

UDK 616.89-008.454:613.71/.73  
COBISS.SR-ID 117549577

## POVEZANOST FIZIČKE AKTIVNOSTI I DEPRESIJE

Aleksandar Zejak

MEDICINSKI FAKULTET, NOVI SAD,

**Sažetak:** Uvod: Fizička aktivnost su pokreti skeletnih mišića za koji se koristi energija. Najraniji zapisi o ciljanoj fizičkoj aktivnosti datiraju čak iz 2500. godine p.n.e iz Kine, što nam govori da su ljudi još tada znali da je ona bitna za očuvanje zdravlja. Međutim, danas čovek zbog tempa života i velikih obaveza uglavnom provodi vreme na radnom mestu, kao i kod kuće u sedećem položaju i nema vremena za fizičku aktivnost. Sve to se odražava na mentalno zdravlje. Depresija kao jedan od glavnih problema današnjice može se ublažiti fizičkom aktivnošću. Cilj rada: objasniti kako fizička aktivnost utiče na poboljšanje simptoma depresije. Depresija: Depresija je psihički poremećaj koji se karakteriše osećajem tuge i gubitkom volje i interesovanja za većinu stvari. Ona se klasifikuje u pet različitih entiteta. Na pojavu depresivnog poremećaja utiče genetska predispozicija i faktori sredine. Fizička aktivnost i depresija: Pozitivan uticaj vežbanja na mentalno zdravlje je sve češći predmet istraživanja i zanimanja opšte populacije. Postoji više načina na koje redovna fizička aktivnost može da poboljša raspoloženje i ublaži simptome depresije. Međutim, neki vidovi fizičke aktivnosti mogu imati i negativan uticaj na psihi. Zaključak: Kako bi fizička aktivnost imala pozitivan uticaj na zdravlje bitno je da se sprovodi redovno i pravilno. Osoba sa depresijom treba da izabere onu aktivnost koja njoj odgovara i poželjno je da ona bude u prirodi. Takođe je bitno da se osoba pridržava zdravog načina života.

**Ključne reči:** depresija, fizička aktivnost, mentalno zdravlje,

Uvod  
Pod fizičkom aktivnošću podrazumevamo pokrete skeletnih mišića za koji je potrebna energija. Takođe, to je i pokret tela koji je omogućen mišićno-skeletnim sistemom i za posledicu ima potrošnju energije koja je veća nego ona koju telo troši dok miruje. Fizička aktivnost može da bude aerobna :obavljanje kućnih poslova, rekreativne aktivnosti poput vožnje bicikla, brzog hodanja i trčanja, ili anerobna kao što je dizanje tegova [1]. Fizička aktivnost je bila uslov za preživljavanje, opstanak pojedinca i cele zajednice.(Stevo Popović 3). Najraniji zapisi o ciljanom i organizovanom vežbanju potiču iz drevne Kine (2500. godine p.n.e). Tada su ljudi podsticani da rade vežbe po uzoru na kretanje životinja [2].

Danas čovek ima sve manje vremena za fizičke aktivnosti jer je modernizacija dovela do takvih uslova da je čoveku sve olakšano. Kupovina i plaćanje su preko interneta, posao se radi od kuće, uglavnom u sedećem položaju, a šetnja i fizička aktivnost su minimalizovane [3].

Centar za kontrolu i prevenciju bolesti, kao i mnoge druge ustanove, preporučuju da opšta populacija, kao i osobe sa određenim medicinskim stanjima, redovno sprovede fizičku

aktivnost. Ovo je najbolji način za unapređenje javnog zdravlja i prevenciju bolesti. Preporuka je: 30 minuta fizičke aktivnosti umerenog intenziteta, najmanje 4 dana u nedelji, a idealno svakog dana, pozitivno utiče na prevenciju i kontrolu hipertenzije, dijabetes mellitus-a (insulin zavisni), osteoporoze i sličnih stanja. Ali šta kada je u pitanju mentalno zdravlje, odnosno depresija? Smatra se da fizička aktivnost može da bude veoma efikasna za prevenciju i kontrolu psihijatrijskih bolesti [4]. Naravno, osim fizičke aktivnosti bitno je kakav vazduh udišemo, kakvu hranu jedemo i kakvu vodu pijemo, kao i u kojoj količini. Čini se da se ovim poslednjim aspektima pridaje poseban značaj, a retko čujemo da je fizička aktivnost podjednako bitna [5]. Depresija se definiše kao poremećaj raspoloženja i karakteriše je uporni osećaj tuge i gubitak interesovanja [6]. Kada osoba pati od depresije često se čini da poslednja stvar koju želi da radi je bilo kakav vid fizičke aktivnosti, međutim, ovo može biti od prevelike pomoći. Upravo time se naš rad i bavi.

