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Plyometric exercises and its Effect on Physical fitness of Girl College Students

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Abstract :-

The scholar selected a study "Effect of plyometric exercises training on physical fitness components of Girl college students. For the study the scholar selected 30 Girl college students of the age group 18 to 20 yrs and given then 12 plyometric exercise and selected 5 physical fitness components. The scholar administered the 5 weeks plyometric training to the Girl college students. Before beginning the training, the physical fitness components were tested and scores were collected. After the training program of 5 weeks again the scores were recorded.

To observe the effect of the training the scholar, the calculated 't' value between the pre-test and post-test means and standard deviation and compared the calculated 't' values with tabulated 't' values. The calculated 't' values of physical fitness components were greater than tabulated 't' value. The conclusion were drawn that there is positive significant effect of plyometric exercise on the physical fitness of Girl college students.

Key words:- Plyometric exercises, physical fitness components.

Introduction :-

The scholar decided to conduct the research about the physical fitness components of school students of the Girl college students. Therefore the scholar selected a research study entitled "The Effect of Plyometric exercises on the physical fitness components of the Girl college students" For the study the scholar selected the 40 students from the school in between the ages 18 to 20 years.

For collection of data. The scholar selected the following physical fitness components. 1) For speed 50 meters run, 2) For cardiovascular endurance 600 meters Run and walk test 3) For agility 10 meters shuttle run 4) For explosive power of the standing broad jump. 5) For flexibility Sit and reach test.

For the plyometric training the scholar selected following plyometric exercises 1) Medicine ball exercises 2) Hurdle Hopping 3) Single leg hopping 4) Box jumps. 5) Depth Jump 6) Tuck Jumps 7) Two legged hops or bunny hops. 8) Chest pass 9) Incline push up depth jumps 10) Power drop 11) Incline chest pass.

1) **Equipment required for Plyometric Exercises :-** Medicine balls 4 weighing. 3-4 lbs, Wooden boxes of 1 ½ x 1x1 feet size, Two yoga mats, A box 10x10x10 inches.
2) **Plyometric Training Schedule:-** The scholar designed the plyometric exercises training for 5 week daily in the morning from 7.00 am. to 8.30 am.
3) **Objectives:-** The researcher has the following objective of this study.
   1) To see the physical fitness components of the students before plyometric exercises training.
   2) To see the effect of plyometric training on the running speed of the students.
   3) To see the effect of plyometric exercises training on the cardio-vascular endurance of the students.
   4) To see the effect of plyometric exercises training on the agility of the students.
   5) To see the effect of the plyometric exercises training on the explosive power of legs.
   6) To see the effect of plyometric exercises training on the flexibility of the Girl college students.

- **Significance:** This is significance because it will throw light on the physical fitness components of the students and the effect of plyometric exercises training on the physical fitness components of the students.
- **Hypothesis: -**Hypothesis is a assumption of the result of the researcher made a hypothesis that there is positive significant effect of plyometric training on the physical fitness components of the students.

Limitation of the study:-

1) The study was limited to 40 girl college students.
2) The study was limited to only girl college students.
3) The study was limited to the students of age of 18 to 20 years only.
4) The this study the socioeconomic conditions of the students were not known
5) The study was limited to only students of one college only.

Limitations of the researches:-

The following were the limitation of the researcher.

1) The researcher was not knowing the family background of the girl college students..
2) The researcher did not know the other exercises the girl college students do.
3) The researcher was not aware of the diet of girl students.
4) The researcher did not know the life styles of the girl students.
5) The researcher did not know what activities girl students do in their leisure time.

Methodology:-

2 stations for plyometric exercises training were designed under his two assistants who were aware of the plyometric exercises.

Session begins with warming to avoid the injuries. Daily in the morning from 7.00 am. To 8.30 am. The plyometric exercises training sessions were conducted for 6 days a week for 5 weeks.

The researcher before beginning plyometric exercises training conducted physical fitness components test of the students and collected data and calculated means and standard deviations and prepared tables. After the 5 weeks training again the physical fitness components tests were conducted and collected the data and calculated means and standard deviations.

