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EFFECT OF OFF-SEASON FITNESS TRAINING PROGRAMS ON SIT UPS PERFORMANCE I.E. MUSCULAR ENDURANCE FEMALE CRICKETERS OF AMRAVATI DISTRICT AMATEUR CRICKET ASSOCIATION, AMRAVATI

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ABSTRACT:

It is experienced that, due to off season training Programs a number of cricketers upgraded their performances at National Level. Therefore researcher was interested in investigating the study entitled as "Off Season Fitness Training Programs and its effect on Muscular fitness of Cricketers." Total 75 Female Cricketers of Amravati District Amateur Cricket Association, who represented interschool or intercollegiate tournaments, were selected as subjects. The age of the selected subjects ranged between 17-25 years. Hence all those subjects selected were the source of data. For the purpose of this study, total 75 Cricketers were selected by adopting Simple Random Sampling Method from the available Cricketers of Amravati District Amateur Cricket Association, All the selected subjects were randomly distributed into three groups in equal numbers. It may be concluded that both sixty and ninety days systematic training Program significantly improve sit ups for muscular fitness performance by the selected subjects. Ninety days systematic training Program is more effective than the sixty days training Program. The post test mean difference of Sit ups for muscular fitness performance between the groups is graphically represented.

KEYWORDS:

INTRODUCTION

It was a common practice that skilled development off-season training programs, a number of cricketers upgraded their performances at national level along with fitness components. Thus, researcher was interested in investigating the study entitled as "Off-Season Fitness Training Programs and its Effect on Muscular fitness of Cricketers." A total of 75 female cricketers of Amravati District Amateur Cricket Association, who represented interschool or intercollegiate tournaments, were selected as subjects. The age of the selected subjects ranged between 17 and 25 years. Hence, all those subjects selected were the source of data. For the purpose of this study, a total of 75 cricketers were selected by adopting a simple random sampling method from the available cricketers of Amravati District Amateur Cricket Association, Amravati. All the selected subjects were randomly distributed into three groups in equal numbers. It may be concluded that both 60 and 90 days systematic training program significantly improve chest circumference of the selected subjects.

METHODOLOGY

Total 75 Female Cricketers of Amravati District Amateur Cricket Association, who represented interschool or intercollegiate tournaments, were selected as subjects. The age of the selected subjects ranged between 17-25 years. Hence all these selected subjects were the source of data.

SELECTION AND GROUPING OF SUBJECTS

For the purpose of this study, total 75 Female Cricketers were selected by adopting Simple Random Sampling Method from the available Cricketers of Amravati District Amateur Cricket Association All the selected subjects were randomly distributed into three groups in equal numbers.

S. No	Group	No. of Subjects	Experimental Treatment
1	Experimental - A	25	Fitness Training for 60 Days
2	Experimental - B	25	Fitness Training for 90 Days
3	Control - C	25	No Fitness Training

SELECTION OF VARIABLES

The selected variables that influence the performance of any game as revealed from the review of professional literature and consultation with experts of this game were taken into consideration. Keeping the above criteria the following variables were selected as they are directly related to the performance of Female cricketers in competitive situation.

SELECTION OF TESTS AND CRITERION MEASURES

Tests were conducted and the criterion measures were adopted as Muscular Endurance. Muscular Endurance: It was measured by using bend knee Sit-ups for one minute

test, and (Abdominal crunches) score was noted down in number

ADMINISTRATION OF TESTS

PURPOSE: To measure the abdominal strength and endurance (Muscular Endurance).

SCORING: The number of completed sit-ups to the nearest whole numbers was recorded as a score for the strength of abdominal muscles.

DETAILS OF EXPERIMENTAL TRAINING PROGRAM

The following tables describe the Weekly Fitness Training Program. The contents of these weekly fitness training programs varied according to each Training period that underwent by the subjects i.e. Training load and Training intensity varied according to each training period.

EXPERIMENTAL TREATMENT – A (60 - DAYS)

Group	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Group A	Warm up Endurance Flexibility Cool down	Warm up Agility Strength Cool down	Warm up Speed Flexibility Cool down	Warm up Endurance Flexibility Cool down	Warm up Agility Strength Cool down	Warm up Speed Flexibility Cool down	REST

EXPERIMENTAL TREATMENT – B (90 - DAYS)

Group	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Group A	Warm up Endurance Flexibility Cool down	Warm up Agility Strength Cool down	Warm up Speed Flexibility Cool down	Warm up Endurance Flexibility Cool down	Warm up Agility Strength Cool down	Warm up Speed Flexibility Cool down	REST

There was no training program for Control Group. Complete training schedule is described in Appendix-A and Appendix-B.

