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RESEARCH ARTICLE

EFFECT OF UPPER BODY EXERCISES ON THE PERFORMANCE OF BACKSTROKE SWIMMERS

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Abstract

The purpose of the study was to clarify the Influence of 6 week selected upper body exercises on the performance of backstroke in swimming.Thirty boys swimmers (age =14 to 16 years) were randomly assigned to the experimental group (n=15) and control group (n=15). All swimmer was selected from Panchal high school, Panchal, Bankura West Bengal. Upper body exercises were included in the experimental group training session 5 times (each session 30 minutes) per week over 6 weeks as part of their usual weekly training regime. Both groups of swimmers were tested backstroke swimming before and after training. Backstroke swimming performance were tested and measured through standard procedure with the help of expert and under the direct supervision of the experimenter.For the analysis of data statistical mean, standard deviation and 'T'-test was used. The level of significance was set at 0.05 levels. In conclusion, there was a significant effect of upper body exercise on backstroke performance of experimental group.

Introduction:-

The origin of swimming dates back thousands of years, through modern swimming or fitness swimming is fairly more recent. In ancient times, swimming was known as lifesaving activity. It was a part of warfare. The warriors imparted swimming as a routine part of their warfare training. It is believed that man probably learnt swimming by watching beats in the water.Swimming now becomes one of the world's most popular recreational event and gained international fame.

The innovation of modern age swimming started from 1896 when it was come in Olympic sports in Athens and since it has been organizing in every fourth year, and thus began the official start of modern sports of swimming with suitable measurement of pools with proper maintenance and providing proper officials. Modern swimming is thought to have begun by the English. They develop indoor swimming pools and started schools decided to teaching people how to be swimming.The effect of scientific swimming trainingon human physiology Clarke found that it improves blood circulation, nervous function and muscle suppleness. Improved circulation will accelerate the distribution of oxygen and food to the cell and remove function promotes more exacting skills performance.Several swimming styles are suitable for recreational swimming; many recreational swimming prefer a style that keeps their head out of the water and has under water arm recover. Breaststroke, freestyle, backstroke and butterfly gives rise to better exploitation of the difference in resistance between air and water and thus leads higher speed.

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With a swimming training program, the exercise you use out of the pool are almost as important as you're training in it! Swimming is a sport that requires both muscular strength and endurance, and for this reason when training with weights you need to concentrate on developing strong muscle with high endurance capabilities. Upper body strength is important for all four-style swimming. The triceps, biceps and pectoral muscles are used to create power in your swing stroke, and the back and shoulders are used to generate arm swing during the run and to stabilize the bike on climbs.

Objective of the study:-

1. To find out the effect of upper body exercises on the performance of backstroke swimmers.
2. To know the performance level of backstroke swimmers.

Hypothesis: -

It was hypothesized that there was a significant effect of upper body exercises on the performance of backstroke swimmers.

Methodology:-

Participants, criterion measures, test administration, Experimental Design of thestudy,training program and collection of data are described below

Participants: -

For this study, 30 boys' subjects were selected randomly from Panchal high school, Panchal, Bankura (west Bengal) those who know swimming (backstroke). The age range of the subject 14 to 16 years. All the subjects belong to different socio-economic backgrounds.

Experimental Design: -

The selected subjects were divided into two equal groups of 15 subject in each. One is treated as experimental (practice upper body exercises) group, the second one is control group. The experimental group underwent to practice upper body exercises, for 5 (five) sessiona week for 30(thirty) minutes each session/day, for the period of six weeks under direct supervision of the experimenters. The control group did not practice any specific training during the period of six weeks.

Criterion measured: -

The researcher wanted to measure 50 Mt backstroke performance of the selected subjects
with the help of stopwatch and it was measured in seconds.

Administration of test: -

After the selection of subjects, the researchers administered test to measure 50Mt backstroke performance before and after the training programme of six weeks. It was tested and measured through standard procedure with the help of expert and under the direct supervision of the experimenter.

Backstroke performance test: -

Speed or performance of total body movement is measured by the 50-meter backstroke. The subject is asked to hold the rod which if fixed in the swimming pool wall where the subject starts the race. On the signal Rady? Go! The subjects start swim at their best to reach the finishpoint at their earliest. The time kipper records the time when the swimmer reaches the finish point with their proper backstroke.

