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EXAMINING THE EFFECTS OF LOW INTENSITY TREADMILL WORKOUTS ON CARDIOVASCULAR FITNESS IN SEDENTARY STUDENTS

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Abstract:

Aims

The primary aim of the study was to examining the effects of Low Intensity Treadmill Workouts on Cardiovascular Fitness in sedentary students.

Target population

Only one group was targeted as an experimental group, there was no control group. The 15 male participated in the study and their age ranged between 19-28 years. The all students are sedentary and not participation any sporting or physical activities Exclusion criteria were the presence of any chronic disease that would put the subjects at risk when performing the experimental tests.

Training program

Experimental group participated in Low IntensityTreadmill Workouts Training program which was conducted for four-week, four days in a week and 15 minutes in a day. After the pre-test was over, the entire selected subjects were exposed to four-weekTreadmill Workouts.

Findings

The findings of the study showthat four-weekTreadmill Workoutsintervention programme. Diastolic blood pressure and heart was decrease due to Low IntensityTreadmill Workouts Training program.

Suggestion

The findings of the study will be proposing a new conceptual model that may assist the government in framing new policies and strategies to manage the health related problem

Keywords: RHR, SBP, DBP

ORIGIN OF THE PROBLEM

Sedentary lifestyle is contributing factors for Heart diseases, including coronary artery disease and heart attack., diabetes , obesity, muscle weakening , High cholesterol, Stroke, Certain cancers, including colon, breast, and uterine cancers. A Sedentary lifestyle is a type of lifestyle in which one is not Participated in physical or sporting activity or life with exercise (Sassos 2020) A person living a sedentary lifestyle is often sitting or lying down while engaged in an activity like playing video games, reading or using a mobile phone or computer for much of the day, socializing and watching TV,. A sedentary lifestyle contributes to poor cardiovascular health, diseases as well as many preventable causes of death (Owen et.al 2020). Treadmill workout offers many benefits. Treadmill workout may boost stamina to

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help you exercise longer, improve blood flow, and help lower blood pressure. It may also help to , weight loss, improve endurance, control blood sugar, increase HDL (good) cholesterol levels, improve memory and cognition, protect against Alzheimer's, promote healthier skin, strengthen muscles, decrease fatigue, decrease joint stiffness, relieve stress and anxiety, promote better sleep, increase energy levels, boost your immune system and improve sexual arousal.

Treadmills is a most popular workout machines on the gym. treadmill workouts can benefit your health, both mentally and physically. The treadmill is a hugely popular aerobic exercise machine. Aside from being a versatile cardio machine, a treadmill can also helpto manage stress level (https://www.healthline.com/health/treadmill-weight-loss#other-benefits). Treadmills are mostly used for cardio training and aerobic in Nature. However, this fitness machine can be used for more boosting your cardiovascular health.Treadmills provide outstanding cardiovascular exercises, which can significantly enhance cardiovascular health. Treadmill workout maintain constant heart rates (https://healthytalbot.org/topics/7-ways-treadmill-workouts-can-benefit-your-health/). Additional benefits of treadmill exercise is to Improves the muscles' ability to pull oxygen out of the blood, reducing the need for the heart to pump more blood to the muscles.

METHODS

In this study, the researcher Follow the ethical guidelines, principles, and standards for studies conduct with human beings. The study was including safeguards for protecting humans, which involve three major ethical principles: beneficence, respect for human dignity, and human justice.Only one group was targeted as an experimental group, there was no control group.

The 15 male sedentary students from SRTM University, participated in the study and their age ranged between 19-28 years. Experimental design for this study involves a cross sectional, comparative pre and post-testsingle experimental design. The cardiovascular fitness measure through Systolic and Diastolic blood pressure and Resting heart rate.This study involves an experiment of sedentary students on quasi experimental research design.

Demographic information:

The data was collected through respondents in the form of different descriptive tests. The demographic information about, age, heightweight, daily smoking etc. was obtained before seeking responses.

Training Intervention program:

For this study, the members of Swami RamanandTreethMarathwada University's students were selected as the subjects. The age of subjects ranged between 19 to 20 years and they were studying in Academic year 2015-2018. All students are sedentary in nature and not participation in any sporting or physical activities regularly.

Experimental group participated in treadmill workout training program which was conducted for 4 weeks and 4 days in a week and 15minutes in a day at 6.5 km speed. The standard treadmills of Aerofit were used to training program. Before exercise pre-test done by departmental fitness centre.The blood pressure and heart rate were measure though the digital blood pressure monitor of Amron.

Data processing:

The data was checked for accuracy and completeness and was coded and put up into the SPSS Descriptive statistics for all studied variables, mean, standard deviation and t-ratio, were considered statistically technique throughout the study and the level of significant was set-up at 0.05 level.

RESULTS AND DISCUSSION

The results concerning of thisresearch are presented in the form of tables and also illustrated with the help of suitable figures wherever necessary. For the sake of convenience and methodical presentation of the results, following order has been adopted**.**

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Table1 : shows the range of Blood pressure as per the American Heart association .

