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S Joiesy
Director, Department of
Physical Education, Sri
Ramakrishna College of Arts &
Science for Women, Coimbatore,
Tamil Nadu, India

Dr. M Jayachitra
Director, Department of
Physical Education, PSGR
Krishnammal College for
Women, Coimbatore, Tamil
Nadu, India

Corresponding Author:
S Joiesy
Director, Department of
Physical Education, Sri
Ramakrishna College of Arts &
Science for Women, Coimbatore,
Tamil Nadu, India

Impact of fitness basketball training technical basketball training and integral basketball training on game specific technical skills of adolescent girls

S Joiesy and Dr. M Jayachitra

Abstract

The aim of research to investigate the Impact of fitness basketball training technical basketball training and integral basketball training on game specific technical skills of adolescent girls. Experimental method was applied on a sample to find out the Impact of fitness basketball training technical basketball training and integral basketball training on game specific technical skills. To achieve the purpose of the study, eighty school girls were selected randomly 11 to 14 years of age from PSGR Krishnammal Girls Higher Secondary school, CCMA Girls Higher Secondary school, SVGV Girls Higher Secondary school, Alvernia Girls Higher Secondary school at Coimbatore districts. The selected subjects were divided into four equal groups namely experimental and control groups of 20 subjects each. The selected subjects were divided into four equal groups of twenty subjects each at random. Group I underwent Fitness Basketball Training, Group II underwent Technical Basketball Training Group III underwent Integral Basketball Training for twelve weeks (for five days per week) whereas and Group IV acted as control that did not undergo any special training programme apart from their regular physical education activities as per their curriculum. The following specific technical skills variables namely long shot, under basket shot. The result of the present study variables speculated significant improvement due to the fitness basketball training, technical basketball training and integral basketball training on game specific technical skills of adolescent girls. The collected data were statistically analyzed by using 't test and analysis of covariance (ANCOVA) to find out significant improvements. The level of significance was fixed at 0.05 level confidences for all the cases. Significant improvement was found on long shot, under basket shot of experimental group due to the fitness basketball training, technical basketball training and integral basketball training, when compared to the control group.

Keywords: Long shot, under basket, fitness basketball training technical basketball training and integral basketball training

Introduction

Fitness basketball training

Fitness Basketball Training, where athleticism and skill converge to create a dynamic and exhilarating experience. Whether you're a seasoned basketball player looking to enhance your game or a fitness enthusiast seeking an engaging and effective workout, this program is designed to cater to your needs. Basketball is more than just a sport; it's a lifestyle that promotes physical fitness, teamwork, and mental agility. Fitness Basketball Training combines the fundamental aspects of basketball with a focus on improving overall fitness, including strength, endurance, agility, and coordination. It's a holistic approach that not only helps you become a better basketball player but also boosts your overall health and well-being. In this program, we will explore various training techniques, drills, and exercises tailored to basketball players of all levels. Whether you dream of dominating the court or simply want to stay in shape while having fun, our Fitness Basketball Training will empower you to achieve your goals.

Technical basketball training

Technical Basketball Training, where precision, finesse, and mastery of the game take center stage. Basketball is a sport that demands not only physical prowess but also a deep understanding of its technical aspects.

Whether you're a novice looking to learn the fundamentals or an experienced player seeking to refine your skills, this program is tailored to help you reach new heights in the game of basketball. In Technical Basketball Training, we delve into the intricacies of the sport, focusing on the essential techniques that make players stand out on the court. From shooting with pinpoint accuracy to dribbling with finesse and playing tenacious defense, our program is designed to equip you with the skills needed to excel in every facet of the game. Basketball is a beautiful blend of art and science, where teamwork, strategy, and individual brilliance come together. Through detailed coaching, hands-on drills, and a commitment to continuous improvement, our training will guide you in unlocking your full potential as a basketball player.

Integral Basketball Training

Integral Basketball Training, a holistic approach that embraces every facet of the game to nurture not only your basketball skills but also your physical, mental, and emotional well-being. In the realm of basketball, success extends far beyond mastering the fundamentals; it's about becoming a well-rounded athlete and a better person both on and off the court. Integral Basketball Training goes beyond the typical drills and workouts. It encompasses a comprehensive approach that includes skill development, physical conditioning, mental toughness, teamwork, and sportsmanship. Whether you're a budding athlete looking to take your game to the next level or simply seeking a well-rounded and fulfilling basketball experience, this program is tailored to meet your needs. Basketball is more than just a sport; it's a powerful vehicle for personal growth, character development, and building lifelong values. Through our training, you will not only refine your shooting, passing, and defensive skills but also foster essential life skills such as leadership, communication, and resilience.