## THE RELATIONSHIP BETWEEN PHYSICAL ACTIVITY AND DEPRESSION

*Aleksandar Zejak*

MEDICINSKI FAKULTET, NOVI SAD, HAJDUK VELJKOVA 3

**Summary:** Introduction: Physical activity is any movement of skeletal muscles that uses energy. The earliest records of purposeful physical activity date as far back as 2500 BC from China, which tells us that even then people knew that it was essential for maintaining health. However, today man is more and more busy and generally sits most of the day and has no time to move. All this affects our mental health. Depression as one of the main problems of today is interesting when it comes to physical activity because it is believed that movement can improve its symptoms.

The aim of the study: The aim of our work is to explain what depression is, what are its symptoms and how it is generally treated. However, the main goal is to explain how physical activity affects the improvement of depression symptoms.

Depression: Depression is a mental disorder characterized by feelings of sadness and loss of will and interest in most things. It is classified into five different entities. Important for our work is major depressive disorder, which, according to statistical data, occurs more and more often. The occurrence of depressive disorder is influenced by genetics and environmental factors.

Physical activity and depression: The positive impact of exercise on mental health is an increasingly common subject of research and interest in the general population. There are a number of ways that regular physical activity can improve mood and alleviate symptoms of depression. However, certain physical activity can also have a negative impact on the psyche.

Conclusion: In order for physical activity to have a positive impact on health, it is important that it is carried out regularly and correctly. A person with depression should choose an activity that suits them, preferably in nature. It is also important to eat healthy food, get enough sleep and drink enough water.

**Key words:** depression, major depressive disorder, physical activity, mental health, feelings of sadness

### Introduction

By physical activity we mean any movement of skeletal muscles that requires energy. Also, it is a movement of the body that is made possible by the musculoskeletal system and results in energy consumption that is greater than what the body consumes while it is at rest. Physical activity can be doing housework, recreational activities such as cycling or running, or going to the gym and lifting weights [1]. Physical activity was a condition for survival, the survival of the individual and the whole community. (Stevo Popović). The earliest records of targeted and organized exercise come from ancient China (2500 BC). Back then, people were encouraged to do exercises modeled after the movements of animals (tiger) and today our association of Kung Fu with violent fighting is wrong. This skill actually started as medical gymnastics, and some believe it was adapted from yoga, which was still popular in India at the time [2].

Today, man has less and less time for these

activities because modernization has led to such conditions that everything is easier for man. Shopping and payment are over the Internet, work is done from home, mostly in a sitting position, and walking and physical activity have become a luxury [3].

The Centers for Disease Control and Prevention, as well as many other institutions, recommend that the general population, and even people with certain medical conditions, engage in regular physical activity. This is the best way to improve public health and prevent disease. 30 minutes of physical activity of moderate intensity, a couple of days a week, and ideally every day, has a positive effect on the prevention and control of hypertension, diabetes mellitus (insulin dependent), osteoporosis and similar conditions. But what about mental health, ie depression? It is considered that physical activity can be very effective for the prevention and control of psychiatric diseases [4]. Of course, apart from physical activity, it is important what kind of air we breathe, what kind of food we eat

### Cilj rada

Cilj našeg rada je da objasnimo šta je to fizička aktivnost i kako ona pozitivno deluje na mentalno zdravlje, a konkretno na depresiju i ko se sve treba baviti fizičkom aktivnošću i u kojoj meri. Takođe, navešćemo i negativne strane upornog treniranja.

