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EFFECT OF HURDLE RUNNING TRAINING ON EXPLOSIVE POWER OF KHO-KHO 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 Kho-Kho sports players. In this research study brothers who played Kho-Kho 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 :

Hurdle running is a specialized track and field event that combines sprinting with the skillful clearance of barriers placed at fixed intervals along the track. It demands not only speed and strength but also rhythm, coordination, and flexibility. The training for hurdle running focuses on developing the athlete's ability to sprint efficiently between hurdles, maintain consistent stride patterns, and clear each hurdle with minimum loss of speed. Successful hurdle running requires precise technique and continuous repetition to perfect the movement pattern essential for top performance.

The foundation of hurdle training begins with technique drills that emphasize body posture, lead leg action, trail leg recovery, and arm balance. Athletes start with low hurdles or cones to learn correct movement mechanics. Proper technique reduces air time and helps maintain speed between hurdles. Technique mastery ensures that the hurdler's body remains streamlined during clearance, thus conserving momentum and energy.

Another vital element of hurdle training is speed development. Since the event is primarily a sprint with obstacles, speed endurance and acceleration are critical. Training sessions often include short sprints (30–80 meters), interval running, and resistance sprints. These exercises improve the athlete's ability to accelerate quickly after clearing each hurdle. Mention that sprint-specific strength training contributes significantly to maintaining high velocity through proper neuromuscular coordination.

Kho-Kho is one of India's most traditional and indigenous games, rooted deeply in the country's cultural and sporting heritage. The game is believed to have originated in ancient India, where it was known as *"Rathera"* — a game played on chariots, symbolizing speed, agility, and strategy. Over time, it evolved into the modern field game known today as Kho-Kho. The sport gained organized structure in the early 20th century when the **Deccan Gymkhana, Pune,** framed the first set of official rules in **1914**, giving Kho-Kho a standardized format. The **Akhil Maharashtra Sharirik Shikshan Mandal** later worked to promote the game across India, leading to the establishment of the **Kho-Kho Federation of India (KKFI)** in **1956**.

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Kho-Kho has since become a prominent traditional sport, recognized at national and school levels, and is played in various countries like Nepal, Bangladesh, and Pakistan. The game emphasizes teamwork, quick reflexes, and strategic movement, making it a symbol of Indian physical culture. It was included in the **Asian Kho-Kho Championship** and continues to gain international recognition for its athletic and cultural value.

Explosive power is the ability of the muscles to exert maximum force in the shortest possible time. It is a critical component of athletic performance in sports that require sudden bursts of speed, jumping, throwing, or rapid directional changes—such as sprinting, basketball, football, volleyball, and weightlifting. Explosive power combines **strength** and **speed**, reflecting how efficiently the neuromuscular system can generate force rapidly. Explosive power represents the conversion of muscular strength into motion, playing a key role in enhancing overall athletic performance.

The development of explosive power depends on factors such as muscle fiber composition, neuromuscular coordination, and the efficiency of energy systems. Type II (fast-twitch) muscle fibers are primarily responsible for generating quick, forceful contractions. Training methods like **plyometrics, Olympic lifts, medicine ball throws,** and **sprint drills** are effective in improving explosive capabilities. As plyometric exercises utilize the stretch-shortening cycle of muscles, increasing the rate of force development.

Furthermore, emphasized that a combination of heavy resistance training and velocity-based exercises leads to optimal power output. Proper recovery and flexibility are also essential to prevent injuries and ensure consistent improvement.

In conclusion, explosive power is an integral component of sports performance, bridging the gap between strength and speed. It enhances athletic efficiency, agility, and reaction time, allowing athletes to execute powerful and dynamic movements essential for success in high-intensity competition.

Purpose of the Study:

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

Selection of the Subject :

In this research study brothers who played Kho-Kho 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.

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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	170.560	169.430	B	0.225	1	0.225	2.119
			W	799.750	38	21.046	
Post test Mean	213.220	170.730	B	9922.500	1	9922.500	339.018*
			W	917.400	38	24.142	
Adjusted Mean	214.210	172.730	B	9920.276	1	9920.276	446.342*
			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" = 170.560, Group-B "Control Group" = 169.430) was found to be 2.119. 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" = 213.220, Group-B "Control Group" = 170.730) was found to be 339.018. 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" = 214.210, Group-B "Control Group" = 172.730) was found to be 446.342. 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.

References:

1. *Bompa, T. O., & Buzzichelli, C. (2019). Periodization: Theory and methodology of training (5th ed.). Human Kinetics.*
2. *Carr, G. A. (1999). Track and field athletics: The coaching manual. Human Kinetics.*
3. *Mackenzie, B. (2005). Performance coaching: Principles and practice. Coachwise Ltd.*
4. *Newton, R. U., & Kraemer, W. J. (1994). Developing explosive muscular power: Implications for a mixed methods training strategy. Journal of Strength and Conditioning Research, 8(1).*

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OPEN ACCESS Original Research Article

5. *Payne, V. G., & Isaacs, L. D. (2017). Human motor development: A lifespan approach (9th ed.). Routledge.*
6. *Varma, P. J. (2000). A textbook on sports statistics. Vinus Publication.*
7. *Verkhoshansky, Y. V., & Siff, M. C. (2009). Supertraining. Ultimate Athlete Concepts.*

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