



## THE IMPORTANCE OF PHYSICAL EXERCISE FOR COMBATING DEPRESSION AND ANXIETY

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Human activity is characterized by positive or negative manifestations of man, most of them being made consciously, rationally, dictated by the social demand or the need to exist. These human manifestations can undergo changes due to external and internal influences, in which various factors cause the occurrence of positive psycho-behavioral changes or, in some situations, with a negative impact on the human psyche and mental health. The human psyche is a fact of nature, extremely complex and, at the same time, very fragile. Its fragility can have harmful consequences, leading to the emergence of mental disorders. This material provides information and creates an overview of depression and anxiety, of the changes caused by them, as well as specific means in the field of physical education and sports, with a role in combating and preventing the emergence of the mental disorders mentioned above.

**Keywords:** physical education; depression; anxiety; means; physical exercise; mental disorders.

Society, the environment in which man carries out his activity, genetic inheritance, but also man's relationship with his fellows are central elements of influence on human behavior and psyche. Also, another factor that contributes and influences the human psyche is given by the information bombardment given by the internet, radio and television network, to which man is subjected. This human-information flow interaction can lead to the occurrence of a general comparison between two distinct societies, between poorly developed and strong states, between social strata and categories of the same country, but also of a particular comparison between people as distinct entities. In fact, the human-human comparison may cause the reduction of the quality of interpersonal relationships and the disturbance of the human psyche. The influences that these elements have on man create the chances of his behavior changes, transformation and adaptation to the emerging situation.

The last decades of the last century and the first of our century are marked by the spread of diseases with an impact on the human psyche and physique, mental disorders gaining a special status, becoming part of our habit, of everyday life. Of the mental disorders, two tend to be considered the diseases

of the modern world: depression and anxiety. Depressive disorders are widespread in all social strata, affecting women and men alike, complaining more and more often of discouragement, sadness, despair, lack of energy, as well as reduced self-confidence.

### Depression and anxiety

The World Health Organization, through the report titled "Depression and Other Common Mental Disorders, Global Health Estimates", states that in 2015, approximately 4,4% (approximately 322 million people) of the world's total population suffer from depressive disorders and 3,6% from anxiety disorders (approximately 264 million people). The same report provides other extremely interesting information. Thus, depressive disorders are more common in women (5,1%) than in men (3,6%), while anxiety disorders follow the same pattern, in which women are affected in proportion of 4,6% and men only 2,6%. The age range most affected by depressive disorders is between 60 and 64, for both women and men, and for anxiety disorders, the values are between the ages of 40 and 49, for women, and 15 to 24, for males.

In the case of Romania, according to the same report, over 900,000 cases of depressive disorders were detected, a figure that represents approximately 5% of the country's population and over 685,000 cases of anxiety disorders (3,7% of the country's population). The number of women suffering from depressive and anxiety disorders

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tends to reach almost double the number of men. Why is this number almost double? Although we are equally sensitive to all daily challenges, an explanation for the higher number of women is given by the occurrence of additional reasons, such as: pregnancy, menstrual problems, infertility, menopause, postnatal depression, increased focus on negative feelings, stress (it is known that women have a greater predisposition for the emergence of depression and anxiety, at a lower level of stress compared to men) and even problems with self-image (for example, dissatisfaction with the image of their own body, facial features, hair, etc.).

But what is depression? It is a mental disorder as a result of mutual conditioning between a number of social, economic, physiological, genetic, psychological and environmental factors, being characterized by a state of "sadness, loss of interest or pleasure, feelings of guilt or self-confidence,

of depression, people's functional capacity is drastically reduced, not being successful in the activity they carry out or in everyday life, and in some situations being even able to commit suicide.

According to the WHO (World Health Organization), depressive disorders include two main subcategories: "major depressive disorder/depressive episode, involving symptoms such as depressive mood, loss of interest and pleasure, and decreased energy; depending on the number and severity of symptoms, a depressive episode can be classified as mild, moderate or severe; and dysthymia, a persistent or chronic form of mild depression; the symptoms of dysthymia are similar to the depressive episode, but tend to be less intense and last longer"<sup>2</sup>.