Specific basketball training

Specific Basketball Training, where precision and focus are the keys to unlocking your full potential on the basketball court. In the dynamic world of basketball, honing your skills to a fine point can make all the difference between good and great. Whether you're a dedicated player seeking specialization in a particular aspect of the game or a coach looking to tailor your training program, Specific Basketball

Training is your pathway to excellence. Basketball is a sport of nuances and specialties, where individual strengths can shine through teamwork. Our program is designed to cater to those who want to delve deeply into specific areas of the game, be it shooting accuracy, ball-handling wizardry, defensive prowess, or any other facet of basketball mastery. With Specific Basketball Training, you will have the opportunity to dissect the game into its finest details, perfecting the skills that matter most to you. Through targeted coaching, focused drills, and a commitment to relentless improvement, you'll be empowered to elevate your performance to new heights.

Methodology

Experimental Approach to the Problem

In order to address the hypothesis presented herein, we selected eighty (80) school girls, PSGR Krishnammal Girls Higher Secondary school, CCMA Girls Higher Secondary school, SVGV Girls Higher Secondary school, Alvernia Girls Higher Secondary school, Coimbatore, Tamil Nadu, India were randomly selected as subjects. The age selected subjects were ranged from 11 to 14 years respectively. The subjects were randomly assigned in to four equal groups namely, fitness basketball training (FBTG) (n=20), technical basketball training (TBTG) (n=20), integral basketball training (IBTG) (n=20 and Control group (CG) (n=20). The respective training was given to the experimental group the 5 days of the weeks for the training period of twelve weeks. The control group was not given any sort of training except their routine.

Design

The evaluated specific basketball skills variables were long shot was assessed by The AAHPER basketball skill test battery and the unit of measurement was in points, and under basket shot was assessed by The AAHPER basketball skill test battery and the unit of measurement was in seconds. The parameters were measured at baseline and after 12 weeks of fitness basketball training technical basketball training and integral basketball training were examined. The intensity was increased once in two weeks based on the variation of the exercises.

Training programme

Table 1: Computation of 't' ratio on long shot and under basket shot of experimental groups and control group

| Variable | Fitness basketball Training | | | Technical Basketball training | | | Integral Basketball Training | | | CONTROL GROUP | | |
|-------------------|-----------------------------|-------------------|--------|-------------------------------|-------------------|--------|------------------------------|-------------------|--------|------------------|-------------------|------|
| | Pre mean ± SD | Post mean ± SD | 't' | Pre mean ± SD | Post mean ± SD | 't' | Pre mean ± SD | Post mean ± SD | 't' | Pre mean ± SD | Post mean ± SD | 't' |
| Long shot | 16.06±0.79 | 17.13±0.83 | 16.00* | 16.13±0.83 | 18.20±0.77 | 31.00* | 16.13±0.83 | 20.20±0.77 | 61.00* | 16.06±0.79 | 16.20±0.86 | 1.46 |
| Under basket shot | 8.06±0.79 | 9.20±0.77 | 12.47* | 8.13±0.74 | 11.20±0.77 | 46.00* | 8.06±0.79 | 13.13±0.83 | 76.00* | 8.13±0.74 | 8.26±0.70 | 1.46 |

The training programme was lasted for 30 minutes for session in a day, 6 days in a week for a period of 12 weeks' duration. These 30 minutes included warm up for 5 minutes, 20 minutes' fitness basketball training technical basketball training and integral basketball training and 5 minutes warm down. The equivalent in specific basketball skills is the length of the time each action in total 6 days per weeks.

Table 4.1 shows that the 't' ratios on Long shot of FBT, TBT and IBT were 16.00, 31.00 and 61.00 respectively. Since, these values were higher than the required table value of 2.14, it was found to be statistically significant at 0.05 level of confidence for degrees of freedom 1 and 14.

Since, the 't' value of CG 1.46 was lesser than the required table value of 2.14, it was found to be statistically insignificant at 0.05 level of confidence for the degrees of freedom 1 and 14. sShows that the 't' ratios on under basket shot of FBT, TBT and IBT were 12.47, 46.00 and 76.00 respectively. Since, these values were higher than the required table value of 2.14, it was found to be statistically significant at 0.05 level of confidence for degrees of freedom 1 and 14.

Since, the 't' value of CG 1.46 was lesser than the required table value of 2.14, it was found to be statistically insignificant at 0.05 level of confidence for the degrees of freedom 1 and 14.

