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Effect of ladder drills training in female kabaddi players

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Abstract

The aim of this study is to find out the effect of ladder drills training on agility performance among female semiprofessional kabaddi players. To execute their training, 48 female semiprofessional kabaddi players were selected studying in school and colleges, according to inclusion and exclusion criteria. The age group was ranged from 12-20 years. Approval and written consent was taken from each player for the study. The players were further divided into two groups: control group and experimental group. In control group (n=24 players) where they did not participated in any activity and in experimental group(n=24 players)who underwent ladder drill training for 4 days/weeks,6 weeks. The outcome measure for both the groups was Agility T-test. The outcome measures of both the group were taken before and after training session. The collected data was statistically analysed by paired t-test and unpaired t-test. From the result of the statistic, the agility performance of the experimental group with p-value is 0.0001 considered extremely significant. From the result of the study, it was found that there was significant improvement on agility performance of the experimental group when compared to the control group.

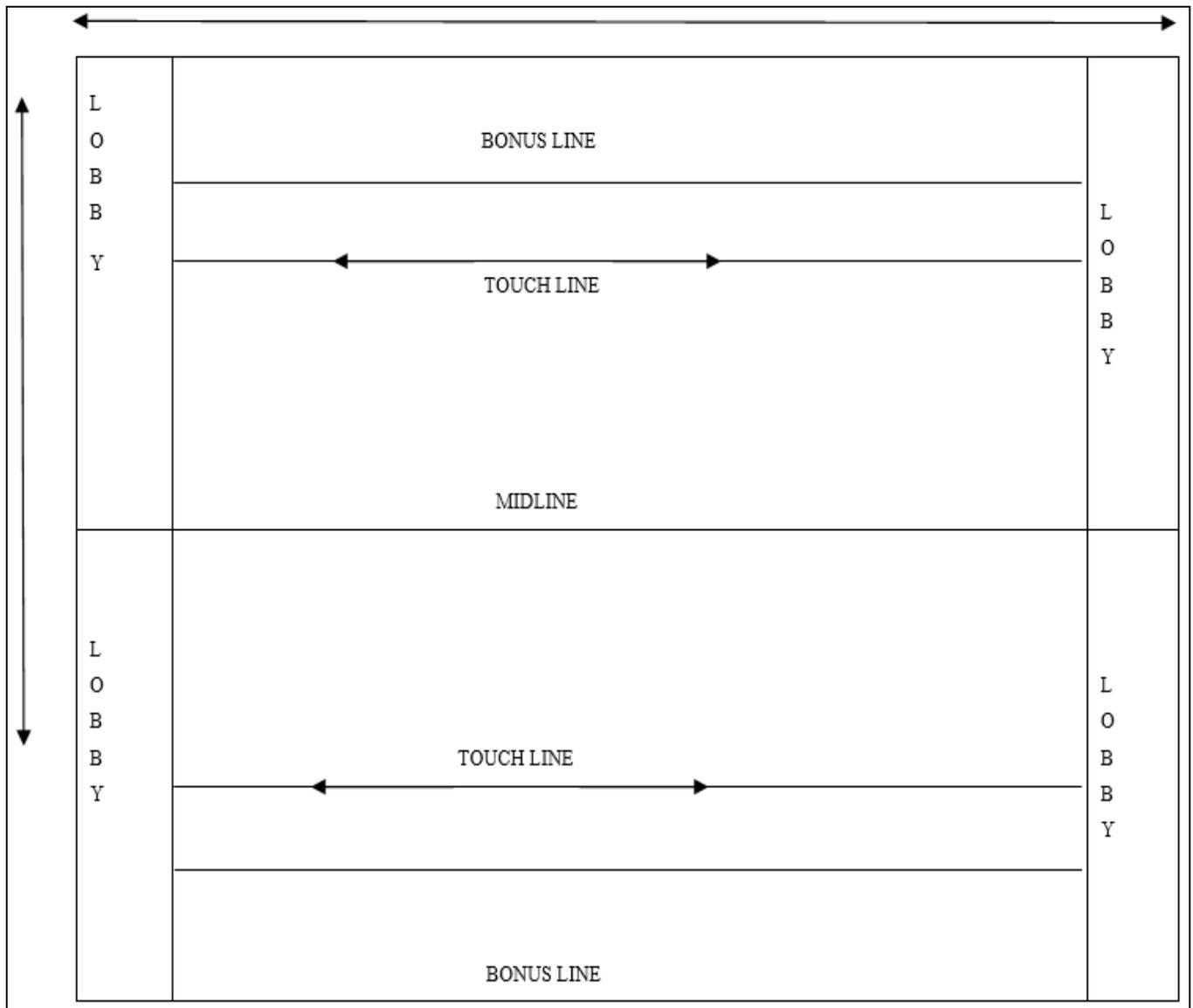
Keywords: Kabaddi, female, semiprofessional, ladder training, agility