The symptoms range of depressive disorders is very wide, it can be divided into two categories: psychological and physical (Table no. 1), the

**Table no. 1**  
**SYMPTOMS OF DEPRESSION<sup>3</sup>**

Depressive disorders	
<i>Psychological symptoms of depression</i>	<i>Physical symptoms of depression</i>
<ul style="list-style-type: none"> <li>• Continuous low mood or sadness</li> <li>• Feelings of hopelessness and helplessness</li> <li>• Low self-esteem</li> <li>• Feelings of guilt</li> <li>• Irritability and intolerance towards others</li> <li>• Lack of motivation and little interest in things and/or activities</li> <li>• Difficulty in making decisions</li> <li>• Lack of pleasure, pessimism</li> <li>• Suicidal thoughts or thoughts of doing harm</li> <li>• Lack of concentration</li> <li>• Anxiety or worry</li> <li>• Reduced interest in sexual intercourse</li> </ul>	<ul style="list-style-type: none"> <li>• Slow movement or reduced speech</li> <li>• Change in appetite or weight</li> <li>• Constipation</li> <li>• Unexplained pain</li> <li>• Lack of energy</li> <li>• Unjustified fatigue</li> <li>• Lack of interest in sexual intercourse</li> <li>• Changes in the menstrual cycle</li> <li>• Disturbed sleep</li> </ul>

disturbed sleep or appetite, feelings of fatigue and poor concentration"<sup>1</sup>, uselessness, a decrease and change in the cognitive and somatic-locomotor process, in some cases accentuating the state of nervousness, irritability. Severe forms of depressive disorders can lead to delusions or hallucinations. By the exacerbation of these symptoms, without a concrete intervention to combat the effects

diagnosis of depression should be made by specialized staff, not based on personal findings.

Depressive disorders can emerge in anyone, regardless of age, and it has been shown that young people are not immune to this disease, while in middle-aged and elderly people it can coincide with other incurable or serious diseases: cancer, Parkinson's, cardiovascular diseases, diabetes

etc. Medicines recommended and administered to treat such diseases may contribute to the onset and spread of depression. Also, a major contribution to the development of depressive disorders, regardless of age, can be made by excessive or constant stress, major traumas occurring throughout life, significant changes occurred in everyone's life, as well as the genetic inheritance of mental illness of the family.

Anxiety, the second mental disorder addressed in this presentation, is a natural mental and physical reaction of the human body to a series of external factors, materialized in the emergence of a state of restlessness, fear, fright, tension, unjustified concern most often for imaginary dangers. All these emotional states are accompanied by specific gestures and agitation. In fact, gestures and agitation materialize in the movement of segments or of the whole body, sometimes illogical, simultaneously with a heart rate increase, with the possibility of sweating, with the appearance of a tremor throughout the body and changes in the respiratory process, in the sense of accelerating or decreasing respiratory rhythm.

The World Health Organization states that "anxiety disorders refer to a group of mental disorders characterized by feelings of anxiety and fear, including generalized anxiety disorder (GAD), panic disorder, phobias, social anxiety

disorder, obsessive-compulsive disorder (OCD) and post-traumatic stress disorder (PTSD). As with depression, symptoms can range from mild to severe. The duration of symptoms commonly experienced by people with anxiety disorders makes it more of a chronic than an episodic disorder"<sup>74</sup>.

If we analyze anxiety and understand it as a normal, natural emotion, it tends to acquire positive connotations. If it does not turn into a mental disorder, anxiety can become a factor that helps us combat the possible effects of situations in which we may find ourselves. For example, the fear of failing an exam causes us to change our behavior and study much more; the concern caused by traveling in the mountains in winter causes an inner unrest, leading to taking additional preventive measures, for example, the purchase of specific, high-performance materials. From this point of view, we can understand anxiety as a preventive factor for a potential threat, becoming beneficial for our behavior.

From the point of view of the emergence and intensity of anxiety-specific symptoms (Table no. 2), of their negative effects, cumulated with the occurrence of important disturbances and disorders in everyday life (affecting social life, willingness to work, etc.), we must admit that anxiety disorders play a negative role in our lives.

Table no. 2

**SYMPTOMS OF ANXIETY<sup>5</sup>**

<b>Anxiety disorders</b>	
<i>Psychological symptoms of anxiety</i>	<i>Physical symptoms of anxiety</i>
<ul style="list-style-type: none"> <li>• Restlessness</li> <li>• A feeling of fear</li> <li>• Constant state of marginalization</li> <li>• Difficulty to focus</li> <li>• Irritability</li> <li>• Impatience</li> <li>• Extremely easy distraction</li> <li>• Agitation</li> </ul>	<ul style="list-style-type: none"> <li>• Dizziness</li> <li>• Sleepiness and fatigue</li> <li>• Palpitations</li> <li>• Muscle pain and tension</li> <li>• Dry mouth</li> <li>• Excessive sweating</li> <li>• Shortness of breath</li> <li>• Stomachache</li> <li>• Nausea</li> <li>• Diarrhea</li> <li>• Headache</li> <li>• Excessive thirst</li> <li>• Insomnia</li> </ul>



