Comparative Study of Active, Passive and No Warm up on Selected Physical Fitness Performance of Cricket Players

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Abstract:

The main purpose of the study was to determine the effect of Active Warm Up, Passive Warm Up and No Warm Up on selected fitness components of intercollegiate cricket players. Ten Male Intercollegiate players were selected from Cricketers of Degree College of Physical Education, Amravati and the age of the subjects was ranged from 18 to 25 years.

To measure the Agility, Explosive Leg Strength, Muscular Endurance, Flexibility and Speed ,Semo Agility, Standing Broad Jump, Bent Knee Sit Up, Sit & Reach and 50 Yard Dash Tests respectively were administered and the scores were recorded accordingly. It was hypothesized that there might be significant difference in Agility ,Explosive Leg Strength ,Muscular Endurance ,Flexibility and Speed among the three performance due to Active Warm Up ,Passive Warm Up and No Warm Up. To determine the significant difference among the performance on three different conditions viz. Active Warm Up, Passive Warm Up and No Warm Up one way Analysis of variance statistical technique was employed independently for each variable wherever F- ratio was found significant Least Significant Difference (LSD) Post Hoc Test was applied to find out the paired mean difference.

The result showed significant difference for the Explosive Leg Strength (F=4.864),Agility(F=6.24)Flexibility(F=4.76)and Speed(F=4.42),whereas the performance on Bent Knee Sit Up for Muscular Endurance (F=0.054)Showed insignificant difference .The results further revealed that the Superior Performance was shown after Active Warm Up and it was followed by Passive Warm Up and least Performance with No Warm Up on the Performance of Explosive Leg Strength, Agility, Flexibility and Speed by the Cricketers, It may be because through Active Warm Up all the systems of the body functions optimally viz .energy yielding capacity , Neuro-muscular Co-ordination, Rhythmic Heart and Lungs functions, secretion of joint fluids for the mobility etc. Hence better Performance was observed after a proper Active Warm Up.

Key Words: *Active Warm Up, Passive Warm Up, Agility, Explosive Leg Strength, Muscular Endurance, Flexibility and Speed.*

Introduction

Warm-up has been found to be important in preventing injury and muscle soreness. Warming-up for vigorous is needed to prepare the muscles, the joints, and the entire organism for strongest activities which includes the physiological as well as psychological aspects of the body, so the various attempt are made in parts to establish standard method of warming-up which can prepare the body in physical activity performance

Purpose of the Study

The main purpose of the study is to find out the effect of active, passive and no warm-up on selected physical fitness performance of inter-collegiate cricket players.

Methodology

Ten (10) male inter-collegiate players were selected from cricket team of Degree College of Physical Education, Amravati. The age of the subjects was ranging from 18-25 years. The subjects were selected by adopting simple random sampling method.

The data pertaining to this study were collected by administering the following standardized tests i.e.

i. Bent knee sit up was used to measure the dynamic (isotonic) endurance of abdominal muscle and the score was recorded in number.
ii. Fifty yard dash was administered to measure the speed of the player and the score was recorded in second.

iii. Sit and Reach test was used to measure the flexibility of the back and hamstring muscle. The score was noted in centimeter.

iv. SEMO agility test was applied to measure agility of the subject and the score was recorded in second.

Results and Discussion

To determine the significant difference among performances in the selected physical fitness components due to active, passive and no warm-up one way analysis of variance statistical technique was employed while the obtained F-ratio was found to be significant to find out the paired mean difference LSD post hoc test was applied and the level of significance to check the differential effect of different warm-up on selected physical fitness components was set at 0.05.

Findings pertaining to the selected physical fitness components of the cricket players i.e., muscular endurance, speed, flexibility and agility are presented in the table given below:-

Table-1

Summary of One Way Analysis of Variance for the Data on Muscular Endurance, Speed, Flexibility and Agility After Active, Passive and No Warm-up of Cricket Players

Variable	Source of Variance	Degree of Freedom	Sum of square	Mean of square	F-ratio
Muscular Endurance (Bent Knee Sit-up)	Between the Group	K-1 3-1=2	09.30	04.65	0.054 @
	Within the Group	N-K 30-3=27	2288.20	84.75	
Speed (50m Dash Test)	Between the Group	K-1 3-1=2	02.183	01.0915	4.42*
	Within the Group	N-K 30-3=27	06.677	0.247	
Flexibility (Sit & Reach Test)	Between the Group	K-1 3-1=2	317.60	158.80	04.76*
	Within the Group	N-K 30-3=27	899.90	33.33	
Agility (Semo Agility Test)	Between the Group	K-1 3-1=2	51.929	25.90	06.24*
	Within the Group	N-K 30-3=27	112.08	04.15	

*Significant at .05 level.

@Not Significant at 0.05 level.

It is evident from the above table that significant difference was found in the variables of Speed (F = 4.42>3.35), Flexibility (F = 4.76>3.35) and Agility (F = 6.24>3.35). It is also observed that insignificant difference was observed in the variable of Muscular endurance (F = 0.054<3.35) at .05 level.

Table-2

Paired Mean Difference for the Data on Speed (50 meter Dash) After Active, Passive and No Warm-up of Cricket Players

Mean Performance on Speed			Mean Difference	Critical Difference
Active Warm-up	**Passive Warm-up**	**No Warm-up**		
7.106	7.156		0.05@	0.456
7.106		7.702	0.596*	0.456
	7.156	7.702	0.546*	0.456

*Significant at .05 level

Table-3

Paired Mean Difference for the Data on Flexibility (Sit and Reach Test) After Active, Passive and No Warm-up of Cricket Players

Mean Performance on Speed			Mean Difference	Critical Difference
Active Warm-up	**Passive Warm-up**	**No Warm-up**		
30.9	30.7		0.2	4.76
30.9		23.9	7.0*	4.76
	30.7	23.9	6.8*	4.76

*Significant at .05 level

Table-4

Paired Mean Difference for the Data on Agility (Semo Agility Test) After Active, Passive and No Warm-up of Cricket Players

Mean Performance on Speed			Mean Difference	Critical Difference
Active Warm-up	**Passive Warm-up**	**No Warm-up**		
10.2	12.9		2.7*	1.869
10.2		13.149	2.949*	1.869
	12.9	13.149	0.249	1.869

*Significant at .05 level

The findings of the above tables revealed that significantly superior performance was shown after active warming-up then followed by passive

Tabulated F $_{.05(2,27)}$=3.35

warming-up and least performance with no warming-up on the performance of speed, Flexibility and agility by the cricketers. It may be because through active warming-up all the systems of the body function optimally viz. energy yielding capacity, neuro- muscular coordination, rhythmic heart and lungs function, secretion of joint fluids for the mobility etc. Hence better performance was observed after a proper active warming-up.

Conclusion

Recognizing the limitations of this study and on the basis of statistical findings the following conclusions are drawn-Optimum speed, flexibility and agility performance were shown after active warm-up. No significance of difference was found in the variable of muscular endurance i.e., sit-up performance due to active, passive and no warm-up.

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