Introduction

Kabaddi is the ancient outdoor game played in India. It is the high intensity intermittent type of sport which requires a well built physique in order to complete the 40 min to 45 min of competitive game and to achieve success. It requires a tremendous amount of stamina, speed and quickness with neuromuscular coordination as well as presence of mind to attack, or defend from the competitive players. To improve or to maintain the physical athlete performance 'training' is necessary. A various new training method are used to improve athlete performance level. Kabaddi being the game of 7 players in each side of the field. This 7 player have their individual task such has raiding or being a defender. Raider starts chanting 'kabaddi!kabaddi!!' after crossing the midline and score points by raiding and touching as many as defence players as possible without getting caught in a single breath. To score a point for the raider she is supposed to perform running hand touch, turning and attack, fake hand touch, fake and squat leg push, squat and double attack, back kick, side kick, roll kick. Defender on the other side tries to hold the raider within the area and score points by not allowing the raider to go back to its field. The defender performs blocking skill by running, following, blocking the raider on the spot/or with a small skipping movement. While performing this task there is a chances of injury or injuries which is now-a-days more common in kabaddi players. Kabaddi being a contact sport, coupled with the rough surface of the playing mat as well as ground, the following injuries are the most common: ankle sprain, strain, shoulder subluxation or dislocation, and sometimes even fracture/fractures. The most common area of the body where kabaddi players suffer injuries is the knee, followed closely by the ankle⁶. These injuries can be easily prevented by proper training.

It feels proud when you achieve a medal for the school/college. To achieve this goal, various training method are now used to improve their performance. The main objective of the study is to improve agility performance by ladder drills training. Agility helps to coordinate several components such as to act and react quickly, accelerate and decelerate, move in proper direction, and to maintain the change direction balance and postural control as rapidly as possible¹. Moreover it helps to strengthen the muscle and tendon all major joints and to aid in preventing injuries by improving body control through various repetition of proper movement mechanism¹

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Kabaddi court for women. The dimension of the field for women is 10×8 metres, and the play field measurement is 10×6 metres.

Ladder drills are used to improve foot work in maximizing athletic performance ^[1]. It is the multi-directional training, which helps to improve strength, power, balance, agility, co-ordination, proprioception, core and joint stability, foot speed, hand eye coordination, reaction time and mobility ^[5]. It is very much fun to perform the task on ladder. The training session in ladder drills will help us to achieve various above objective by performing drills in a rhythm and teaching the body and mind various foot combinations ^[5]. Ladder is made up of 2 nylon straps with plastic rungs 15-18 inches apart depends on the training purpose ^[1]. It can also be made at home by using rope and PVC pipe from local hardware store¹. It can also be used by simply taping on the floor same like as agility ladder ^[1]. To improve the performance level it is necessary to go from easy to hard drills to develop better footwork and coordination. Different moves according to the game which is necessary and regular in the game can also be added up in the drills. Ladder drills will help the player to catch, strike, and to block or tackle the component. Coaches of different sports used ladder drills to improve agility of the athlete.

Methodology

The purpose of the study was to find out the effect of ladder drills training in female kabaddi players. To carry out the training session, 48 female semi-professional kabaddi players were selected from colleges and school. The selected players have participated in interschool and intercollegiate competition. They were selected under the criteria of inclusion and exclusion. They were randomly divided into two groups: control group and experimental group. In control group there were 24 players, in which they carried out, there regular training session observed by their coach. In experimental group, there were 24 players who underwent ladder drill training for 4 days per week for 6 weeks. Before the implementation of the training, outcome measures was taken of both the groups control and experimental by agility t-test.