Scoring.

The interval between the starting signal and the instant subject crosses the finish line is thescore of the test. The time is recorded correct up to tenth of a second.

Upper body exercises training program: -

Sr. No	Exercise	Week (1-2)	(3-4) Week	Week (5-6)
1	Push up	Push ups (1 set) (2 repetitions)	Push ups (1 set) (3 repetitions)	Push ups (1 set) (4 repetitions)
2	Medicine ball pass with partner	5 pass left 5 passes right(1set)	5 pass left 5 passes right(1set)	5 pass left5 passes right(1set)

		(3 repetitions)	(4 repetitions)	(5 repetitions)
3	Pull ups	3 pull ups (1set) (2 repetitions)	3 pull ups (1set) (3 repetitions)	3 pull ups (1set) (4 repetitions)
4	Dumbbell chest flys	5 times(1set) (3 repetitions)	3 pull ups (1set) (2 repetitions)	3 pull ups (1set) (2 repetitions)
5	Arm raises with resistance band	5 times(1set) (4 repetitions)	5 times(1set) (5 repetitions)	5 times(1set) (6 repetitions)
6	Push back	5 times(1set) (4 repetitions)	5 times(1set) (6 repetitions)	5 times(1set) (8 repetitions)

Statistical analysis: -

To find out the effect of upper body exercise on the performance of backstroke swimmers the data were collected through administration of backstroke performance test before and after the six weeks upper body exercise programme. The 't' test was used to determine significance difference among the experimental and control groups.

The Mean difference between the pre-testscores of control grouponbackstrokeperformance (in seconds)

Group	Test	N	Mean ±S.D.	M.D	't' value
G	Pre-test	15	121.7 ± 2.14	1.5	1.59
C.G	Pre-test	15	120.2± 2.09		

***Significant at .05 level of confidence.**

Table value .05 (28) df = 2.10

Table-1 reveals that pre-test mean score of experimental and control groups on backstroke performance are 121.7 and 120.2 respectively and their calculated 't' value is 1.59 which is smaller than that of tabulated value 2.10 at 0.05 (28) level of confidence. It was indicating that there was nosignificance difference between the pre-test mean of experimental and control groups.

The pre-test mean and S.D values experimental and control group on backstroke performance have been graphically presented in fig 1.