Table 2: Analysis of covariance for fitness basketball training, technical basketball training, integral basketball training and control group on the long shot of adolescent girls

| Mean | FBT | TBT | IBT | CG | S.V | Df | S.S | M.S | F |
|-------------------------|-------|-------|-------|-------|-----|----|--------|-------|---------|
| Pre-test mean | 16.06 | 16.13 | 16.13 | 16.06 | B | 3 | 0.06 | 0.02 | 0.03 |
| | | | | | W | 56 | 37.33 | 0.66 | |
| Post-test mean | 17.13 | 18.20 | 20.20 | 16.20 | B | 3 | 132.80 | 44.26 | 67.11 |
| | | | | | W | 56 | 36.93 | 0.66 | |
| Adjusted post-test mean | 17.16 | 18.16 | 20.16 | 16.23 | B | 3 | 127.96 | 42.65 | 536.795 |
| | | | | | W | 55 | 4.37 | 0.07 | |

*Significant at 0.05 level for the degrees of freedom (3, 56) and (3, 55), 2.77

Table II shows the results of ‘F’ ratio for pre-test scores, post-test and adjusted post test scores of, FBT,TBT,IBT, and CG. The obtained ‘F’ ratio for the pre-test was 0.03. It was found to be lesser than the required table value of 2.77 for the degrees of freedom 3 and 56. Hence, it was inferred that the mean difference among three groups at pre-test on long shot was statistically insignificant at 0.05 level of confidence. In the post-test data analysis, the ‘F’ ratio was applied to test the significance of mean differences among the FBT, TBT, IBT, and CG on long shot. The obtained ‘F’ ratio for the post-test was 67.11. The ‘F’ ratio needed for the significant differences on the mean, for degrees of

freedom 3 and 55 was 2.77 at 0.05 level of confidence. Since the observed ‘F’ ratio on this variable was higher than the table value needed for significance, it was inferred that the mean differences among four groups at post-test of speed was statistically significant. In the adjusted post-test data analysis, the ‘F’ ratio was applied to test the significance of mean differences among the FBT, TBT, IBT, and CG on long shot. The obtained ‘F’ ratio was 536.79. Since the observed ‘F’ ratio was greater than the required table value of 2.77 for degrees of freedom 3 and 55 at 0.05 level of confidence, it was concluded that the performance of long shot was significantly influenced by the treatments used in this study.

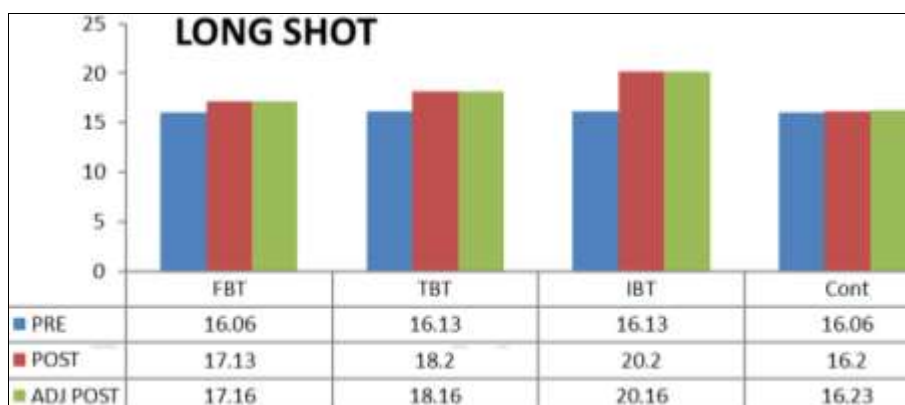


Fig 1: Bar diagram shows the pre post and adjusted post mean value of fitness basketball training, technical basketball training, integral basketball training and control group long shot of adolescent girls

Table 3: Analysis of covariance for fitness basketball training, technical basketball training, integral basketball training and control group on the under basket shot of adolescent girls

| Mean | FBT | TBT | IBT | CG | S.V | Df | S.S | M.S | F |
|-------------------------|------|-------|-------|------|-----|----|--------|-------|--------|
| Pre-test mean | 8.06 | 8.13 | 8.06 | 8.13 | B | 3 | 0.06 | 0.02 | 0.03 |
| | | | | | W | 56 | 33.33 | 0.59 | |
| Post-test mean | 9.20 | 11.20 | 13.13 | 8.26 | B | 3 | 211.38 | 70.46 | 117.90 |
| | | | | | W | 56 | 33.46 | 0.59 | |
| Adjusted post-test mean | 9.23 | 11.16 | 13.16 | 8.23 | B | 3 | 214.01 | 71.33 | 764.76 |
| | | | | | W | 55 | 5.13 | 0.09 | |