The following table indicates the Means and standard deviations of the tests of physical fitness components before starting the plyometric exercises training.

Table No.1 :-

Means and standard of deviations of the pre-test scores of physical fitness components of the girl students.

Sr.No.	Physical Fitness Components	Pre-test	
		Mean	Standard deviation
1	50 mtr. Dash (Speed)	17.09	2.93
2	600 mts. Run & Walk (Cardio-vascular endurance).	3.6	0.69
3	10 mtr. Shuttle run (Agility)	13.4	1.9
4	Standing broad Jump (Explosive power of leg)	3.5	0.91
5	Sit & Reach (Flexibility)	3.6	0.91

Source :- From the pre-test of physical fitness components of the girl students.

Discussion :-

The above table number one indicated the means and standard deviations of the physical fitness components of the girl college students the 50 mtr. dash mean is 17.09 seconds and standard deviation 2.93. The 600 mtr Run & walk test means is 3.6 minutes and standard deviation is 0.69. The 10 mtr shuttle run agility means is 13.4 seconds and standard deviation is 1.9. The mean of standing broad Jump is 3.5 feet and standard deviation is 0.91. The mean sit and reach is 3.6 feet and standard deviations are 0.91.

After the 5 weeks plyometric exercises training the scholar conducted again the post- test for physical fitness components which are given below in Table No. 2.

Table No. 2 :-

Means and standard deviations of the Post-test scores of physical fitness components of the school students after administration of plyometric exercises.

Sr.No.	Physical Fitness Components	Pre-test	
		Mean	Standard deviation
1	50 mtr. Dash (Speed)	12.8	1.8
2	600 mts. Run & Walk (Cardio-vascular endurance).	2.9	0.54

3	10 mtr. Shuttle run (Agility)	11.0	1.5
4	Standing broad Jump (Explosive power of leg)	5.6	0.5
5	Sit & Reach (Flexibility)	4.9	0.7

Source :- From post- test scores of physical fitness components.

Discussion :-

The above table number two indicates the means and standard deviation of the post test scores of the physical fitness components of the girl students. To see the effect of plyometric training on the physical fitness components of the girl college students. The scholar calculated the 't' values of the physical fitness components and compared it with the tabulated 't' value The following self explanatory Table No. 3 indicates the means standard deviations and calculated 't' valued and tabulated 't' values of physical fitness components of pre-test and post-test scores.

Table No.3 :-

Means, standard deviations calculated't' values and tabulated 't' values of the physical fitness components of girl college students.

Sr. No.	Physical Fitness Components	Pre-test		Post-test		Cal 't' value	Tabulated 't' values
		Mn	Sd	Mn	Sd		
1	50 mtr. Dash (Speed)	17.09	2.93	12.8	1.8	12.7	2.7 at 0.01 't' level of significance at 0.01 and df39.
2	600 mts. Run & Walk (Cardio-vascular enduranc e).	3.6	0.69	2.9	0.54	4.2	
3	10 mtr. Shuttle run (Agility)	13.4	1.9	11.0	1.5	5.78	
4	Standing broad Jump (Explosiv e power of leg)	3.5	0.91	5.6	0.5	13.12	
5	Sit & Reach (Flexibilit y)	3.6	0.91	4.9	0.7	7.77	

Source: - From the pre-test and post-test scores and calculated't' and tabulated't' values.

Discussion :-

The above table number three indicated the pre-test and post-test means and standard deviation of physical fitness components and calculated 't' values & tabulated value. The calculated't' values of physical fitness components are greater than tabulated values of at the 0.01. Level of significance and at 0.1 and 39 degree of freedom. This proved that there is positive significant effect of plyometric exercises training of 5 weeks on physical fitness components of college girl students.

The Hypothesis made by the scholar that there is positive significant effect of plyometric exercises training on physical fitness components is proved and accepted.

Conclusion ;-

From the above discussion and acceptance of the hypothesis, researcher arrived at the conclusion that the effect of plyometric exercise training of week the physical fitness components of the girl college students improved and there is positive significant effect of plyometric training on the physical fitness components of the girl college students.

Hence the researcher recommends that in the college for the physical fitness of the students the authorities should start such physical fitness exercises.

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