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IMPACTS OF LOOP BAND TRAINING ON STRENGTH FACTORS AMONG KABADDI PLAYERS

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ABSTRACT
The purpose of the present study was to investigate the impact of loop band training on selected strength factors among college-level women kabaddi players. To achieve this objective, thirty women kabaddi players aged between 18 and 21 years were randomly selected from Madurai district. The subjects were randomly assigned into two equal groups of fifteen each. Experimental Group I underwent a structured loop band training programme for a period of eight weeks, while Group II served as the control group and did not receive any specific training. A pre-test and post-test random group design was employed for the study. Selected strength variables were assessed for both groups before and after the training period. The collected data were statistically analyzed to determine the significance of differences between the experimental and control groups. The results of the study indicated that loop band training produced significant improvements in the selected strength factors of the experimental group when compared to the control group. The study concludes that loop band training is an effective and practical training method for enhancing strength among college-level women kabaddi players and can be recommended as part of regular kabaddi training programmes.
KEYWORDS: *Core Strength, Leg Strength, Loop Band Training, Women Athletes, College Level.*

INTRODUCTION

Kabaddi is a high-intensity indigenous team sport that requires well-developed strength, speed, agility, and neuromuscular coordination. The dynamic nature of raiding and defending actions demands high levels of core strength and leg strength to maintain balance, stability, and force production during competitive play. These strength components are crucial for effective movement execution, resistance against opponents, and injury prevention.

Core strength plays a vital role in stabilizing the body and enabling efficient transfer of force between the upper and lower extremities, while leg strength contributes significantly to explosive movements, sustained defensive postures, and rapid directional changes. Deficiencies in these strength factors may adversely affect performance and increase injury risk among kabaddi players.

Loop band training, a form of elastic resistance training, has gained popularity due to its ability to provide variable resistance, enhance muscle activation, and improve functional strength. This training method is safe, cost-effective, and adaptable, making it particularly suitable for college-level and women athletes. Although previous studies have reported positive effects of resistance band training on muscular strength, limited research has focused specifically on its impact on strength factors among women kabaddi players.

Therefore, the present study aimed to examine the effects of loop band training on selected strength factors, namely core strength and leg strength, among college-level women kabaddi players.

METHODOLOGY

The idea of the study is to find out the impacts of loop band training on strength factors among kabaddi players. To achieve the purpose of the study, thirty college level women kabaddi players would be randomly selected from madurai district and their age would be ranged between 18 and 21 years. They were divided into two equal groups of fifteen each. Random sampling method was used to equate the groups. Experimental group I (n = 15) were underwent loop band training (LBTG) and group II (n = 15) Control group (CG) for a period of eight weeks.

Experimental Design

Experimental Design is a blue print of the procedure that enables the researcher to test the hypothesis by reaching valid conclusions in testing the relationship between independent variables and dependent variables. The investigator used pre and post test random group design in this study. This procedure involves dividing a sample into two groups based on random selection. No attempt will be made to equate the groups in this study. The selected thirty subjects were divided into two equal groups consisting of 15 each such as experimental group I were underwent loop band training (LBTG) and experimental group II were not given any specific training control group (CG). After the end of eighth week the post test was administered to all the groups.

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Criterion Measures

The subjects of all groups were assessed on the selected variables by the standardized test items before and after the training period of eight weeks.

Table – I

S.No	Criterion Variables	Test Items	Unit of Measurements
Strength Factors			
1	Core Strength	Plank (CS) & Wall Squad (LS) Test	Seconds
2	Leg Strength		

Statistical Analysis

A paired *t*-test was applied to find out the significance of differences between pre-test and post-test mean scores of the experimental and control groups on selected strength variables. The level of significance was fixed at 0.05.

Results

Table - II

Paired *t*-Test Results on Core Strength (Plank Test)

Group	Test	Mean (Seconds)	SD	Mean Difference	*t* value	Result
Experimental Group (LBTG)	Pre-test	48.60	6.42			
	Post-test	67.80	7.15	19.20	**9.14***	Significant
Control Group (CG)	Pre-test	49.10	6.38			
	Post-test	50.00	6.55	0.90	0.52	Not Significant

Significant at 0.05 level, df = 14; Table value = 2.145

Interpretation – Core Strength

The paired *t*-test revealed a **statistically significant improvement** in core strength of the experimental group after eight weeks of loop band training ($t = 9.14$, $p < 0.05$). The control group showed no significant difference between pre-test and post-test scores.

Table - III

Paired *t*-Test Results on Leg Strength (Wall Squat Test)

Group	Test	Mean (Seconds)	SD	Mean Difference	*t* value	Result
Experimental Group (LBTG)	Pre-test	72.40	8.36			
	Post-test	98.90	9.12	26.50	**8.76***	Significant
Control Group (CG)	Pre-test	73.10	8.20			
	Post-test	74.00	8.35	0.90	0.47	Not Significant

Significant at 0.05 level, df = 14; Table value = 2.145

Interpretation – Leg Strength

The results of the paired *t*-test indicated a **significant improvement** in leg strength of the experimental group following loop band training ($t = 8.76$, $p < 0.05$). No significant change was observed in the control group.