COLLECTION OF DATA: The data pertaining to the present study were collected by administering therefore stated tests for the chosen variables i.e. Anthropometric Measurements and Specific Fitness. The subjects were given a chance to practice the prescribed test so that they become familiar with tests and knew exactly what was to be done. The tests were conducted at the beginning of Experiment. For Experimental group A and control group - C tests were again administered at the end of 60 days. For experimental group B and control group C tests were further administered at the end of 90 days.

SCHEDULED DATE OF TESTING AND TRAINING PROGRAM

Group	Pre Test	Training Program	Post Test
Exp. A	11th April 2013 Anthropometric Characteristics & 12th April Fitness Components	15th April 2013	14th and 15th June 2013 (After 60 Days)
Exp. B	11th April 2013 Anthropometric Characteristics & 12th April Fitness Components	15th April 2013	14th and 15th July 2013 (After 90 Days)
Control C	13th April 2013Anthropometric Characteristics & 14th April Fitness Components	No Training	14th and 15th June 2013 (After 60 Days) 14th and 15th July 2013 (After 90 Days)

TABULATION, ANALYSIS, INTERPRETATION OF DATA: The purpose of the present investigation was to study the effect of off season fitness training programs on Muscular Endurance of components of cricketers.

TABLE-1 SUMMARY OF ONE WAY ANALYSIS OF VARIANCE FOR THE DATA ON SIT-UPS PERFORMANCE OF PRE-TESTS OF EXPERIMENTAL A, EXPERIMENTAL B AND CONTROL C GROUPS

Source of Variance	Degree of Freedom	Sum of Square	Mean Sum of Square	F-ratio
Between the Groups	K-1 3 – 1 = 2	24.83	12.41	1.93@

Within Group	N – K 75 – 3 = 72	463.52	6.44	

@ Not Significant at 0.05 Tabulated $F_{0.05\,(2,\,72\,)}$= 3.11

Findings of the above table reveal that in Pre-Tests there is no significant difference among the mean performance on sit-ups of Experimental A, Experimental B and Control C groups because the calculated F-ratio of 1.93 is less than the tabulated F-value of 3.11 at 0.05 level for the 2/72 degrees of freedom. Since the obtained F-ratio is found to be insignificant therefore Least Significant Difference (LSD) Post Hoc Test is not applied to determine the Paired Mean Difference among the three tests' mean scores.

TABLE - 2MEAN, STANDARD DEVIATION AND T-RATIO FOR THE PRE AND POST TEST OF EXPERIMENTAL A, EXPERIMENTAL B AND CONTROL C GROUPS IN SIT-UPS PERFORMANCE

Group	Test	Mean	Standard Deviation	Mean Difference	Standard Error	t-ratio
Expt. A	Pre	28.48	2.4000	6.64	0.66943	9.919*
	Post After 60 days	35.12	2.3331			
Expt. B	Pre	28.52	2.3116	11.84	0.70238	16.857*
	Post After 90 days	40.36	2.6439			
Cont C	Pre	27.28	2.8653	1.12	0.75392	1.486@
	Post After 60 days	28.40	2.4495			
Cont C	Pre	27.28	2.8653	1.36	0.71508	1.902@
	Post After 90 days	28.64	2.1385			

* Significant at 0.05 level Tabulated $t_{0.05(24)}$ = 2.064 @ Not significant at 0.05 levels

The findings of above table show that there is significant difference in between the Pre and Post test means of Experimental A and Experimental B groups in sit-ups performance as the calculated t-values of 9.919 and 16.857 respectively are greater than the tabulated t-value of 2.064 at 0.05 level of confidence for the 24 degrees of freedom. The Control C groups show no significant difference with calculated t-values of 1.486 and 1.902. It is quite obvious from the above findings that significant improvement in sit-ups performance is observed among the subjects of Experimental A and Experimental B groups due to sixty and ninety days systematic training Program. Moreover it was found that ninety days systematic Program shows more effective than the sixty days systematic training Program. The mean difference of sit ups performance between the pre and post test of Experimental A, Experimental B and Control C groups is graphically depicted in Figure-1.