* Significant at 0.05 level for the degrees of freedom (3, 56) and (3, 55), 2.77

Table III shows the results of ‘F’ ratio for pre-test scores, post-test and adjusted post test scores of, FBT,TBT,IBT, and CG. The obtained ‘F’ ratio for the pre-test was 0.03. It was found to be lesser than the required table value of 2.77 for the degrees of freedom 3 and 56. Hence, it was inferred that the mean difference among three groups at pre-test on under basket shot was statistically insignificant at 0.05 level of confidence. In the post-test data analysis, the ‘F’ ratio was applied to test the significance of mean differences among the FBT, TBT, IBT, and CG on under basket shot. The obtained ‘F’ ratio for the post-test was 117.90. The ‘F’ ratio needed for the significant differences on the mean, for degrees of freedom 3 and 55 was 2.77 at 0.05 level of confidence. Since the observed ‘F’ ratio on this variable was higher than the

table value needed for significance, it was inferred that the mean differences among four groups at post-test of speed was statistically significant. In the adjusted post-test data analysis, the ‘F’ ratio was applied to test the significance of mean differences among the FBT, TBT, IBT, and CG on under basket shot. The obtained ‘F’ ratio was 764.76. Since the observed ‘F’ ratio was greater than the required table value of 2.77 for degrees of freedom 3 and 55 at 0.05 level of confidence, it was concluded that the performance of under basket shot was significantly influenced by the treatments used in this study.

The obtained adjusted mean values were presented through bar diagram in figure 2.

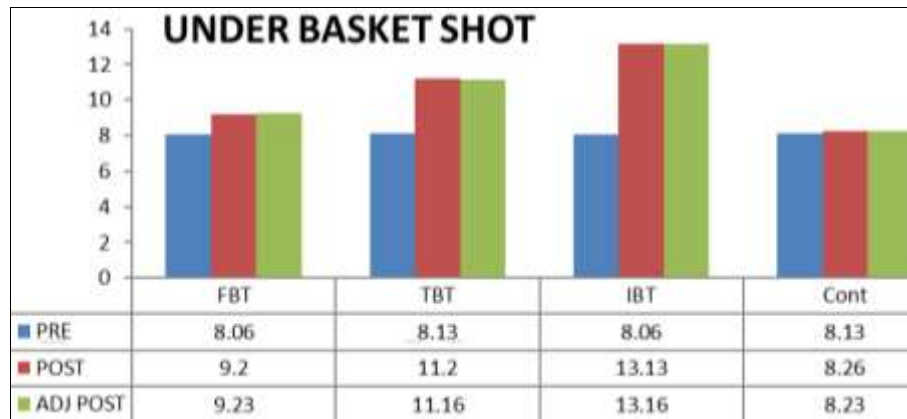


Fig 2: Bar diagram shows the pre post and adjusted post mean value of fitness basketball training, technical basketball training, integral basketball training and control group under basket shot of adolescent girls

Discussion and Findings

The present study was the influence of fitness basketball training technical basketball training and integral basketball training on game specific technical skills of adolescent girls. The results of this study indicated that integral basketball training is more efficient to bring out desirable changes over the long shot and under basket shot of the school girls. Paula F. Aschendorf *et al.*, (2018) Effects of basketball-specific high-intensity interval training on aerobic performance and physical capacities in youth female basketball players. Kiani Jung-Min Lee *et al.*, (2019) ^[7] the Effects of Various Work-to-rest Ratios during High-intensity Interval Training on Athletic Performance in Adolescents. Javier Sanchez-Sanchez *et al.* (2018) ^[3] effects of high-intensity training with one versus three changes of direction on youth female basketball players' performance.

Conclusions

In the present study the following conclusions have been made.

1. It was concluded that the Fitness Basketball Training (FBTG) has produced a significant improvement on specific technical skills variables namely long shot and under basket shot of adolescent girls.
2. It was concluded that the Technical Basketball Training (TBTG) has produced a significant improvement on specific technical skills variables namely long shot and under basket shot of adolescent girls.
3. It was concluded that the Integral Basketball Training (IBTG) has produced a significant improvement on specific technical skills variables namely long shot and under basket shot of adolescent girls.
4. It was concluded that the Integral Basketball Training (IBTG) was more effective than the Fitness Basketball Training (FBTG), Technical Basketball Training (TBTG) and control group in improving specific technical skills variables namely long shot and under basket shot of adolescent girls.
5. It was concluded that the Technical Basketball Training (TBTG) was more effective than the Fitness Basketball Training (FBTG) and control group in improving specific technical skills variables namely long shot and under basket shot of adolescent girls.
6. It was concluded that the Fitness Basketball Training (FBTG) was more effective than the control group in improving specific technical skills variables namely long shot and under basket shot of adolescent girls.

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