Effect of Hurdle Running Training on Explosive Power of Kabaddi Players

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Abstract :
The purpose of this research study was to investigate the effect of hurdle running training on the explosive power of Kabaddi sports players. In this research study brothers who played kabaddi game at university level were selected as subjects. Players in the age group of 18 to 25 years were selected for this research study. A total of 40 players were selected in this research study. The standard of measurement was explosive force measured by the standing broad jump test. Analysis of Variance was applied to find out the effects of hurdle training group and significance of differences between means was tested at 0.05 level. The conclusion of which was seen as follows. An eight-week resistance training program of the method showed a significant improvement in the explosive strength of the subjects selected.

Introduction :
The All India Kabaddi Committee has prepared a framework of policy rules for the game. Kabaddi reached the international level for the first time in 1936 in Berlin Olympics. The Amateur Kabaddi Federation of India (AKFI) is credited with modernizing the game. Along with this, the Asian Kabaddi Federation also decided that this legendary game should be popularized in the region. They always organize different competitions which are popular in Asian sports. In the 1998 Bangkok Asian Games, the Indian team managed to win the gold medal in this sport (Kabaddi).
Kabaddi was first exhibited internationally in Japan in 1979 where it quickly gained popularity. In England, this game started by combining Indians and Pakistanis. The game also became interesting to other nations and thus the game became a part of their culture. Today, different countries have prepared a separate structure for this game known as England Kabaddi Committee.
Different parts of the world have seen the latest changes and cultural influences in Kabaddi that are its changing form. The game is played today in different forms but its essence: the forum is still intact.
Sprint stands for fast running. Which depends on the strength of muscle tension in the player. This is a natural endowment. That is why it has been said that runners are born. Since then they have very high reaction power. These natural forces affect the intensity of a runner's stride. The length of a player's stride at high speed is to some extent a function of the player's body structure. But training plays a very important part in increasing it. Stride length requires drive, and drive requires a great deal of endurance to power up to 100, 200 meters at speed.
Aspects like high speed, endurance, muscle strength, agility, flexibility etc. are considered important in sports. A high level of physical fitness is considered more important than anything else among athletes. It is difficult to succeed in sports activities like handball, basketball, volleyball, hockey, athletics etc. without the necessary aspects of physical fitness. Hence, speed and agility are important in any sport.
In today's fast-paced competitive era, preparations for games are made to players with the goal of “win only play”. Trainings are given to keep the mental strength of the players very high. In today's competitive era, new records or world records are being set within a short span of time. Speed is an important attribute of today's game. Earlier records were created in games. He would be associated with one player's name for years. But that is not the case today as training is conducted in a scientific manner and the equipment used in the game is manufactured using modern methods. That being said, diet is equally important to a nutritious diet. Due to these reasons, there is a stark difference in today's sports and sports performance and physical activities.
Explosive power is the ability to exert maximum force in minimum time.
Power – Force x Velocity Both speed and force must be combined for effective action. Sprinting, weight throw, high jump, shot put, long jump, etc. require this type of ability. In the above Shakti formula, force represents muscular force in human effort and velocity represents speed. Thus a powerful man has the following.
(a) High muscle strength
(b) High speed
(c) A high degree of skill combining speed and muscularity

Purpose of the Study
The purpose of this research study was to determine the effect of hurdle running training on the explosive power of Kabaddi sports players.

Selection of the Subject :
In this research study brothers who played kabaddi game at university level were selected as subjects. Players in the age group of 18 to 25 years were selected for this research study. A total of 40 players were selected in this research study.

Criterion Measurement

Sl.	Variable	Test	Measurement
1	Explosive Force	Standing Broad Jump	Distance

Statistical Process
Statistical analysis was done by applying analysis of variance to determine the amount of explosive force of hockey players after obstacle training. In which the confidence level was kept at 0.05 level.

Result of the Study

Table-1 Covariance analysis of variance of an experimental and a control group of standing broad jump test performance

Test	Group		Sum of square (SS)		Degree freedom *(df)*	Mean sum of square (MSS)	*F*
	Group-A	Group-B					
Per test Mean	169.550	168.400	B	0.225	1	0.225	0.311
			W	799.750	38	21.046	
Post test Mean	210.200	169.700	B	9922.500	1	9922.500	315.004*
			W	917.400	38	24.142	
Adjusted Mean	212.200	170.700	B	9920.276	1	9920.276	439.111*
			W	917.371	37	24.794	

***Sig.Level at 0.05 *'F'* = 0.05 (1,38) = 4.098 & (1,37) = 4.105**

Above Table-1 shows all the statistical data of pre-test and post-test means and co-variance analysis 'F'. Accordingly, the 'F' ratio of pre-test medians of standing broad jump test performance (Group-A "Constraint Training Group" = 169.550, Group-B "Control Group" = 168.400) was found to be 0.311. Which compared to the table value (4.098) was not found to be significant at 0.05 level.
The 'F' ratio of the medians of the final test of the two groups (Group-A "Intervention Training Group" = 210.200, Group-B "Control Group" = 169.700) was found to be 315.004. Which compared to the table value (4.098) was found to be significant at 0.05 level. Hence, the training provided has been shown to significantly improve the performance of the subjects. Also the 'F' ratio of corrected medians (Group-A "Intervention Training Group" = 212.200, Group-B "Control Group" = 170.700) was found to be 439.111. Comparing it with the table value (4.105) was found to be significant at 0.05 level. The difference between the two groups observed between the corrected medians by the 'F' ratio is significant. Hence the effect of experimental training on the experimental group was observed as compared to the control group.

Conclusion :
- An eight-week resistance training program of the method showed a significant improvement in the explosive strength of the subjects selected.

Reference

1. Ambubhai Purani Smarak Granthshreni, **Vyayam Vignan Kosh-Granth Panchmo,** Rajpipla : Gujarat Vyayam Pracharak Mandal, Rajpipla, District-Bharuch-1982.
2. Balayan, Sunil, **Sharirik Shiksha Me Parikshan Avam Mapan,** Khel Sahitya Kendra, 2009.
3. Hed, Nick White, **Track Athletics,** West Yorkshayer, E. P. Publishing Ltd., 1976.
4. Oza, Gunvantray, **Health Club,** Ahmedabad : Gujarat Samachar, 1-15, June-1999.
5. Ray, V. K. **Dodna Sprint Se Marathon Tak,** Bhopal **:** Hindi Granth Academy, 2000.
6. Sarvaiya, G. T. and Other, **Sharirik Shikshanna Siddhanto ane Pravaho,** 1st Edition; Patan : Hemchandracharya North Gujarat University, 2006.
7. Varma, Prakash J., **A Textbook on Sports Statistics,** Gwalior : Vinus Publication, 2000.