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Effect of Different Exercises on Reducing Male Students Depression

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ABSTRACT

The purpose of this research was to study the effect of different exercises on reducing male students depression. 60 male students with high depressive from 5 geographic point of Tabriz (North, South, Central, East, West), were chosen randomly and divided into four groups (swimming, football, track and field and control). They were tested by Beck Depression questionnaire. Experimental groups were presented exercises for three months, each week two sessions (each session one hour and half). At the end of experiment second test was taken and the results were compared by t test. The results showed after three months of practicing swimming, track and field and football, there was a significant reduction in students depression rates between swimming, track and field and football groups with control group.

Key words: depression, exercise, Beck test.

INTRODUCTION

Depressive disorders have been with mankind since the beginning of recorded history. Hippocrates referred to depression as melancholia, which literally means black bile. Black bile, along with blood, phlegm, and yellow bile were the four humors (fluids) that described the basic medical physiology theory of that time. Depression, also referred to as clinical depression, has been portrayed in literature and the arts for hundreds of years [2]. It is one of the problems effects human body and his spirit and even sometimes the whole society and causes one to be isolationist, physically ill such as, digestive disorders, weight loss, sleep disorders and chronic stages to the brink of suicide. Depression is a complicated illness, which can involve a number of contributing factors such as genes, environment, lifestyle, brain activity, psychology and personality. Depression becomes more in communities after revolution and war. Exercise approaches as a new treatment and without any side effect can have a great influence on treatment of depressed ones. Then, in this research we decided to study the following assumptions whether there is apparent relation with lower rates of depression among students doing exercises such as, swimming, football and running. Many studies indicate that people

who exercise regularly benefit with a positive boost in mood and lower rates of depression. Regular exercise has been proven to help reduce stress, ward off feelings of depression, boost self-esteem and improve sleep. Salehian *et al.* (2011) studied the rate of depression among university male athletes and non-athletes and found a significant difference between them. One research study compared the effects of exercise and drug therapy in treating depression in older people [12]. The 156 depressed men and women were divided into three groups. Over 16 weeks, one group took antidepressants, the second group undertook an aerobic exercise program and the third group used both medications and exercise. The results demonstrated that all participants in all three groups improved. The participants taking antidepressants improved the fastest. 68.8 per cent of participants in the combination group were no longer classified as clinically depressed after treatment. 60.4 per cent of participants in the exercise group were no longer classified as clinically depressed after treatment and 65.5 per cent in the medication group were no longer classified as clinically depressed after treatment [10].

However, when the research done on adolescents and young people is pooled, there are not many studies and, although some benefits are found for depression and anxiety, the benefits are relatively small.

MATERIALS AND METHODS

Present research was a semi-experience among high school students in Tabriz. 225 male students from 5 geographic point of Tabriz (North, South, Central, East, West), were chosen randomly to determine the prevalence rate of depression among students. They were tested by Beck Depression questionnaire. After the diagnosis prevalence rate, 60 of them with high depressive (moderate to deep depression) randomly were divided into four groups (swimming, football, track and field and control). To recognize whether suitable groups have been selected or not, first test scores were compared with control group by independent T test. Experimental groups were presented exercises for three months, each week two sessions (each session one hour and half). At the end of experiment second test was taken and the results were compared by T test.

RESULTS

The results demonstrated:

- A significant reduction in students depression rates between swimming and control group.
- A significant reduction in students depression rates between track and field and control group.
- A significant reduction in students depression rates between football and control group.

Statistical data based on research hypotheses

- Comparison of the initial and secondary test of swimming group

T = 2.145 in initial test with 95% coefficient confidence
T= 6.52 in secondary test

According to calculated T in secondary test, we concluded that there is a significant relationship between initial and secondary test, so there is a significant relationship between swimming exercise with decreased rates of depression.

- Comparison of the initial and secondary test of football group

T = 2.145 in initial test with 95% coefficient confidence
T= 7.28 in secondary test

According to calculated t in secondary test, we concluded that there is a significant relationship between initial and secondary test, so there is a significant relationship between football exercise with decreased rates of depression.

- Comparison of the initial test and secondary testing of athletic group

T = 2.145 in initial test with 95% coefficient confidence
T= 7.28 in secondary test

According to calculated t in secondary test, we concluded that there is a significant relationship between initial and secondary test, so there is a significant relationship between football exercise with decreased rates of depression.

- Comparing results of three experimental groups with analysis of variance test after training

To determine whether there is a difference among three exercise groups in reducing depression of students or not? The results of the secondary test of Beck questionnaire among three experimental groups, football, swimming, athletics, the results were evaluated with analysis of variance and following results were obtained:

F= 0.90 calculated

F= 3.23 extracted from the table with the alpha level 0.05

The results show that there is no difference among three groups, swimming, football and athletics in reducing of depression.