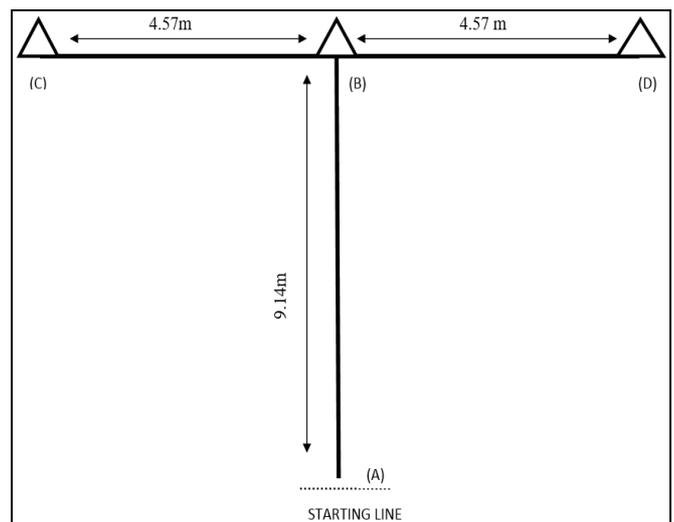
Experimental group were given 3 sets of each drills and the training session was carried out for 1 hr daily. The drill was progressed from easy to medium, medium to hard drills. The drills changed every 2 weeks and new drill was added on. For week 1&2 the drills was easy and was told to carry out perfectly and slowly to increase their speed after each set and later each session. In week 3&4, the drills were given was medium according to intensity and last 5th&6th week was given hard drills to the players.

| Phase | Week 1 & 2 | Week 3& 4 | Week 5 & 6 |
|------------------|---------------------|------------------------|----------------------------------|
| Training program | WALK THROUGH | HOPSCOTCH | DOUBLE STEP ICKY SHUFFLE |
| | ONE FOOT RUN | BACKWARD HOPSCOTCH | SCISSOR SKIPS |
| | TWO FOOT RUN | JUMPCUT | DEAD LEG SKIPS |
| | MISS A SQUARE RUN | ICKY SHUFFLE | CHIMNEY JUMP |
| | LATERAL RUN | STRADDLE HOPS | LINEAR AND LATERAL TWO FEET JUMP |
| | BACKWARD RUN | DEFENCE SLIDE ZIGZAG | CRAZY CLIMBER |
| | HIGH KNEE UP RUN | X COUNTRY SKIER | LATERAL CHIMNEY RUN |
| | WALK THROUGH (FAST) | GRAPEVINES | 180° STRADDLE HOPS |
| | BUNNY HOPS | BACKWARD STRADDLE HOPS | CROWN DANCER |
| | LATERAL BUNNY HOPS | BACKWARD ICKY SHUFFLE | LADDER DRILLS CRAWL FORWARD |
| | | | PARTNER RACES |

The control group was told to carry out their regular training session observed by the coach. The training session of the control group was about 1-1:15 hour followed by cool down period and there raiding and blocking practice. The training of the control group was carried out with the same intensity daily.

Measurement: The outcome measure of both the group was taken pre and post training session. Agility T-test was used for outcome measures to assess the agility performance of kabaddi players. It is one of the common test used to differentiate between low and high sports participation [3]. The t-test is highly reliable and is measured as component of leg speed, power, and agility [3]. The interclass reliability of the T-test is 0.98 across 3 trials. Players were told to carry out light warm up exercise. Before starting the session, each and every player was explained about the procedure. Each players was called out by theirs name and was told to stand on the starting point(A) before carrying out. The players were explained that on the command of “start” they have to run as quickly as possible and touch the centre cone(B), then to move towards the left side and touch the cone placed on the left side(C), after touching the player will run as fast as possible and touch the cone placed at right side corner(D) after that the player will continue running and will again touch the centre cone(B) and will end by coming back towards the finish line(A). As soon as the player on the command “start” and later when player crossed the finish line the stop watch was started and stopped and the seconds were noted on the data collection sheet. Each players fastest

possible completion of the procedure was selected on the basis of 3 trials and best of was used for statistical analysis. When player failed to carry out the procedure as per instruction, the score of “0” was given.



