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# INFLUENCE OF VARIED INTENSITY OF WALKING ON SELECTED MUSCULAR STRENGTH, BLOOD PRESSURE (SYSTOLIC) BLOOD PRESSURE (DIASTOLIC) VARIABLES AMONG MIDDLE AGED MEN

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***Abstract*:** Today's people are leading a very unhealthy lifestyle. Inadequate sleep, eating disorder, lack of proper regular exercise, increased rate of obesity and other health diseases, shooting stress levels are some of the facts that define the contemporary world's lifestyle. It can be said that in the present era, human beings have got so engrossed in earning money, that they have virtually stopped paying attention to their physical and mental fitness. The purpose of the study was to find out the influence of varied intensity of walking on selected muscular strength, Blood pressure (Systolic) and Blood pressure (Diastolic) variables among middle aged men. To achieve this purpose, sixty men subjects who were not involved in any vigorous physical training programme at the age ranging from 35 to 45 years were selected from in and around Tirunelveli city. The selected subjects were divided into three groups at random with 20 each. In the Twenty men subjects would serve as control group and the remaining Forty would undergo systematic walking training, among forty, twenty for LIG and remaining twenty for HIG under the supervision of researcher. The control group did not undergo any special training programme. The selected subjects were medically examined by a qualified medical person for undergoing the training programme. The scheffe's test was used as post-hoc test to determine which of the paired means differed significantly where the differences in adjusted posttest means resided in univariate ANCOVA among three groups. All of the statistical analysis tests were computed at 0.05 level of significance ($P<0.05$).

***Index Terms: Walking, High Intensity, Low Intensity, Muscular Strength, Blood Pressure***

## 1. INTRODUCTION

Walking has many health benefits. It can reduce the risk of many diseases like heart attack, stroke, depression, colon cancer, constipation, osteoporosis, and impotence. It helps cure sleeplessness. Walking is generally distinguished from running in that only one foot at a time leaves contact with the ground.

In studying middle age, it becomes clear that it is a distinctive life stage. Middle-agers think more in terms of how much time is left instead of their time from birth.

Men define themselves in terms of their work. Men at middle age feel job pressure or job boredom. Some men may redirect their personal career advancements towards philanthropy. Others may realize they cannot attain their goals and involving in eating and drinking to cope with their disillusion or failure. A benefit to middle age in males is that they show less aggressiveness and less concern for power. The men have more of a present time orientation. At this period they turn towards family. They are more nurturing than in early years.

## 2. METHODOLOGY

The aim of this study was to determine the effect of walking on different aspects of selective muscle stren gth and bloodpressurechanges in middleaged men. To achieve this purpose, sixty men subjects who were not involved in any vigorous physical training programme at the age ranging from 35 to 45 years were selected from in and around Tirunelveli city. The selected subjects were divided into three groups at random with 20 each. In the Twenty men subjects would serve as control group and the remaining Forty would undergo systematic walking training, among forty, twenty for LIG and remaining twenty for HIG under the supervision of researcher. The control group did not undergo any special training programme. The selected subjects were medically examined by a qualified medical person for undergoing the training programme. The training group meets regularly from 6 am for the 12 week training. Subjects in each group were taught from 7 am to 7 pm, six days a week. They were divided into two groups: low walking group (LIWG) and high walking group (HIWG). Researchers showed the low walking group 50% in the first two weeks and then did this once a week. Increase the intensity by 2% each week. The same method was followed for the high intensity walking group, but the researchers started with 70% percent each week. Teach them only in the morning session and try to make the groups equal by circling the group at the same time.

## 3. ANALYSIS OF DATA AND RESULTS OF THE STUDY

**TABLE I**

**Means, Standard Deviations and Adjusted Means among Experimental and Control Groups on muscular strength and Blood Pressure**

*****Significant at .05 level. The table value required for .05 level of significance with df 19 is 1.729.

| Criterion Variable | High Intensity Walking Group | | | | Low Intensity Walking Group | | | | Control group | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Pre test | Post test | Adjusted post-test means | t test | Pre test | Post test | Adjusted post-test means | t test | Pre test | Post test | Adjusted post-test means | t test |
| Muscular Strength | 36.350 | 40.550 | 40.385 | 18.685 | 36.000 | 38.900 | 38.939 | 15.218 | 35.850 | 36.200 | 36.326 | 1.584 |
| | 0.671 | 0.999 | | | 0.725 | 1.119 | | | 0.671 | 0.834 | | |
| Blood Pressure (Systolic) | 138.100 | 134.650 | 134.689 | 7.874 | 137.150 | 135.050 | 135.029 | 4.765 | 137.200 | 137.050 | 137.032 | 0.234 |
| | 1.373 | 1.089 | | | 1.631 | 1.234 | | | 1.852 | 2.064 | | |
| Blood Pressure (Diastolic) | 92.500 | 87.800 | 87.789 | 13.479 | 92.550 | 87.350 | 87.321 | 12.554 | 92.350 | 91.500 | 91.540 | 1.686 |
| | 1.606 | 1.542 | | | 1.276 | 1.424 | | | 1.182 | 2.188 | | |

The table I show that the obtained dependent t-ratio values between the pre and post test means on muscular strength and Blood Pressure of High Intensity Walking Group, Low Intensity Walking Group and control groups are 18.685 and 7.874, 13.479 and 15.218, 4.765 and 12.554 and 1.584, 0.234 and 1.686 respectively. The table value required for significant difference with df 19 at .05 level is 1.729. Since, the obtained‘t’ ratio value of experimental groups are greater than the table value, it is understood that training programmes had significantly improved the performance of muscular strength and muscular endurance.

