



EFFECT OF DIFFERENT TRAINING PROGRAMMES ON BODY WEIGHT

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Abstract

The purpose of the present study was to find out the effect of different training programmes such as walking, jogging and running on body weight. To achieve this purpose, forty men staff members of Annamalai University were randomly selected as subjects and their age ranged between 35 to 45 years. They were segregated into four groups, each group consisting of 10 subjects. The first group underwent walking programme for 3 days a week for 12 weeks, the second group underwent jogging programme for 3 days a week for 12 weeks, the third group underwent running programme for 3 days a week for 12 weeks and the fourth group acted as control and did not undergo any systematic training programme. The criterion variable body weight was assessed before and after the training period. The collected data were statistically analyzed by using Analysis of Covariance (ANCOVA). When the *F* ratio of the adjusted post-test mean was found to be significant, Scheffe's post hoc test was employed to find out the paired mean difference. All the data were analyzed using SPSS statistical package. The level of significance was set at 0.05 level. The results of the study shows that the twelve weeks of walking, jogging and running training programme have significantly decreased the body weight in all the three experimental groups as compared to the control group. But there was no significant difference in body weight among the three experimental groups.

Keywords: Walking, Jogging, Running, Training and Body Weight.

INTRODUCTION

Our population is struggling with the illnesses caused due to the lack of exercise. The solution can be involved and complicated but it can also be quiet simple. Walking or jogging or running can be a part of the answer to this growing health concern. The health benefits of walk, jog and running are invaluable and easily attained. Everyone walked or jogged or ran and the amount of activities done during those "pre automotive" days delivered many benefits to the population of our country.

Walking is one of the most popular forms of physical fitness. Walking provides us with many benefits including great exercise, savings on fuel, less highway congestion, less pollution and a great way to lose weight. Walking is a great form of entertainment and exercise. Some of the many things that walking will do for you include strengthening joints and muscles, helping to reduce cardiac disease, improving outlook on life and leaving with an overall sense of well-being. Jogging exercise has become one of the world's most popular sports. The ability to run is one of mankind's most beneficial abilities. And for many reasons, early running kept us free and safe from predators. Since civilization developed, running has continued to serve as a means of recreation and exercise, and there is no need to expound upon the proven health benefits of regular exercise. Running is the best option for those looking to burn fat. By pushing to an extreme level, it forces body to access stored fat for fuel. And since raising heart rate to a high

level, the amount of calories burned is much higher.

One study of the effects of exercise on obesity showed that, to "prevent weight gain," subjects would need to walk a minimum of 6-7 miles per week. That's the equivalent of roughly 2000 steps per day. But, higher amounts may be necessary to achieve weight loss (Slentz et al., 2004). A study compared 30 minutes of continuous walking (single session) with 3 separate 10-minute sessions (multiple sessions) in middle-aged women who were not overweight or obese. The average daily calorie expenditure in the group that exercised for 30-min continuously, spend 2181 kcal/day. The average daily calorie expenditure in the other group was just slightly less: 2121 kcal/day (Fulton et al., 2001). The objective of this study was to find out the effect of different training programmes namely walking, jogging and running on body weight.

METHODOLOGY

For this purpose of the study forty men staff member who did not involve in any vigorous and special physical training programme, working in various department of Annamalai University, Annamalai Nagar, Chidambaram, Tamil Nadu, India, during the year 2012-2013 were randomly selected as subjects and their age ranged from 35 to 45 years. The selected subjects were divided into four groups of ten each. Group I underwent walking programme, Group II underwent jogging programme, Group III underwent running programme,

Group IV considered as control that did not undergo any special training programme. The experimental training programmes were 3 days a week for 12 weeks for the three experimental groups.

TRAINING PROGRAMME

The subjects of three experimental groups underwent their respective training programme for twelve weeks. On every day of the training session the training schedule done were approximately from thirty-five to fifty-five minutes, this included warming up and warming down. Group-IV was instructed not to participate in any strenuous physical exercises. The training schedule for the experimental groups are given below:

- **The walking group** was started with 3200 meters brisk walking and ended with 4100 meters. The 300 meters load was increased every two weeks for twelve weeks.
- **The jogging group** was started with 800 meters jogging with three repetition and ended with 1300 meters jogging with three repetition. Every two weeks 100 meters load was increased for twelve weeks and the recovery (relax) period was given as 400 meters relax walking between the repetition.