BLOOD PRESSURE CATEGORY	SYSTOLIC mm Hg (upper number)		DIASTOLIC mm Hg (lower number)
NORMAL	LESS THAN 120	and	LESS THAN 80
ELEVATED	120 – 129	and	LESS THAN 80
HIGH BLOOD PRESSURE (HYPERTENSION) STAGE 1	130 – 139	or	80 – 89
HIGH BLOOD PRESSURE (HYPERTENSION) STAGE 2	140 OR HIGHER	or	90 OR HIGHER
HYPERTENSIVE CRISIS (consult your doctor immediately)	HIGHER THAN 180	and/or	HIGHER THAN 120

Table 2: Pre and post-test of Systolic (SBP) and Diastolic (DBP) blood Pressure among students

Blood pressure	Stages	No.	Mean Scores	Standard Deviations	T-ratio
Systolic (SBP)	Pre Test	15	124.67	8.46	**1.78NS**
	Post Test	15	121.57	7.33	
Diastolic (DBP)	Pre Test	15	85.78	5.67	**2.34 ***
	Post Test	15	80.45	5.35	

Table-, Shows, Mean scores and SDs of pre and post- test of Systolic and Diastolic Blood Pressure of students.

The Pre-test mean score of SBP was 124.67 and the post test was 121.57 respectively of sedentarystudents. Whereas, the of Pre-test SDs of SBP was 8.46 and post-test was 7.33 recorded respectively of students.Furthmore, the Pre-test mean score of DBP was 85.78and the post test was 80.45 respectively of sedentary students.

Whereas, the of Pre-test SDs of DBP was 5.67 and post-test was 5.35 recorded respectively of students.The findings of the study indicate that, there were significant effects of treadmill work outon Diastolic (DBP) blood Pressure but no significant effects were found in Systolic (SBP) blood Pressure.

Diastolic (DBP) blood Pressuresignificantly decreases after four weeks of treadmill workout training program .

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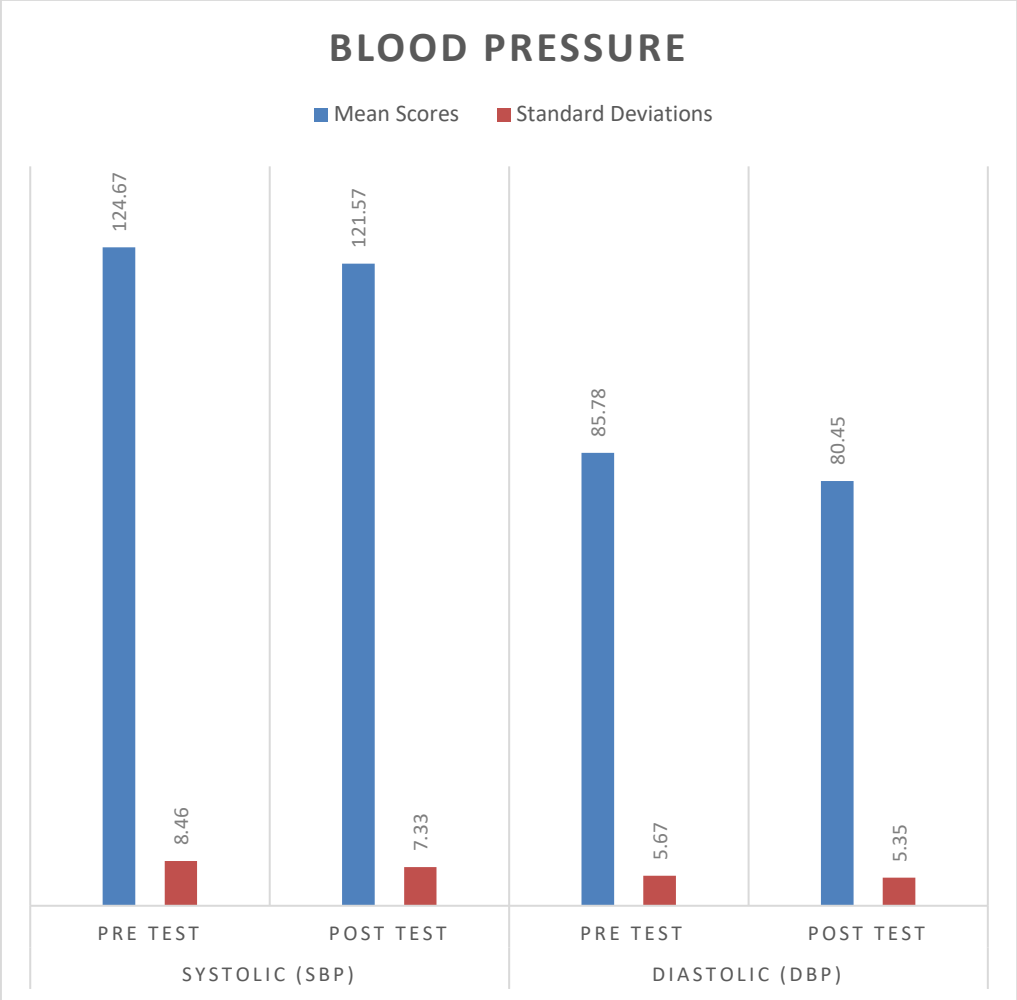