To the aforementioned conditions caused by anxiety others can also be added, such as: the impossibility of neuromuscular relaxation, unjustified mental and physical exhaustion, exaggeration of seemingly normal states of mental tension, endless repetition of negative thoughts, experiencing the feeling of mental and physical overwhelm, exacerbated sensitivity to the appearance of the slightest feeling of discomfort.

The symptoms associated with depression and anxiety are not limited to behavioral changes related to the human physique and psyche. The specific symptoms of the two mental disorders are also found in man's everyday life, in the social context. These are called social symptoms. According to Physical Activity and Mental Health, some of them are "difficulties in family life, participation in fewer hobbies and interests, participation in fewer social activities and avoiding contact with friends, things do not go well at work"<sup>6</sup>.

Whether it is about anxiety or depression, in women or men, young or elderly people, these mental disorders affect both the lives of each of those diagnosed by specialist doctors and the lives of those around them, directly influencing them through their behavior.

### **The importance of physical exercise in combating depression and anxiety**

The effectiveness of treatment for these two mental disorders is high and complete healing can be achieved if an early diagnosis has been made. For severe cases, a much longer period is needed for treatment and healing. Mainly, the treatment is based on pharmacological intervention and psychotherapy. It must also be customized at an individual level, as there is no single treatment solution. When the patient's situation or condition requires it, a treatment can be performed by combining the two of them.

An alternative and/or a complement to the two possibilities of treating depression and anxiety can be physical activity, an activity defined as "any body movement produced by the contraction of skeletal muscles that leads to a substantial increase in energy consumption compared to the rest period"<sup>7</sup>. The mere fact that we get out of bed and go to the kitchen or to the market does not mean that we carry out a physical effort based on physical exercise and precise planning, within a physical

training program. In fact, physical exercise is "a motor action with instrumented value, designed and programmed to achieve the objectives specific to physical education and sports"<sup>8</sup>. It is a physical activity, because there is energy consumption and movement of the body, but it cannot be included in the specificity of sports or physical education field.

In support of this statement, there are numerous studies attesting and proving the importance of physical exercise in combating and treating the mental disorders mentioned above. Of these, I will only mention a few that are relevant to this presentation. Thus, in the study titled "Physical Exercise Counteracts Genetic Susceptibility to Depression", the authors propose to study the link between physical exercise and the possibility of occurrence of depression due to the genetic component. The study involved 55 participants diagnosed with a form of depression. The study marked the analysis of a genetic factor that has an impact on emotion and that can materialize in increasing the risk of occurrence of depression. Following the study, the researchers obtained a statistically significant result indicating that those who participated in sports activities such as jogging were protected from the action of such gene.

The second study, "Physical exercise for late life depression: effects on cognition and disability", analyzes the relationship between depression developed in the elderly and the effects of physical exercise on cognitive processes and disabilities. 121 people aged close to 75 participated in the study. Knowing that physical exercise is an effective antidepressant and that it can positively influence cognitive processes, the researchers applied it as a stimulant in addition to drug treatment. The conclusions of their study state that the progressive introduction of aerobic exercise (physical effort made in the presence of oxygen) as an adjuvant offers an important advantage in treating depressive disorders, exercise also being a therapeutic measure.

The study called "Antidepressant Efficacy of Adjunctive Aerobic Activity and Associated Biomarkers in Major Depression: A 4-Week, Randomized, Single-Blind, Controlled Clinical Trial" supports, through the research carried out, the point of view mentioned above. Thus, a group of 57 patients aged between 18 and 55, who had been diagnosed with a form of major depression and who

were given only sertraline<sup>9</sup> during the observation (28 days), was divided into two experiment groups. The first, consisting of 29 people, underwent an aerobic exercise program, in addition to sertraline treatment, for 4 weeks, 4 times a week. The other group made no physical effort. The results obtained are again favorable to movement, indicating an evolution of the functional capacity of patients, concluding that physical exercise based on aerobic effort can be a short-term therapeutic alternative.