BODY WEIGHT

- **The running group** was started with 700 meters running with three repetition and ended with 1200 meters running with three repetition. Every two weeks 100 meters load was increased for twelve weeks and the recovery (relax) period was given as 400 meters relax walking between the repetition.

STATISTICAL ANALYSIS

All the subjects were tested before and after the commencement of the training programme on body weight by using Weighing Machine. The obtained data on body weight was analysed statistically by analysis of covariance (ANCOVA) and Scheffe’s post-hoc test was used when the adjusted post test means were found to be significant. In all the cases, 0.05 level of confidence was fixed to test the significance and was considered as appropriate.

RESULTS

The data collected during pre and post-tests among walking, jogging, running groups and control group on body weight have been analysed statistically and the results are shown in table-1.

TABLE-I

ANALYSIS OF COVARIENCE FOR PRE- AND POST-TEST DATA ON BODY WEIGHT AMONG WALKING, JOGGING, RUNNING GROUPS AND CONTROL GROUP

	Walking group	Jogging group	Running group	Control group	SOV	Sum of squares	df	Mean square	‘F’ ratio
Pre-Test									
Mean	71.98	72.12	71.76	71.46	B:	2.48	3	0.83	0.27
SD	1.75	1.62	2.01	1.61	W:	110.87	36	3.10	
Post-Test									
Mean	68.99	69.46	69.11	70.90	B:	23.28	3	7.76	3.21*
SD	1.77	1.45	1.30	1.67	W:	87.14	36	2.42	
Adjusted Post-Test									
Mean	68.88	69.24	69.16	71.17	B:	32.36	3	10.79	12.87*
					W:	29.34	35	0.84	

* Significant at 0.05 level of confidence.

df-degrees of freedom; SD-Standard Deviation; S.O.V.-Source of Variance .B-Between; W-Within

The table value required for significance at 0.05 level with df 3 &36, and 3 & 35 are 2.87 and 2.87 respectively.

Table-1 further shows that the adjusted post-test mean values for walking group is 68.88, jogging group is 69.24, running group is 69.16 and control group is 71.17, which resulted with an ‘F’ ratio of 12.87 and it is higher than the table value of 2.87 required for df 3 and 35 at 0.05 level of significance.

It is found that significant differences exist among the four groups on body weight. In order to determine which of the paired means have significant differences, Scheffe’s test was computed and it is presented in table-2.

TABLE-II
SCHEFFE'S TEST FOR THE DIFFERENCES BETWEEN THE ADJUSTED POST-TEST
PAIRED MEANS OF BODY WEIGHT

Adjusted Post-Test Means				Means Differences
Walking group	Jogging group	Running group	Control group	
68.88			71.17	2.29*
	69.24		71.17	1.93*
		69.16	71.17	2.01*
68.88	69.24			0.36
68.88		69.16		0.28
	69.24	69.16		0.08

* Significant at 0.05 level.

The confidence interval required for significance at 0.05 level is 1.20.

An examination of the table-2 indicates that the adjusted post-test mean difference of body weight between control group and walking group, control group and jogging group and between control group and running group are 2.29, 1.93 and 2.01 respectively which are higher than the confidence interval value of 1.20 at 0.05 level of significance. It is inferred that the twelve weeks of walking, jogging and running training programme have significantly reduced the body weight for all three experimental groups as compared to the control group.

Table-2 also shows the mean difference between walking group and jogging group is 0.36, walking group and running group is 0.28, and between jogging group and running groups is 0.08 which are lower than the confidence interval value 1.20 at 0.05 level of significance. The result indicated no significant difference in body weight among the experimental groups.

FINDINGS

The walking, jogging and running programmes significantly reduced body weight as compared to control group. The investigator observed a decrease of approximately 3.180 kg body weight for walking group, 2.880 kg decrease for jogging group and only 2.600 kg decrease for running group. Hence, the walking, jogging and running programmes are common methods of training to decrease the body weight in middle aged men. But there were insignificant reduction in body weight between walking, jogging and running groups. The following similar studies supported the present study.

