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The Effect of Eight Weeks of Aerobic Training on Reducing Mood Disorders, Depression And Mania in High School Students High School Boys

Mohsen piri

Physical Education Teacher educational in Ilam, Iran

mpiri16@yahoo.com

Shirin zardoshtian

Member, (PH.D) Razi University, Iran

Shahrzad Khazaee

Student, (MA) Razi University, Iran

Roghieh piri

Student, (MA) Razi University, Iran

Abstract

The aim of this study was to consider the effect of eight weeks of aerobic training on the reduction of mood disorders, depression and mania in boys' high school in Ilam-Iran. This was a quasi-experimental and field research taking the experimental and control groups into consideration. In this study, 60 students were randomly selected as the sample. In order to measure students' Depression and mania, multifaceted Minnesota questionnaire (MMPI-2) and depression and mania sub-scales were used. We applied both descriptive and inferential statistics using SPSS software for statistical analysis of data. The results showed that eight weeks of aerobic exercise had a significant effect on students` depressive disorders and mania. Eight weeks of aerobic exercise reduced depression and mania in experimental group of students.

Keywords:

Aerobic exercise, depression, mania

Introduction

According to the World Health Organization (1998) reports, prevalence of psychiatric and neurological disorders 3 to 15-year old children in developing and developed countries is about

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5 to 15 percent. About 20 percent of children in these communities suffer from certain behavioral disorder.

Depression is the most common disease of this century. Depression is the most common mental illness that causes dysfunction in all aspects of a person's life and leads to substance abuse, antisocial behavior, Irritability, running away from school and lack of hygiene in the youth.

Mania: Is a stage of bipolar disorder accompanied with a high excitement and overexertion and speed of thought and opinion, and an associated psychiatric symptom that cause severe physical activities and high emotion as euphoria and anger.

Aerobic activities: Aerobic exercise refers to activity that is of moderate intensity and is carried out for a long time 5 to 10 minutes at the intensity equivalent to 50 to 60 percent of maximum oxygen uptake.

Exercise science researchers regard exercise as a means to deal with the pressures and anxieties of life and physical forces. Exercise, especially jogging in a long time eases psychological pressures including anxiety, depression and other psychological pressures. Most researchers have focused on aerobic activity for physical and mental health among, so Cooper says complete health issue for many professionals' starts with wonderful aerobic exercise.

Lpamaky (2002) conducted a study entitled physical activity reduces symptoms of depression on 80 individuals. The results showed that physical activity significantly reduced symptoms of depression and mood.

Rosa et al. (2004) in a research concluded that a significant reduction had been developed in depression and mood changes after exercise test. Ivan et al. (2007) in their investigation as to provide an effective exercise for improving mental health and improve quality of life concluded that 24 weeks of aerobic exercise and weight training was effective for improving mental health.

This study aims to evaluate the effect of aerobic activity on mood disorders to engage students by offering solutions that help to develop the mental health.

Materials and Methods:

This method is quasi-experimental and field research conducted using the experimental and control groups. In this study, to measure depression and mania, multifaceted Minnesota questionnaire (MMPI-2) was administered with subscales of and mania containing 20 depression questions 11 mania questions.

Study population consisted of all boys in high schools l in Ilam in the academic year 2010-11. Multi-stage random cluster sampling technique was performed and 60 individuals participated

in the study as a random sample .Then, 30 students were assigned as the experimental group and 30 were selected as controls.

The subjects were matched in the experimental group and control group and were exposed to aerobic exercise for eight weeks and three sessions per week for 40 minutes. At the beginning of each session, experimental group had 10 minutes to warm up and then 20 minutes to run and perform a variety of exercises and aerobic exercises and at the end of each week (third session of each week); they were given the Cooper test. Here, 55 to 65% intensity aerobic exercise (VO_2 max) was considered. Of course, the control group during this period did no exercise at all. After eight weeks of training, re-examination of mood disorders (depression and mania) between experimental and control groups was performed and the results were compared.

Statistical analysis was carried out using SPSS software for both descriptive statistics including mean, standard deviation and relevant diagrams and inferential statistics including t-independent, t-dependent ,analysis of covariance ($p<0.05$).

Findings

Table 1, the distribution of subjects with depressive disorder - mania, depression and mania disorder according to their academic grade

Variable	Groups		
	Test	Evidence	Total
	Frequency	Frequency	Frequency
Depression - Mania Disorder	10	10	20
Depression Disorder	9	10	19
Mania Disorder	10	10	20

Table (2), Dependent t test results to compare the depression mean in pretest and posttest in the experimental group

Variable	Groups		
	Test	Evidence	Total
	Frequency	Frequency	Frequency
Depression - Mania Disorder	10	10	20
Depression Disorder	9	10	19

Mania Disorder	10	10	20

Table (3), dependent -T test for mania mean in pretest - posttest of experimental group

Variable	Groups	MD	SD	Difference Means	DF	T	P
Mania Disorder	Pre Test	10.20	0.422	3.50	9	4.97	0.001
	Post Test	6.70	2.35				

Table (4), Dependent t test for comparison of depression – mania mean in pre - post-test of experimental group

Variable	Groups	MD	SD	Difference Means	DF	T	p
Depression - Mania Disorder	Pre Test	10.55	0.762	3.70	9	6.68	0.001
	Post Test	6.85	1.47				

Table (5), independent -T test for the mean difference (pretest - posttest) of depressive disorder score in control the group

Groups	MD	SD	Difference Means	DF	T	p
Depression Disorder	Test	5.70	1.94	18	2.75	0.014
	Evidence	2.60	3.20			

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Table (6), mania test results to compare the mean difference between experimental and control groups (pretest - posttest)

Groups	MD	SD	Difference Means	DF	T	p
Mania Disorder	Test	3.50	2.22	18	1.72	0.103
	Evidence	2.00	1.63			

Table (7), T test for independent groups to compare the mean difference (pretest - posttest) score of depressive - mania disorder in experimental and control groups

Groups	MD	SD	Difference Means	DF	T	p
Depression - Mania Disorder	Test	3.70	1.75	18	3.03	0.007
	Evidence	1.05	2.14			

Conclusion

The results showed that eight weeks of aerobic exercise had a significant impact on high school boys' depressive disorder. Eight weeks of aerobic training, also, indicated a significant difference in depression between students exercised and students who did not have aerobic training.

Study results are consistent with those of Morrison (2005), Kirby (2005) and Lpamaky (2002). In addition, some research underscored the importance of certain aerobic sports such as yoga, swimming and football on the reduction of depression and concluded that the overall movement, activity and exercise are important in reducing depression.

The results showed that eight weeks of aerobic training had significant effect on high school boys' mania disorder. Meanwhile, there was no significant difference in terms of mania in students who did aerobic training and ones who did not.

The results showed that eight weeks of aerobic exercise had a significant impact on depressive - manic disorder in high school boys. oslA ,there was a significant difference in terms of depression – mania in the boys exercising and the ones who did not.

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The results of this research study are consistent with the results of Annecy et al (2005), Lpamaky et al (2004) and Rosa et al (2004). Results indicate a significant impact of aerobic activity on the reduction of mood disorders (depression - mania) in the test group than the control group.

It is recommended that attention to be paid to developing physical education activities in schools that high school students exercise aerobic activity three times a week to 65-55% Vo_2.

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