specific designed training programme was found helpful to improve the defensive ability of Kho-Kho Players.

Conclusions:

Investigator recorded that impact of 12-weeks progressive agility drills in combination with endurance run, speed resistance training in combination with endurance run and combined agility drills and speed resistance training in combination with endurance run training program are effective for improving Kho-Kho playing abilities - Judgment by experts (Rating 1 to 10) performance of tribal kho-kho players comparative to control tribal group kho-kho players. Further, results reveal that combined agility drills and speed resistance training in combination with endurance run training program is more effective than isolated agility drills in combination with endurance run & speed resistance training in combination with endurance run for improving Kho-Kho playing abilities - Judgment by experts (Rating 1 to 10) of tribal kho-kho players. Therefore, both isolated training agility drills in combination with endurance run & speed resistance training in combination with endurance run are equally effective for improving Kho-Kho playing abilities - Judgment by experts (Rating 1 to 10) performance of tribal kho-kho players.

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