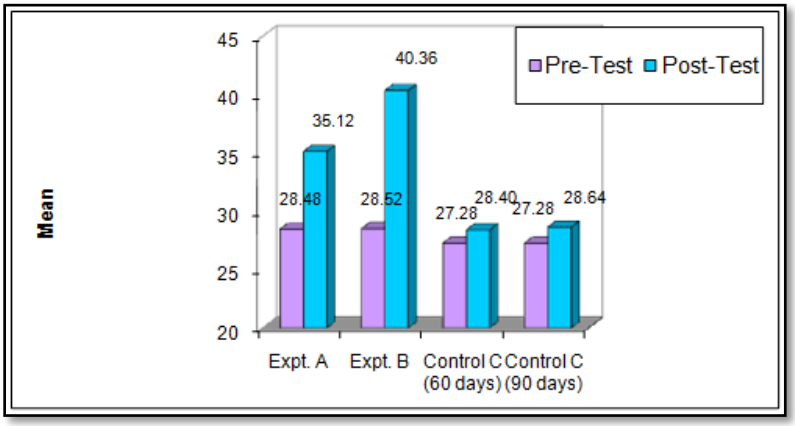

FIGURE-1 MEAN DIFFERENCE OF SIT UPS PERFORMANCE BETWEEN THE PRE AND POST TEST OF EXPERIMENTAL A, EXPERIMENTAL B AND CONTROL C GROUPS

TABLE -3 MEAN, STANDARD DEVIATION AND T-RATIO FOR THE POST TESTS OF EXPERIMENTAL A, EXPERIMENTAL B AND CONTROL C GROUPS IN SIT-UPS PERFORMANCE

Group	Mean	Standard Deviation	Mean Difference	Standard Error	t-ratio
Experimental A	35.12	2.3331	6.72	0.67656	9.933*
Control C (After 60 days)	28.40	2.4495			
Experimental B	40.36	2.6439	11.72	0.68010	17.233*
Control C (After 90 days)	28.64	2.1385			
Experimental A	35.12	2.3331	5.24	0.70522	7.430*
Experimental B	40.36	2.6439			

* Significant at 0.05 level

Tabulated $t_{0.05(48)} = 2.00$

It is observed from Table-45 that there is significant difference in between Post test means of Experimental A & Control C (After 60 days), Experimental B & Control C (After 90 days), and Experimental A & Experimental B groups in sit ups test performance as the calculated t-values of 9.933, 17.233 and 7.430 respectively are greater than the tabulated t-value of 2.000 at 0.05 level of confidence for the 48 degrees of freedom. From the above findings it is inferred that there is significant increase in the sit ups performance for muscular endurance among the selected subjects of Experimental A and Experimental B groups in post test. Hence it is inferred that both sixty and ninety days systematic training program significantly improve the sit ups performance i.e. muscular endurance of the subjects. It is further observed that ninety days program is more effective than the sixty days training program. The post test mean difference of sit ups between the groups is graphically shown on Figure-2.

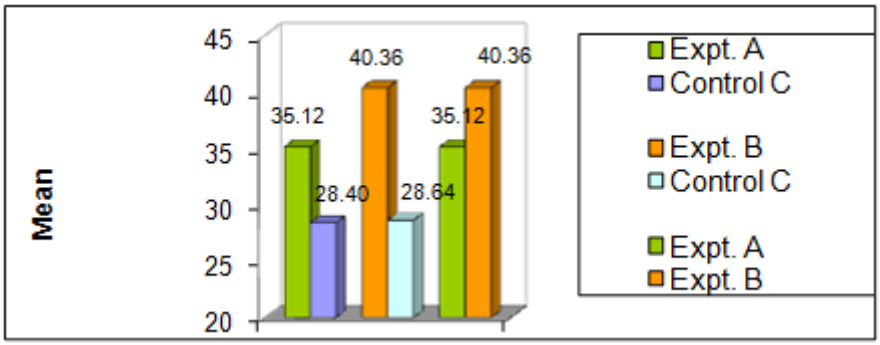

FIGURE – 2 POST TEST MEAN DIFFERENCE OF SIT-UPS TEST PERFORMANCE FOR MUSCULAR ENDURANCE BETWEEN THE GROUPS

CONCLUSION:-

Both sixty and ninety days systematic training program significantly improve the sit ups performance i.e. muscular endurance of the subjects. It is further observed that ninety days program is more effective than the sixty days training program. The post test mean difference of sit ups between the groups is graphically.

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