DISCUSSION AND CONCLUSION

In today's industrial societies to encounter less movement derived from the apartment and use of comfortable facilities, and thus preventing its complications, physical education and sport has been known as a fundamental principle and acceptable by sport experts. Also, sport experts and physical educations are required themselves do necessary efforts for providing community health and in this way not inconsiderate. The present research was to find ways to solve the great problems of depression after the war, which naturally increased in all communities and will be severe devastating war and revolutionary countries. In this regard, the basic planning in sport and physical training is a suitable solution considering by our specialists and planners and physical education can be an effective way in reducing depression. The researches have shown that athletes feel less depression than non-athletes and exercise is a good treatment of depression. On average, depressed people only exercise about half as much as people who aren't depressed. This lack of cardiovascular fitness puts a depressed person at an increased risk of heart attack. It also seems that depression and exercise influence each other – a sedentary lifestyle increases the risk of depression and depression increases the likelihood of a sedentary lifestyle. Research carried out on samples of suffering from depression, all confirm this hypothesis that depression can be treated with exercise, according to some research done the effectiveness of exercise therapy is comparable with obtained effects of other psychological therapies. Even though none of the studies did not provide comprehensive information in response to the reasons of changing by physical activities, there are a variety of theories that can help us to understand justification of antidepressant effect of exercises. These theories can be divided to three categories by the nature of its explanation of these mechanism:

- 1) physiological,
- 2) Biological,
- 3) Cognition,
- 4) behavioral.

Physiological effects of depression by exercise: Physiological justification is based on that exercise causes especial physiological changes with time, frequency and sufficient intensity. For example, responses to physical stressors by cardiovascular changes may be associated with reducing response to excitement and psychic stress which in turn reduce depress reactions in response to such stressors [9].

Biological antidepressant effects of exercise: Serotonin is an important brain chemical (neurotransmitter) that contributes to a range of functions, including sleep and wake cycles, libido, appetite and mood. Serotonin has been linked to depression. Some researchers have found that regular exercise, and the increase in physical fitness that results, alters serotonin levels in the brain and leads to improved mood and feelings of wellbeing. Some research indicates that regular exercise boosts body temperature, which may ease depression by influencing the brain chemicals. Improved self-esteem is a key psychological benefit of regular physical activity. When you exercise, your body releases chemicals called endorphins. These endorphins interact with the receptors in your brain that reduce your perception of pain. Endorphins also trigger a positive feeling in the body, similar to that of morphine. For example, the feeling that follows a run or workout is often described as "euphoric." That feeling, known as a "runner's high," can be accompanied by a positive and energizing outlook on life. Endorphins act as analgesics, which means they diminish the perception of pain. They also act as sedatives. They are manufactured in your brain, spinal cord, and many other parts of your body and are released in response to brain chemicals called neurotransmitters. The neuron receptors endorphins bind to are the same ones that bind some pain medicines. However, unlike with morphine, the activation of these receptors by the body's endorphins does not lead to addiction or dependence [9].

Cognitive antidepressants effects of Sports: Results of variety studies show that mood and people' relative fitness effect the acceptance of negative and positive thoughts, for example when someone is depressed, he reminds negative memories more than simple and positive thoughts [14]. Bandura (1977) has provided another solution for justification of antidepressant exercise effect. According to this theory, the main mechanism of all non-drug treatments, providing the sense of personal experiences in authority, which in turn made him feel self-ability [3].

Behavioral antidepressant effects of exercise: Forrester (1965, 1973) was the first behavioral theorist whose attention was drawn to the study of depression [4]. He believes in depression as a low behavior due to defect of positive reinforcement system of a person without enhancing it, activity occurs less and gives a vicious cycle that may reduce the opportunities of strength more than ever. If the amount of positive reinforcement and behaviors which reinforce positively the behavior reduce greatly, then causes depression. Behavioral effects of exercise in treating depression, in increase of strength condition changes the mood of depressed patients [4].

Research has shown that exercise is an effective but often underused treatment for mild to moderate depression. It appears that any form of exercise can help depression. Because strong social support is important for those with depression, joining a group exercise class may be beneficial. Or you can exercise with a close friend or your partner. In doing so, you will benefit from the physical activity and emotional comfort, knowing that others are supportive of you. Regular exercise can be an effective way to treat some forms of depression. Physical activity causes brain pleasure centers to be stimulated and leads to feelings of wellbeing. Exercise can also be an effective treatment for anxiety. Some research studies indicate that regular exercise may be as effective as other treatments like medication to relieve milder depression. Generally,

exercise has a place in treatment as part of a comprehensive approach to the illness. Several studies have proved reduction, prevention of depression by performing sport and physical activities and its beneficial for human being. There is no doubt that sport activities give more resistant to human against problems of life, as some psychologists believe that endurance sport raises the level of serotonin in the blood. Serotonin is a feel-good hormone found naturally in the brain. It also tends to have a calming effect. As a neurotransmitter, serotonin is important in transmitting nerve impulses. Scientific research has shown that a lack of serotonin can be one of the chief causes of depression and many drugs designed to combat the illness work by reducing the amount of the hormone which is re-absorbed into the blood. Running, walking briskly, cycling and swimming are among the endurance sports shown to have the most positive effect in chasing away the blues. It is believed practicing these sports outside in the fresh air is particularly beneficial [6]. In this case physical activities reduce psychological disorders and can prevent depression in people, especially young students. Endurance sports are an antidote to depression, provided they are practiced between one and three times a week. So, sport often took on a new and complex role as the source of, or salvation from, depression. [1]

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