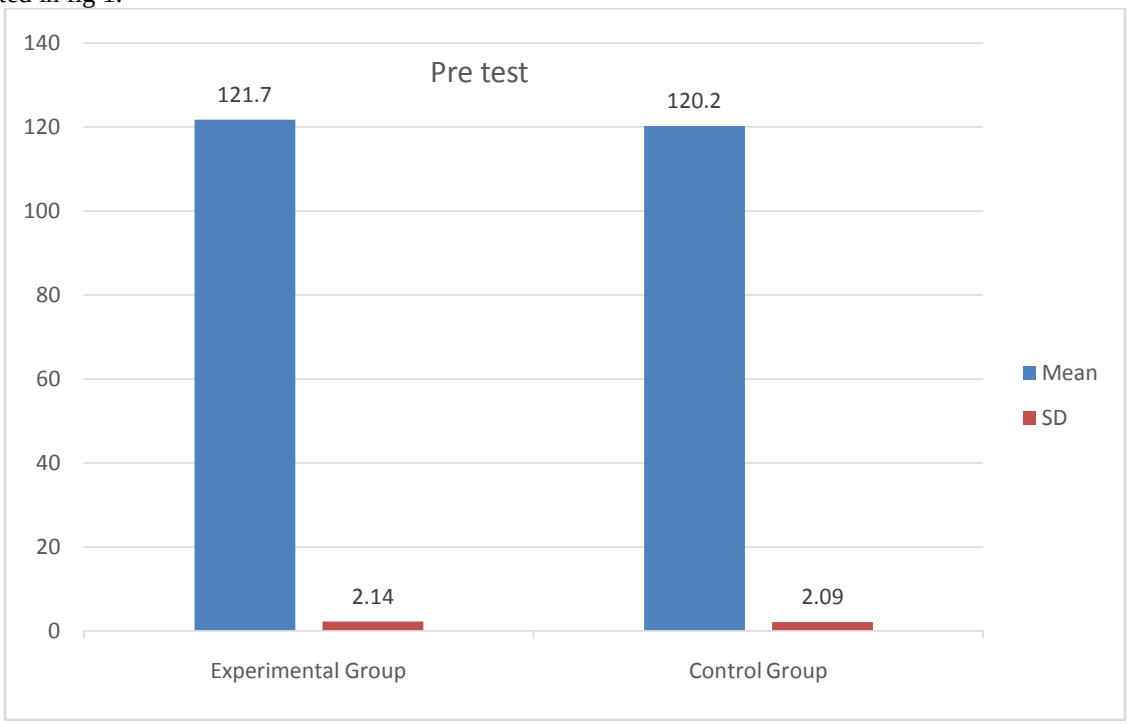


Table no-2:- Meandifferences between the post test score of experimental and control groups on backstroke performance (in seconds).

Group	Test	N	Mean ±S.D.	M.D	't' value
E. G	Post-test	15	116.8 ± 1.84	5.6	6.31
C.G	Post- test	15	122.4± 2.12		

***Significant at .05 level of confidence**
Table value .05 (28) df = 2.10

Above Table no-2 shows that the post-test mean score of experimental and control group effectonbackstrokeperformance are 116.8 and 122.4 respectively and their calculated 't' value is 6.31which is greater than that of tabulated value 2.04 at 0.05 (28) level of confidence. It was indicating that there was significance difference between the post-test mean of experimental and control groups. It wasalso indicated that upper body exercise programme effect on backstroke performance of the experimental group. Hence, the null hypothesis is rejected.

The post-test mean and S.D value of experimental and control group on backstroke performance have been graphically presented in fig-2

