

# Positive Effects of Exercise on Depression and Psychological Disorders

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**Abstract:** It is thought that there is a linear relationship between exercise and depression. The aim of this study is to evaluate the relationship between exercise and depression. Nowadays, it is revealed as a result of studies that exercise positively affects many depressive cases and subjects. It is known that inactivity and lack of sufficient exercise negatively affect a person's health. Another factor that is negatively affected by this inactivity is the person's spiritual and mental health. In addition to the feedback that people who participate in exercise practices feel better in terms of mental health, it is also seen in the studies that depression and anxiety factors are also decreased. It is known that many hormones are secreted during exercise depending on biochemical factors. This plays a natural antidepressant role in the organism. When the positive relationship between exercise and depression is examined in the literature, it is seen in this systematic review that exercise has positive effects on depression.

## Introduction

### *What is exercise?*

Exercise can be defined as actions that create a certain amount of fatigue in the organism by using the muscular, skeletal, heart, and respiratory systems within a certain plan and program (Koca, 2022). Again, if another definition of exercise is made, it can be defined as follows. It can be defined as "the whole of the loads that increase the efficiency of the person as a result of the morphological and functional changes that occur in the organism as a result of loads of certain intensity" (Koca, 2022). Exercise is a repetitive movement aiming to maintain the physical fitness characteristics realized within the framework of a specific plan and aimed at maintaining this protection (Özal, 2020). Exercise can be defined as activities that increase joint and muscle functions at different volumes and at different intensities that increase the heart and respiratory rate (Koca, 2022). Exercise can be defined as a set of movements created by using the muscular and joint system to spend calories above basal metabolism (Koca, 2022). Exercise should be done to maintain both physical and mental health. This is because with exercise, a happy and pleasant time is spent and this is an important factor in relieving stress. Many physical and physiological elements aim to be improved with exercise (Kılınçarslan, 2019). Exercise is an attitude with positive physical and mental contributions (Vardar, 2012). There is strong evidence of the health benefits of exercise in adults. Exercise provides the individual with factors such as strength, endurance, and flexibility, and also has features that prevent obesity risk and cardiovascular disorders (Ardıç, 2014). In addition, exercise is effective in the treatment of many psychological disorders, especially in the treatment of depression (Bal & Aras 2020).

## Method

This study was planned as a systematic review to investigate the positive effects of Exercise on Depression. There was no year limitation during the literature review in the research, but importance was given to obtaining more up-to-date data. While conducting the research, the research was accessed in the main Google Scholar and Pubmed databases without any database restrictions.

### *Types of Exercise*

#### *Aerobic Exercise - Anaerobic Exercise*

##### *Aerobic Exercise:*

They are exercises that increase the heart rate, consist of three basic components (intensity, frequency, duration), and are performed with the support of large muscle groups in the organism (Koca, 2022). There are three criteria for determining the element of violence in aerobic exercises. These; Perceived difficulty level is maxvo2 and heart rate (Koca, 2022).

##### *Anaerobic Exercise:*

These are physical activities performed at intense intensity in a short time. Anaerobic exercises occur in maximal and supramaximal (Koca, 2022).

### *Effect of Exercise on Health:*

Exercise has many beneficial effects on the organism. In the human organism, exercise creates positive effects on the muscle, skeletal system, cardiovascular system, and, in addition, the bone system. Again, individuals who do resistance exercises are less likely to suffer from heart, coronary artery, diabetes, and hypertension diseases. Regular exercise can also serve as a protective parameter in the human organism. Individuals who exercise regularly can keep their digestive, respiratory, and skeletal systems at the desired level. At the same time, continuous aerobic exercises reduce blood pressure in moderate hypertension, which positively affects the organism. Exercise minimizes and prevents the risk of diseases such as diabetes, high blood pressure, heart diseases, cancer, excess weight, and cholesterol (Demir & Filiz, 2004). In addition, physical activity increases the aerobic system, anaerobic system, and muscular endurance, and also contributes to the improvement of body composition. Exercise positively affects the health of the heart muscle and also reduces obesity (Ağaoğlu, 2015). Exercise also positively affects the endocrine system (Mitat, 2016). Additionally, exercise is important for maintaining bone health and bone mass density (Serin, 2020). It has been observed that exercise has many physical and physiological positive effects on the organism. In addition, exercise also has positive effects on human psychology.

### *Effect of Exercise on Depression*

There is a relationship between mental health and exercise. Depression affects the emergence of cardiovascular disorders. Again, many disorders are associated with depression. Therefore, it seems that exercise has a protective and therapeutic effect in protecting mental and spiritual health. In addition, exercise has positive effects not only on physical health but also on mental health and spiritual health. It is known that exercise not only increases aerobic power, muscular endurance, cardiovascular system, flexibility, and muscular strength but also has an effect on reducing the level of anxiety, increasing the individual's self-esteem, and improving self-confidence (Ağaoğlu, 2015). In addition, studies have shown that exercise reduces anxiety, stress, and depression levels and increases the morale factor. It is also known that exercise is effective in treating depression. Studies show that exercise also improves self-confidence and self-esteem. Additionally, exercising for 30-60 minutes three days a week benefits psychological health (Ağaoğlu, 2015). It is also known that exercise is successful in the treatment of psychological disorders and in delaying rather than preventing their onset (Gökçe et al., 2019). In many studies with human and animal models, it is known that exercise positively affects psychological health, psychological well-being, and also cognitive performance, and functional recovery (Gökçe et al., 2019).