Results: The data collected pre-training and post-training program was statistically analysed and was considered extremely significant. The data was analysed of the pre training and post training value of the control group with paired t-test.

Table 1: Paired t-test used in control group for pre test and post test value.

| Control Group | Paired T-Test | | | | | |
|---------------|---------------|----|--------------------|-----------------|---------|---------|
| | Mean | N | Standard Deviation | Mean Difference | P-Value | T-Ratio |
| Pre Training | 8.62 | 24 | 0.648 | 0.355 | <0.0001 | 6.314 |
| Post Training | 8.265 | 24 | 0.6893 | | | |

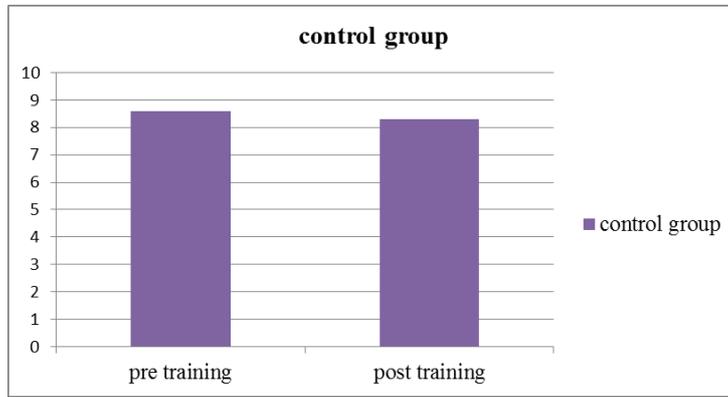


Table 2: Paired t-test used in experimental group for pre test and post test value.

| Experimental Group | Paired T-Test | | | | | |
|--------------------|---------------|----|--------------------|-----------------|---------|---------|
| | Mean | N | Standard Deviation | Mean Difference | P-Value | T-Ratio |
| Pretraining | 8.552 | 24 | 0.6446 | 1.044 | <0.0001 | 15.434 |
| Posttraining | 7.508 | 24 | 0.6201 | | | |

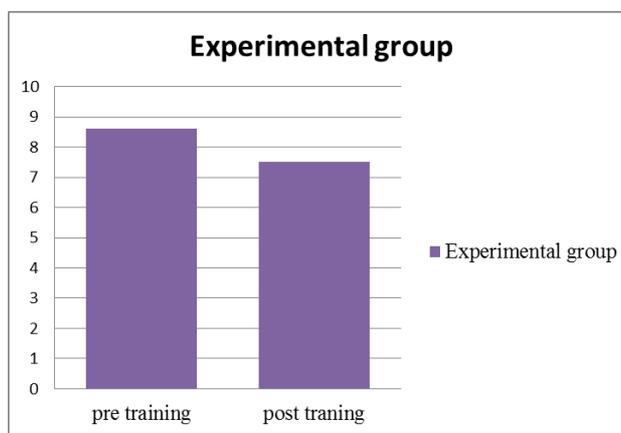


Table 3: Unpaired t-test used in control and experimental group for post test value.

| Post Training | Unpaired T-Test | | | | |
|--------------------|-----------------|----|--------------------|---------|---------|
| | Mean | N | Standard Deviation | P-Value | T-Ratio |
| Control Group | 8.265 | 24 | 0.6893 | 0.001 | 3.998 |
| Experimental Group | 7.508 | 24 | 0.6201 | | |