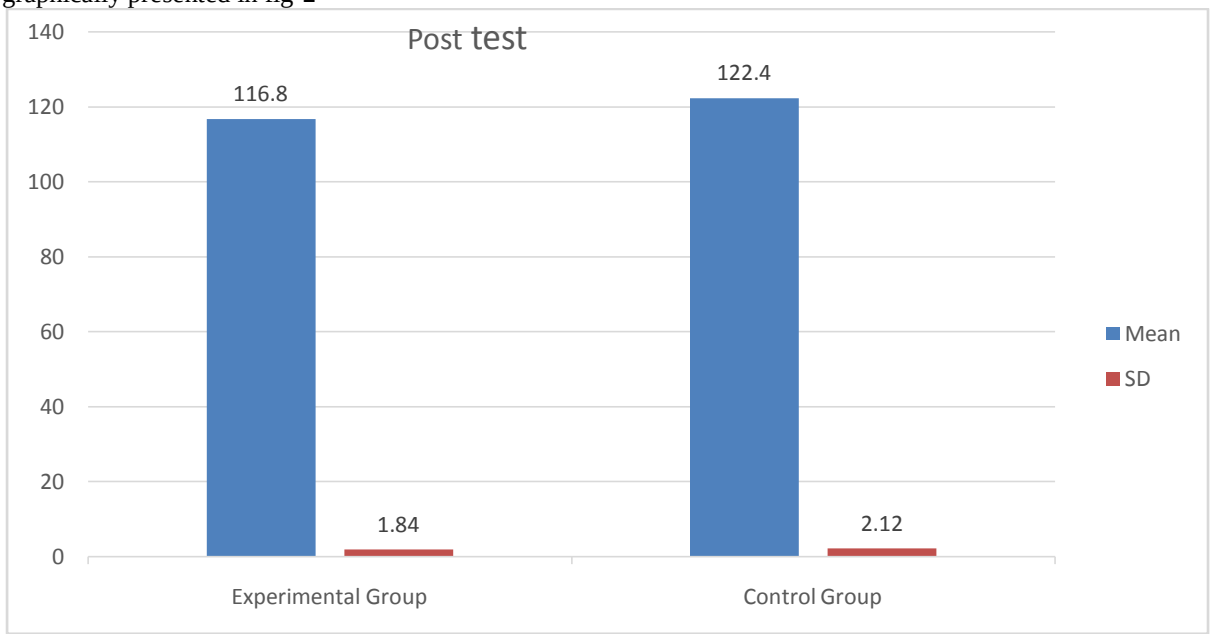


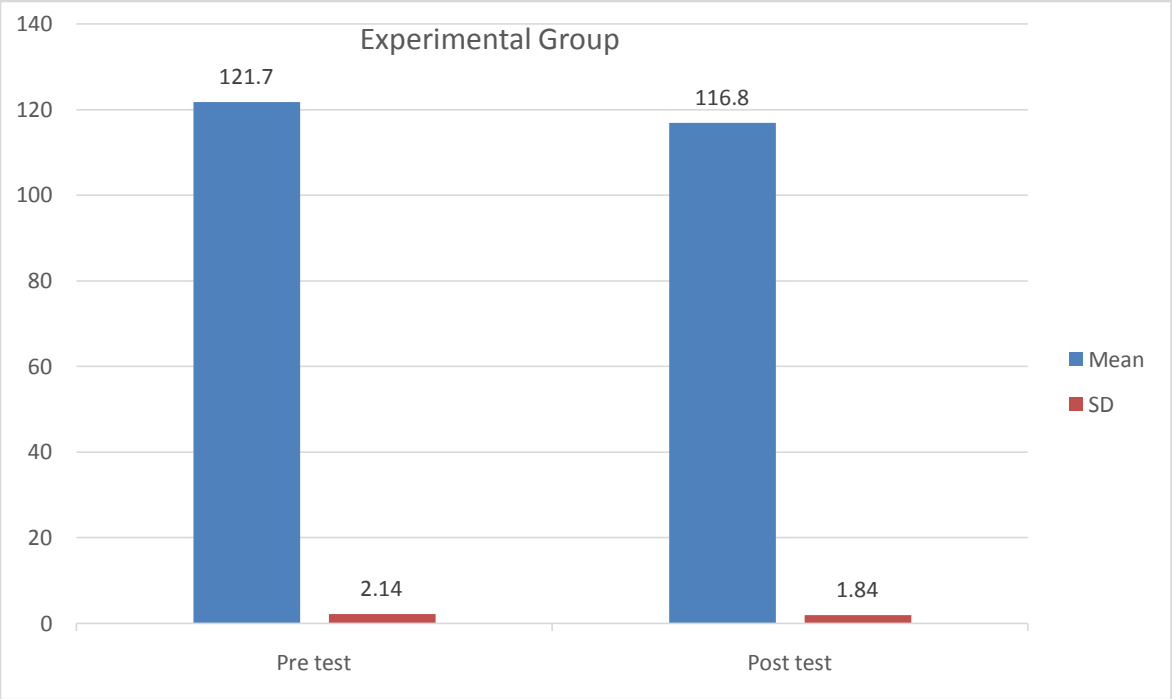
Table no-3:- Mean difference between pre and post test scores of experimental groups on backstroke performance (in seconds).

Group	Test	N	Mean ±S.D.	M.D	't' value
E. G	Pret-est	15	121.7 ± 2.14	4.9	5.50
E. G	Post-test	15	116.8± 1.84		

***Significant at .05 level of confidence.**
Table value .05 (28) df = 2.10

Table no-3 reveals that the pre-test and post-test meanscore of experimental groups on backstroke performance are 121.7 and 116.8 respectively and their calculated 't' value is 5.50 which is grater then that of tabulated value 2.10 at 0.05 (28) level of confidence. It was indicating that there was significance difference between the pre test and post test mean of experimental group in backstroke performance. It is also found that upper body exercise effects on backstroke performance which may improve the muscular strength and endurance of the student. Hence, the null hypothesis is rejected.

The pre-test and post-test mean and standard deviations values of experimental group on backstrokeperformance have been graphically presented in the fig 3.



Result And Discussion:-

To find out the effect of upper body exercise on the performance of backstroke swimmers the data were collected through the administration of test on selection variable before and after the six weeks training program. The data were collectedthrough standard procedure. After the collection of data 't' test statistical technique were used to see the significant differences among the groups.

Conclusions:-

On the basis of the results and findings it was concluded that there was significant effect of upper body exercises on the backstroke performance differenceof the experimental and control group.

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