Figure : 1 Pre and post-test of Systolic (SBP) and Diastolic (DBP) blood Pressure among students

Table :3 Pre and post-test of Resting Heart Rate (RHR) among students

Components	Test	No.	Mean	Std. Deviation	T-ratio
Resting Heart Rate (RHR)	Pre-test	15	78.84	6.67	P,<.05*
	Post-test	15	71.45	5.89	

Table -9 indicates, the Pre-test mean score of Resting Heart Rate (RHR) among students was78.84 and the post test was 71.45 obtained respectively of sedentary students.

Whereas, the of Pre-test SDs of Resting Heart Rate (RHR) was6.67 and post-test was 5.89 recorded respectively of students.

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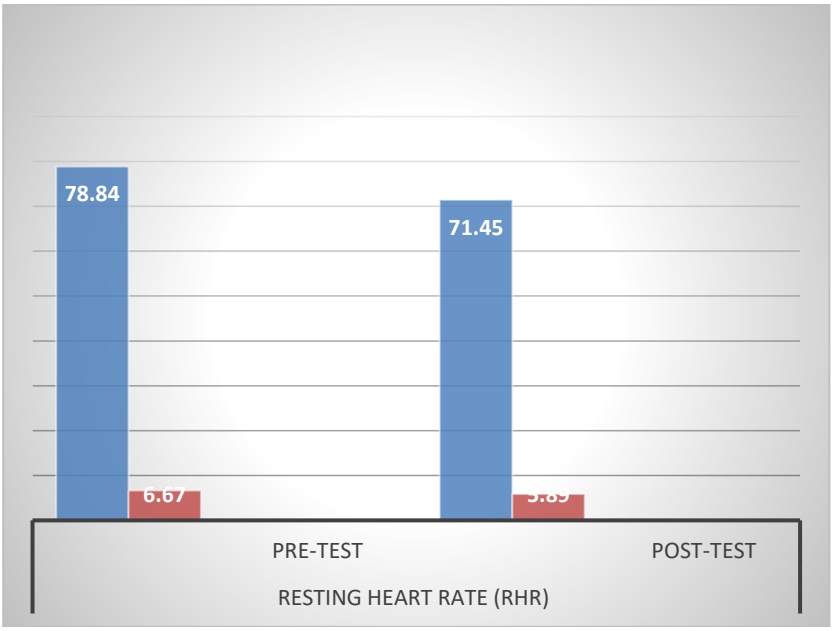

Figure :3 Pre and post-test of Resting Heart Rate (RHR) among students

DISCUSSION

The findings of the study reveals that the mean values and SDs of SBP and DBP were decreases and significant effects ofLow intensity Treadmill Workouts(similar type of aerobic exercise) was found DBP of students. Blood pressure is the force of blood that pushes against the walls of the arteries.

It is measured in millimeters of mercury (mm Hg), and it is assessed using two numbers: systolic and diastolic (https://www.medicalnewstoday.com/articles/288229). Systolic blood pressure refers to the force of blood pushing against the artery walls when the heart beats, while diastolic blood pressure refers to blood pressure between heartbeats (https://www.medicalnewstoday.com/articles/288229). High blood pressure occurs when this force becomes too high.

If uncontrolled, it can increase the risk of heart disease, heart attack, and stroke.A systolic blood pressure of 130–139 mm Hg or a diastolic blood pressure of 80–89 mm Hg is classed as stage 1 hypertension, while a systolic blood pressure of 140 mm Hg or higher or a diastolic blood pressure of 90 mm Hg or higher is categorized as stage 2 hypertension (Americal Heart association) The result of the study indicates the significant effects of treadmill workout was found in Resting Heart Rate (RHR) among students. The findings of the study reveal Resting Heart Rate (RHR) were decreases after four week of treadmill workout training program.

Heart rate is measured in beats per minute (bpm). During exercise the heart rate increases so that sufficient blood is taken to the working muscles to provide them with enough nutrients and oxygen. An increase in heart rate also allows for waste products to be removed (https://www.bbc.co.uk/bitesize/guides/zcn6sg8/revision/3). Treadmills provide outstanding cardiovascular exercises, which can significantly enhance blood pressure and heart rate or heart health. Treadmill workout maintain constant heart rates.

IMITATIONS OF THE RESEARCH

Results of this study are limited by a relatively small preliminary experimental group rather than a study of actual behaviour, which would be very difficult to achieve. The research suggested that more research should be needed on related topic

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E - Resources

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https://www.urmc.rochester.edu/encyclopedia/content.aspx?ContentTypeID=1&ContentID=2151

Web site: http://www.mayoclinic.com/health/cholesterol-test/my00500