The effect of a moderate exercise regimen on body composition in mildly hyperlipidemic women (mean age 62.0+/-5.7 years), postmenopause was examined. Randomized assignment about walking (n=24) or control (n=16) groups was done. Participants were counselled not to change their diets. Main Results were weight and fat mass decreased significantly in the walkers compared with the controls ($P < 0.05$), as did body mass index ($P < 0.01$). (Ready et al., 1995). A study on body composition and cardiovascular function of middle aged men. Sixteen sedentary men 48.9 years of

age volunteered to train 40 min, 4 times/week, for 20 weeks. Eight controls of similar qualification were also evaluated. Training progressed from 2.5 miles during week/ to 3.25 miles during weeks 16-20. The experimental group showed significant reductions in body weight (-1.3) (Pollock et al., 1971). The effect of a 12-week functional exercise programme on overweight women. Methods, Twenty-six subjects (n=13 exercisers, n=13 controls) aged (mean+/-SD) 63 (+/-4) years completed the study. The exercise sessions were carried out twice each week for 12 weeks. Results: Paired analyses showed that body weight decreased significantly in the exercise group. (Grant et al., 2004). A study on aerobic and anaerobic performance before and after a short-term body mass reduction program in obese subjects (41 females and 19 males; age: 18-68 yr; body mass index, BMI: 40.8 ± 4.8 kg/m²) before and after a 3-week body mass reduction (BMR) program, The daily conditioning protocol (5 days/week) consisted of: 1) 30 min of indoor jogging and dynamic aerobic standing and floor exercises performed with arms and legs, under the guidance of a therapist; 2) 30 min of cycloergometer exercise at 60 W; and/or 3) 4-km outdoor leisure waling on flat terrain. Three weeks of BMR program induced a significant weight loss (Sartorio et al., 2001). The American College of Sports Medicine and the American Heart Association have provided recommendations for the amount and intensity of physical activity needed to promote and maintain health, and lose weight (Donnelly et al., 2009, and Haskell et al., 2007).

CONCLUSION

Based on the result of the study the following conclusion was drawn:

Walking, jogging and running training programme showed significant reduction in body weight as compared to control group. But walking, Jogging and running training programme groups showed insignificant difference in body weight indicating that one group is not better than other in bringing out significant changes.

REFERENCES

1. Fulton, J.E. and L.C. Masse, S.R. Tortolero. (2001) "Field evaluation of energy expenditure from continuous and intermittent walking in women." *Med. Sci. Sports. Exerc.* 33.
2. Slentz, C.A. and B.D. Duscha, J.L. Johnson, (2004) "Effects of the amount of exercise on body weight, body composition, and measures of central obesity." *Archives of Internal Medicine.* 164(1).
3. Ready AE, Drinkwater DT, Ducas J, Fitzpatrick DW, Brereton DG, Oades SC. (1995) Walking program reduces elevated cholesterol in women postmenopause. *Can J Cardiol.* Nov;11(10):905-12. PubMed PMID:489529.
4. Michael, L. Pollock, Henry s. Miller, JR., Richard Janeway, A. C. Linnerud, Bob Robertson and Richard Valentino (1971) "Effect of walking on body composition and cardiovascular function of middle aged men." *Journal of Applied Physiology.* 30 (1)
5. Grant S, Todd K, Aitchison TC, Kelly P, Stoddart D. (2004) "The effects of a 12-week group exercise programme on physiological and psychological variables and function in overweight women". *Public Health.* Jan;118(1):31-42. PubMed PMID: 14643625.
6. Sartorio A, Narici MV, Fumagalli E, Faglia G, Lafortuna CL. (2001)"Aerobic and anaerobic performance before and after a short-term body mass reduction program in obese subjects". *Diabetes Nutr Metab.* Feb;14(1):51-7. PubMed PMID: 11345166.
7. Donnelly, J.E. and S.N. Blair, J.M. Jakicic, M.M. Manore, J.W. Rankin, B.K. Smith. "American College of Sports Medicine position stand. Appropriate physical activity intervention strategies for weight loss and prevention of weight regain for adults." *Med. Sci. Sports Exerc.* 41:(2009).
8. Haskell, W.L. and I.M. Lee, R.R. Pate, K.E. Powell, S.N. Blair, B.A. Franklin, et al. "Physical activity and public health: Updated recommendation for adults." from the American College of Sports Medicine and the American Heart Association *Med. Sci. Sports Exerc.* 39: (2007).