### *What is depression?*

Depression is a mood disorder and also a psychological disorder that occurs due to the negative effects of different events, traumas, and feelings such as fatigue, boredom, reluctance, death and suicidal thoughts, sadness, lack of taste for life, low energy and feeling guilty due to these traumas. Depression can be defined as mental collapse, sadness, sorrow, loss of courage, exhaustion, dullness, and stagnation (Demirci et al., 2018). Depression is a psychological disease that occurs with a feeling of sadness in a person's life and can prevent the individual from enjoying life over time, requiring clinical treatment (Bal & Aras, 2020). On the other hand, depression can mean sadness, hopelessness, and, in addition, spiritual devastation (Başar, 2018). Depression can also be described as a state of feeling sorrowful, sad, upset, and also having thoughts of death, being pessimistic about the future, and having regrets about the past (Başar, 2018). The essence of depression is the phenomenon

of reluctance and inability to enjoy life in tasks and situations that were previously done with desire and enthusiasm (Başar, 2018). Depression, both called major depressive disorder and clinical depression, is known as an intense and important mood disorder (Bal & Aras, 2020). Examples of causes of depression and stress include violence, harassment, loneliness, decreased social support, and substance use such as drugs. Depression also causes long-term failure (Ölçülü et al., 2015).

#### ***Causes of depression:***

Many factors are said to cause depression. These arise as a result of the interaction of social factors, biological factors, and psychological factors. Negative factors such as grief, trauma, and unemployment can cause depression. Depression also causes stress. This causes the person's depression situation to worsen. Episodes of depression are classified as mild, moderate, and severe. Additionally, studies show that migration, economic factors, and low education levels cause depression. Genetic factors are also mentioned in the emergence of depression. It is also said that negative environmental factors cause depression (Çömlekçi, 2021).

#### ***Types of depression***

##### ***Major Depression***

The most common type of depression. Seizures can be one-off or recurrent. In single-episode depression, the course of depression can take a long time, up to 2 years. In one in 3 patients with major depression, seizures may last for years and some residuals may occur. It can be seen in all age groups and is more common in middle-age groups such as 40 and 50 years old. It is 2 times more common in women than in men. One in every 8-10 men and one in every 4 women may experience a period of major depression during their lifetime. The duration of major depression varies between approximately 2 weeks and 2 years (Çelik & Hocaoğlu, 2016).

##### ***Minor Depression:***

Also known as mild depression. It is not as severe as major depression, but the symptoms of major depression can also be seen in minor depression. Death and suicide rates in minor depression are not as high as in major depression. If minor depression is not treated properly, the likelihood of major depression is high (Hardalaç et al., 2020).

#### ***Risk factors for depression:***

The main factors influencing risk factors for depression are gender, age, social life, economic well-being, race, and culture. These factors are classified as biological, psychological, and social factors. Biological factors are generally known as genetic, structural, and regulatory factors. Psychological factors are cognitive picture, beliefs, and attitudes, despair, difficulty in problem-solving, and distraction. Social factors can be explained with the following examples; traumas, losses, difficulties, social support, marriage and relationship, negative feedback, and stress management (Çömlekçi., 2021).

#### ***Clinical symptoms observed in depression (Çelik & Hocaoğlu, 2016).***

Depressed mood	Obsessions and phobias
Lack of interest and anhedonia	Suicidal thoughts and attempts
The feeling of boredom, anxiety	Memory, perception, and attention impairment
Cognitive disorders	Physical Symptoms
Thought process and flow	Lack of energy, Weight loss-increase in appetite,
Thought content	Loss of sexual desire, Sleep disorders
Ideas of guilt-worthlessness	
Negative thoughts	
Despair	
Instability	

#### ***Relationship between exercise and health***

Exercise is generally a set of physical and mental movements. These movements generally have very important effects on the organism. This situation, which consists of physiological, mental, and physical effects, has a very important place in increasing people's general living standards. These factors are expressed as follows; "Exercise has positive effects on muscle endurance, weight maintenance, muscle strength, cardiovascular disorders, psychological factors, sleep status, cancer types, as well as chronic pain, bone mineral density, blood fat, and blood glucose" (Ardıç, 2014). Again, when the studies were examined, it was seen that exercise had a healing effect on depression factors (Ardıç, 2014). Again, many studies show that sports have very important effects on psychological disorders. At the same time, sports have positive effects on human mental health, both biologically and psychologically, because of the pleasurable hormones with anti-depressant effects secreted during sports (gripsikiyatri.com/sporun-ruhsal-sagligimiz-uzerine-etkileri/). A health and wellness movement

that emerged in the 1980s considered exercise activities to have an impact on an individual's psychological processes. Historical and modern perspectives emphasize the importance of psychological and mental health in addition to physical health. It has been shown that exercise for therapeutic purposes applies to many people, as it has no negative aspects (Bal & Aras, 2020). Exercise is effective in the treatment of many psychological disorders, especially in the treatment of depression (Bal & Aras, 2020).