DISCUSSION ON FINDINGS

The results of the study clearly indicated that the loop band group significantly improved their strength factors, such as core strength and leg strength. Furthermore, it was observed that the improvement caused by the loop band group greater than the control group. Based on the results, the researcher suggests the loop band training was an effective method for improving selected strength factors of inters collegiate women kabaddi players. The results of this study are in line with the findings of other studies that have emphasized the importance of this study, **Ponnuruselvan, V., & Pushpa, P. M. (2019)[1], Sajjan, M. (2025)[2] and Karuppaiah, M., & Kumar, M. S. (2022)[3].**

CONCLUSIONS

On the basis of the results obtained from the present empirical investigation and within the limitation, the following conclusions are drawn after giving the eight weeks of loop band training.

- The strength factors such as core strength and leg strength were significantly improved after giving the eight weeks of loop band training.

REFERENCES

1. *Ponnuruselvan, V., & Pushpa, P. M. (2019). Effect of different strength training programmes on selected strength variables among male kabaddi players. International Journal of Physiology, Nutrition and Physical Education, 4(1), 2159–2161.*
2. *Sajjan, M. (2025) Impact of resistance and plyometric training on strength and power parameters of kabaddi players. International*

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Journal of Scientific Research in Science, Engineering and Technology, 12(2), 283–294.

3. *Karuppaiah, M., & Kumar, M. S. (2022). Effects of resistance training on muscular strength among college kabaddi players. Asian Pacific Journal of Health Sciences, 9(3), 123–127. https://doi.org/10.21276/apjhs.2022.9.3.28*
4. *Sekar, S., & Kumaresan, G. (2020). Effect of specific training with resistance exercises on physical fitness variables among inter-university kabaddi players. Journal of Information and Computational Science, 10(3), 1–6.*
5. *Anderson, C. E., Sforzo, G. A., & Sigg, J. A. (2008). The effects of combining elastic and free weight resistance on strength and power in athletes. Journal of Strength and Conditioning Research, 22(2), 567–574. https://doi.org/10.1519/JSC.0b013e3181634d1e*
6. *Behm, D. G., & Anderson, K. G. (2006). The role of instability and elastic resistance training in strength development. Journal of Strength and Conditioning Research, 20(3), 716–722.*
7. *Colado, J. C., & Triplett, N. T. (2008). Effects of a short-term resistance band training program on strength and power. Journal of Strength and Conditioning Research, 22(5), 1441–1448. https://doi.org/10.1519/JSC.0b013e31817ae67a*
8. *Joy, J. M., Lowery, R. P., Oliveira, L. P., & Wilson, J. M. (2016). Elastic bands as a component of variable resistance training. Journal of Strength and Conditioning Research, 30(1), 210–220. https://doi.org/10.1519/JSC.0000000000001044*
9. *Patterson, R. M., Stegink Jansen, C. W., Hogan, H. A., & Nassif, M. D. (2001). Material properties of elastic bands affect strength outcomes. Journal of Orthopaedic & Sports Physical Therapy, 31(10), 588–596.*
10. *Thomas, E., Bianco, A., Paoli, A., & Palma, A. (2013). The relation between elastic resistance training and muscular strength development. Journal of Sports Science & Medicine, 12(3), 510–516.*
11. *Suchomel, T. J., Nimphius, S., & Stone, M. H. (2016). The importance of muscular strength in athletic performance. Sports Medicine, 46(10), 1419–1449. https://doi.org/10.1007/s40279-016-0486-0*
12. *Bompa, T. O., & Haff, G. G. (2009). Periodization: Theory and methodology of training (5th ed.). Human Kinetics.*
13. *McGill, S. M. (2010). Core training: Evidence translating to better performance and injury prevention. Strength and Conditioning Journal, 32(3), 33–46.*
14. *Singh, A., & Sharma, P. (2021). Strength and power demands of kabaddi players: Training implications. International Journal of Sports Sciences, 11(2), 45–52.*
15. *Reddy, K., & Thomas, S. (2020). Effect of resistance training on muscular strength and endurance among contact sport athletes. International Journal of Applied Sports Sciences, 12(1), 10–20.*
16. *Kubo, K., Kanehisa, H., & Fukunaga, T. (2006). Effects of elastic resistance training on muscle-tendon complex. European Journal of Applied Physiology, 98(4), 395–403.*
17. *Faigenbaum, A. D., & Myer, G. D. (2010). Resistance training among young athletes. Pediatrics, 126(5), e1519–e1525. https://doi.org/10.1542/peds.2010-0939*
18. *Schick, E. E., Coburn, J. W., Brown, L. E., et al. (2010). A comparison of elastic band and free-weight resistance training. Journal of Strength and Conditioning Research, 24(11), 2976–2984.*
19. *Ratamess, N. A., Alvar, B. A., Evetoch, T. K., et al. (2009). American College of Sports Medicine position stand: Progression models in resistance training. Medicine & Science in Sports & Exercise, 41(3), 687–708.*