One of the interesting studies, conducted in 2019, "Physical exercise improves quality of life, depressive symptoms, and cognition across chronic brain disorders: a transdiagnostic systematic review and meta-analysis of randomized controlled trials", carried out a meta-analysis considering 122 profile studies, with a total of 7,231 participants. The study considered the involvement of physical exercise in the quality of life, treatment of depression symptoms and chronic brain disorders. The conclusion reached is extremely important. On chronic disorders, physical exercise showed weak effects, on the quality of life, they indicated medium-sized effects. Regarding the symptoms of depression, physical exercise indicated the most important effects, reiterating once again that exercise-based therapy is not to be neglected and, at the same time, it can be an additional source to drug treatments.

Although there are many studies in the case of depression, anxiety is less approached in research involving it in relation to physical exercise. However, there is information that creates this connection. Thus, in the research paper called "Habitual physical activity and the risk for depressive and anxiety disorders among older men and women", the authors manage to demonstrate, with a total of 547 eligible subjects, that regularly practiced physical activity is "protective against the subsequent risk of developing novodepressive and anxiety disorders"<sup>10</sup>. At the same time, the symptoms of anxiety, according to the same study, can be reduced in number and intensity, by practicing physical activities in the spare time.

The role of physical exercise in preventing and combating the symptoms of depression and anxiety is that it can supplement or replace psychotherapy if the manifestations of the disorders are not accentuated, that it can increase the response rate to medication, it can reduce the frequency of mental

disorder episodes and the amount of medication ingested and, in some situations, it can lead to the installation of a state of mental and muscular relaxation.

The importance of physical exercise in combating the effects of anxiety and depression also has as a starting point the social function of physical education. Thus, physical education is "a gateway for integration into social groups, for expressing personal ideas and belonging to social values, for effective networking and communication with peers, for capitalizing on behavior in relationships with others... for social reintegration"<sup>11</sup> to those whose mental structure has been affected by these mental disorders. Group physical exercise can bring an additional benefit as a result of the social support provided.

Although there is so much evidence that physical activity and exercise show us their importance to our physical and mental health, still, physical activity is a huge resource, untapped to its full potential, for promoting well-being and mental health among people.

### **Conclusions**

The classic approach based mainly on medication is a normal option for treating mental disorders. Yet, extending the prevention and treatment possibilities to areas other than the medical field, can be a viable solution. As presented in this analysis, the field of physical education can support drug treatment for depression and anxiety, while also being an accessible individual remedy for combating them.

Preventive attitude and behavior must turn into a state of affairs, a habit from the perspective of mental disorders. The emergence and development of depression and anxiety can be prevented through a series of gestures and behaviors, without making an exaggerated physical or intellectual effort. Thus, planning tangible, realistic activities and goals, spending spare time in the company of people and friends, trusting family and friends, selfless acceptance of outside help and advice, making important decisions in moments of peace, documenting these disorders, living an active life, practicing group physical exercise, are just a few suggestions that may help.

Regarding the field of physical education, it has been demonstrated and admitted that physical



activity and exercise contribute to maintaining and improving human health, but also to combating stress and its effects. The positive result of the physical exercise actions on the human body and brain is a strong enough stimulus for physical education together with its means to make a significant contribution to preventing and combating depression and anxiety.

#### NOTES:

- 1 [World Health Organization], *Depression and Other Common Mental Disorders. Global Health Estimates*, 2017, p. 7.
- 2 *Ibidem*.
- 3 A. Clow, S. Edmund, *Physical Activity and Mental Health*, Human Kinetics, University of Westminster, USA, 2014, p. 167.
- 4 [World Health Organization], *Depression and Other Common Mental Disorders. Global Health Estimates*, 2017, p. 7.
- 5 A. Clow, S. Edmund, *op.cit.*, p. 167.
- 6 *Ibidem*.
- 7 [American College of Sports Medicine], *ACSM's Health-Related Physical Fitness Assessment Manual*, Fourth Edition, Philadelphia: Lippincott Williams & Wilkins, 2014, p. 2.
- 8 G.F. Băițan, *Physical training of the Romanian military in the context of NATO integration*, "Carol I" National Defence University Publishing House, Bucharest, 2019, p. 306.
- 9 Antidepressant drug used to treat depression.
- 10 J.A. Pasco et al., *Habitual physical activity and the risk for depressive and anxiety disorders among older men and women*, International Psychogeriatrics Association, Cambridge University Press, pp. 292-298.
- 11 G.C. Ciapa, *Physical training of the Romanian army military in modern conflicts*, "Carol I" National Defence University Publishing House, Bucharest, 2018, p. 46.

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