***Effect of exercise on depression:***

In a survey study conducted by Başar et al. in the literature review, it was observed that the depression/happiness, happiness, and psychological well-being scores of the group that exercised regularly were higher than the group that did not exercise regularly (Başar, 2018). In the study conducted by Karakaya et al., it was stated that physical activities have a positive effect on depression in children and adolescents (Karakaya et al., 2006). When the studies were examined, it was determined that exercise had a protective effect on cardiovascular diseases and depression-type disorders. In the statements made by athletes, it is reported that exercise creates the feeling-good factor of the individual. In addition, it has been stated that adolescents who exercise regularly have fewer arguments with their parents and are less depressed (Karakaya et al., 2006). Since it has no negative aspects, it can be applied to many people for treatment purposes. Again, Tekin et al., in their study on the effects of recreational physical exercise on depression in the elderly, showed a decrease in depression scores as a result of regular exercise (Tekin & Kaldırımçı, 2008). In a study conducted by Canan et al. on the effect of regular sports on the perception of anxiety, depression, and problem-solving skills, the Beck depression scale score and Beck Anxiety Scale score of the group practicing sports were more significant than the group not practicing sports (Canan & Ataoğlu, 2010). Again, in the study by Ercan et al. on the effect of regular exercise on anxiety, depression, and quality of life in adults receiving alcohol and substance addiction treatment, a significant decrease occurred in the anxiety levels of the group performing aerobic strength exercise (Yeltepe Ercan et al., 2016). Özdemir et al. found that as a result of pilates exercises performed by female depression patients, there were statistically significant decreases in their depression symptoms (Özdemir & Uysal, 2018). Again, in the step aerobics study conducted by Adagide et al. on patients with depression, the depression reduction score of the training group was statistically more significant than the control group (Adagide & Karatas, 2021). It would not be right to say that exercise always provides a positive effect, and based on this, Atılğan et al. found that yoga-based exercises performed by healthy women had no statistical effect on depression (Atılğan et al., 2015). Again, in a review study conducted by Bay et al., it was observed that physical activity and exercise had healing and regulatory effects on mental disorders and depression symptoms. In the study titled the effect of aerobic walking exercise on depressive symptoms conducted by Aylaz et al, it was observed that there were decreases in depression scores as a result of aerobic exercise applied to the study group (Aylaz et al., 2011). Again, while reviewing the literature, Yıldırım et al., in their study examining the relationship between physical activity level and depression of university students, found that as the physical activity level of the students increased, their depression levels decreased (Yıldırım et al., 2015). In the study titled Effects of biofeedback-assisted isometric exercise and electrical stimulation program on pain, anxiety, and depression in patients with knee osteoarthritis by Dilek et al., the hospital anxiety depression scale was used in the study and a significant improvement in anxiety and depression scores was found as a result of the study (Durmuş et al., 2005). Again, in the study by Toktaş et al. titled Determination of depression levels according to chronotype in women who do and do not exercise actively (sedentary), the depression scores of the actively exercising group were lower than the depression scores of the sedentary group (Toktaş & Eskiocak, 2018). In a clinical study conducted by Taşcı, titled "The effect of adding exercise in the treatment of depression on therapeutic response", the significance level of the group that both exercised and took anti-depressant medication supplements was found to be more significant than the group that used only anti-depressant treatment (Taşcı, 2017). While scanning the literature, in the review study titled "The effect of exercise on preventing depression" by Schuch et al., it was seen that physical activity has a protective effect on depression. It has also been noticed that exercise reduces symptoms of depression (Schuch & Stubbs, 2019). In the review study titled Exercise for the Treatment of Depression and Anxiety conducted by Carek et al., it was observed that physical activity reduces depression symptoms and physical activity improves physical health, life satisfaction, cognitive functionality, and psychological well-being (Carwek et al., 2011). In a clinical study conducted by Hidalgo, where the effectiveness of physical activity in depression was examined as an alternative to antidepressant medications, it was observed that physical exercise had a significant effect on the quality of life of the elderly (Lopez-Torres Hidalgo, 2019). Again, in the clinical trial on the effectiveness of physical exercise in adults with mild and moderate depression by Hidalgo et al, antidepressant drugs were superior to physical activity, and the reason for this is thought to be the age difference of the patients and the differences in the stage of the disease (Hidalgo & Sotos, 2021).

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