However, the control group has not improved significantly as the obtained 't' value is less than the table value, because they were not subjected to any specific training.

**TABLE II**

**Analysis of Covariance of High Intensity Walking Group, Low Intensity Walking Group and control groups on muscular strength and Blood Pressure**

| Criterion Variable | | Sources of Variance | Sum of Squares | df | Mean Squares | F-Ratio |
|---|---|---|---|---|---|---|
| Muscular Strength | Pre test | Between | 2.633 | 2 | 1.317 | 2.769 |
| | | Within | 27.100 | 57 | 0.475 | |
| | Post test | Between | 192.900 | 2 | 96.450 | 98.260* |
| | | Within | 55.950 | 57 | 0.982 | |
| | Adjusted Post test | Between | 156.507 | 2 | 78.254 | 93.644* |
| | | Within | 46.796 | 56 | 0.836 | |
| Blood Pressure(Systolic) | Pre test | Between | 11.433 | 2 | 5.717 | 2.150 |
| | | Within | 151.550 | 57 | 2.659 | |
| | Post test | Between | 66.133 | 2 | 33.067 | 14.230* |
| | | Within | 132.450 | 57 | 2.324 | |
| | Adjusted Post test | Between | 62.627 | 2 | 31.313 | 13.301* |
| | | Within | 131.836 | 56 | 2.354 | |
| Blood Pressure (Diastolic) | Pre test | Between | 0.433 | 2 | 0.217 | 0.116 |
| | | Within | 106.500 | 57 | 1.868 | |
| | Post test | Between | 207.433 | 2 | 103.717 | 33.830* |
| | | Within | 174.750 | 57 | 3.066 | |
| | Adjusted Post | Between | 213.093 | 2 | 106.547 | 36.800* |
| | | Within | 162.138 | 56 | 2.895 | |

*significant at .05 level of confidence. (the table value required for significance at .05 level with df 2 and 57 and 2 and 56 are 3.162 and 3.166, 3.162 and 3.166, 3.162 and 3.166respectively

From the table II, the obtained F-ratio for pretest is 2.769, 2.150 and 0.116 which is greater than the table value of 3.162 and 3.166 with df 1 and 56 required for significance at 0.05 level of confidence. The result of the study indicates that there was significant difference among the pre test means of High Intensity Walking Group, Low Intensity Walking Group and control groups on muscular strength and muscular endurance.

Table II also shows that the obtained F-ratio value is 93.644*, 13.301* and 36.800*which is higher than the table value 3.162 and 3.166 with df 2 and 56 required for significance at .05 level. Since the value of F-ratio is higher than the table value, it indicates that there is significant difference among the adjusted post-test means of High Intensity Walking Group, Low Intensity Walking Group and control groups. To find out which of the three paired means had a significant difference, the Scheffe's post-hoc test was applied and the results are presented in Table III.

**TABLE III**

**Scheffe's Test for the Differences between the Adjusted Post Test Paired Means of muscular strength and Blood Pressure**

| Adjusted Post Test Mean | | | | | | |
|---|---|---|---|---|---|---|
| **Criterion Variable** | **High Intensity Walking Group** | **Low Intensity Walking Group** | **Control Group** | **Mean Differences** | **C.I. Value** | **Result at 5% Level** |
| Muscular Strength | 40.385 | 38.939 | | 1.447 | 0.727 | Sig |
| | 40.385 | | 36.326 | 4.059 | 0.727 | Sig |
| | | 38.939 | 36.326 | 2.613 | 0.727 | Sig |
| Blood Pressure (Systolic) | 134.689 | 135.029 | | 0.340 | 1.221 | N.S |
| | 134.689 | | 137.032 | 2.343 | 1.221 | Sig |
| | | 135.029 | 137.032 | 2.003 | 1.221 | Sig |
| Blood Pressure (Diastolic) | 87.789 | 87.321 | | 0.467 | 1.354 | N.S |
| | 87.789 | | 91.540 | 3.752 | 1.354 | Sig |
| | | 87.321 | 91.540 | 4.219 | 1.354 | Sig |

*Significant at .05 level.

Table III shows that the adjusted post test mean differences on muscular strength between the high intensity walking group, low intensity walking group; high intensitywalking group and control group; low intensity walking group and control group were 4.059, 2.613and 1.447.respectively. The values are greater than the confidence interval value 0.727, which shows significant difference at .05 level of confidence.

Blood pressure (systolic)between the high intensity walking group, low intensity walking group; high intensity walking group and control group; low intensity walking group and control group were 2.343, 2.003 and 0.340 respectively. The values are not greater than the confidence interval value 0.626, the value between high intensity walking group, low intensity walking group and control group is only significant difference at .05 level of confidence.

Blood pressure (diastolic) between the high intensity walking group, low intensity walking group; high intensity walking group and control group; low intensity walking group and control group were 3.752, 4.219 and 0.467 respectively. The values are not greater than the confidence interval value 0.626, the value between high intensity walking group, low intensity walking group and control group is only significant difference at .05 level of confidence.

## 4. CONCLUSION

The following conclusions were derived from the analysis.

1. It was found that the High intensity walking group (HIWG) showed better result on the variables Muscular strength for middle aged men.
2. Blood pressure there was a significant change between the experimental groups and control groups of in mean time. There was no markable improvement between the experimental groups namely HIWG and LIWG.

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