Discussion

Kabaddi is a high intensity game. It is played in a rough surface due to which players are more prone to injured mainly injuring there knee followed closely by ankle. It is proud feeling when you/and your team are awarded, for the success of the 40-45 minutes of competitive game. To achieve this goal a proper training method is necessary to improve agility, speed, and coordination. The implementation of the study revealed that 6 weeks of ladder drills training showed a significant difference ($t=15.434$, $df=23$, $p>0.05$) for the experimental group ($n=24$) on their agility performance. The

players who received ladder drills training showed greater improvement in their performance level. Each players speed improved and their endurance significantly increased due to which their overall performance level in the game also improved. The mean of the post test of agility performance for the experimental group ($M=7.5\pm0.62$) was significantly increased compared to the pre test ($M=8.6\pm0.64$). The result showed that 6 weeks of ladder drills training program were able to improve the agility performance of the experimental group. In the experimental group, there were 24 players who had experienced of playing kabaddi of about 4 or less than 4 years. There were 17 players (70.83%) who had experience of playing kabaddi of about 3 and 2.5 years and 3 players(8%) of playing kabaddi of about 1 year, 4(6%) players are having experience of playing kabaddi of about 4 years.

However, the control group showed slight difference in the mean of the post test of the agility performance for the control group ($M=8.6\pm0.6$) compared to the pretest ($M=8.3\pm0.7$) of the control group. In the control group, there were 24 players who also had experienced of playing kabaddi of about 4 or less than 4 years. There were 8 players who had experience of playing kabaddi of about 4 years, 12 players of playing kabaddi of about 3 years and 4 players of playing kabaddi 2 years and less than 2 years.

Furthermore, the result of this study showed that there was a significant increase of the agility performance of the post test of the experimental group ($t=3.998, df=46$) compared with the control group. The result of the mean of the post test of agility performance for the experimental group ($M=7.5\pm 0.62$) was significantly increased compared to the post-test ($M=8.2\pm 0.7$) of the control group.

Therefore, the results indicated that the agility performances of the experimental group was significantly higher than the agility performance of the control group after 6 weeks of ladder drills training program.

Conclusion

- From the analysis of data, the following conclusions were drawn:
- The experimental group, implementation of ladder drills training group achieved significant improvement in agility performance of female kabaddi players when compared to the control group.
- Therefore, the result and analysis of the data concluded that 6 weeks of ladder drills training improves agility performance.

Reference

1. Syarulniza Abdul Jamil, Nurhani Aziz, Lim Boon, Hooi. Effects of ladder drills training on agility performance. International journal of health physical education and computer science in sports (ISSN 2231-3265), 2015, 17(1).
2. Balasubrananian K, Senthil Kumar PK, Amul Doss A. Effect of SAQ training and plyometric training on selected physical fitness variable among college men kabaddi players-International journal of physical education, 2014, 7(1).
3. Kainoa Pauole, Kent Madole, John Garhammer, Michael Lacourse, Ralph Rozenek. Reliability and validity of the t-test as a measure of agility, leg power and leg speed in college aged men and women- Journal of Strength and Conditioning Research 2, 000, 14(4),443-450, 2000.
4. World Health Organization- Informed consent form template for qualitative studies.-20, avenue Appia – CH-1211 Geneva 27 – Switzerland.
5. Karuppiah L, Dr. Palanisamy A. Isolated and Combined Influence of Weight Training and Ladder Training on Selected Physiological Variable Among Men Kabaddi Players- International Journal of Scientific Research and Modern Education, 2017; 2(1):24-29,.
6. Jayati Sen- Injury Profiles of Indian Female Kabaddi Players”- International Journal of Applied Sports Science. 2004; 16(1):23-28, 6. 3 Charts.
7. Dey SK, Khanna GL, Batra M. Morphological And Physiological Studies On Indian National Kabaddi Players- British Journal Of Sports Medicine. 1993, 27(4).
8. Young WB, James R, Montgomery I. Is muscle power related to running speed with changes of direction?- Journal of Sports Medicine And Physical Fitness; Health & Medical Complete 2002; 42:3, 282.
9. Dr. Rajendran K. Influence of Game-Specific Training Programme on Selected Physical Fitness Components among Kabaddi Players- International Journal of Recent Research and Applied Studies. 2014; 7(24):99-102.
10. Guruvupandian C, DR. Murugavel K. influence of high intensity plyometric training program on motor fitness variables of intercollegiate male handball players.