### Depresija

Depresija je po definiciji poremećaj raspoloženja koji osobu čini tužnom i sklonom ka gubitku interesovanja i češće pogađa žene. Većina ljudi neće tražiti medicinsku pomoć, 60% zbog lažnih percepcija, a ostali zbog stigme i predrasuda iz okoline. Depresivni poremećaji se klasifikuju na pet kategorija i svaku od njih karakteriše tuga, praznina, razdražljivo raspoloženje koje može da bude praćeno somatskim ili kognitivnim promenama. Kategorija depresije su sledeće:

- Poremećaj regulacije raspoloženja,
- Veliki depresivni poremećaj,
- Perzistentni depresivni poremećaj (distimija),
- Predmenstrualni disforični poremećaj,
- Depresivni poremećaj zbog drugog zdravstvenog stanja [6].

Svetska zdravstvena organizacija procenjuje da je udeo stanovništva u svetu koje ima depresiju oko 4,4%. Ovo su podaci iz 2015. godine i to bi značilo da je tada bilo 322 miliona ljudi sa depresijom. Danas su te brojke mnogo veće, čak je i broj iz 2015. godine porastao za 18,4% u odnosu na 2005. godinu [7]. U 2022. se udeo depresije uvećao za 25%, a glavni razlog je bila pandemija COVID-19 [8]. Kao što možemo da zaključimo, depresija nije nimalo naivan problem i izuzetno je bitno razumeti zašto se javlja i kako se manifestuje, da bi mogli da je kontrolišemo pravilno. Etiologija depresivnog poremećaja je multifaktorska, odnosno, na njegovu pojavu utiču i genetski i faktori sredine. Depresija se može javiti i kod osoba koje nemaju pozitivnu porodičnu anamnezu, ali su šanse tri puta veće kod onih jedan od roditelja pati od depresije. Većina ljudi reaguje loše na gubitak bliske osobe ili neke nepovoljne situacije u životu, tako da i ovo može da bude razlog za nastanak reaktivne depresije [6].

Uobičajeni simptomi depresije uključuju:

- Stalno tužno, uznemireno ili „prazno“ raspoloženje,
- Osećaj beznada ili pesimizma,
- Osećaj razdražljivosti, frustracije ili nemira,

- Osećaj krivice, bezvrednosti ili bespomoćnosti,
- Gubitak interesovanja ili zadovoljstva za hobije ili aktivnosti,
- Smanjena energija (umor),
- Poteškoće u koncentraciji, pamćenju ili donošenju odluka,
- Poteškoće sa spavanjem, rano jutarnje buđenje ili preterano spavanje,
- Promene u apetitu ili neplanirane promene težine,
- Bolovi, glavobolje, grčevi ili problemi sa varenjem bez jasnog fizičkog uzroka i koji se ne olakšavaju čak ni lečenjem,
- Pokušaji samoubistva ili misli o smrti ili samoubistvu.

Da bi se nekoj osobi postavila dijagnoza depresije, ona mora da ima pet simptoma svaki dan, skoro ceo dan, najmanje 2 nedelje. Jedan od simptoma koji mora da se javi je depresivno raspoloženje ili gubitak interesovanja za sve aktivnosti. Bitno je razlikovati razdražljivost od depresije [9].

### Fizička aktivnost i depresija

Depresija se obično leči lekovima, psihoterapijom ili kombinacijom oba. Kakva će terapija biti zavisi isključivo od težine simptoma i same depresije [9]. Međutim, nekada lekovi nemaju željeni efekat, već kontraefekat i pacijent zapada u još veće mentalne probleme. Čak i lekarima je nedovoljno poznato koliki je uticaj redovne fizičke aktivnosti na mentalno zdravlje i kako fizička aktivnost može povoljno uticati na depresiju. Redovna fizička aktivnost može poboljšati raspoloženje, a posebno je korisno za blagu do umerenu depresiju. Pozitivan uticaj fizičke aktivnosti na prevenciju i kontrolu fizičkih oboljenja je jasna, a danas je sve veće interesovanje za uticaj na mentalno zdravlje i depresiju [5]. Čak je i veliki broj studija dokazao pozitivne efekte vežbanja na mentalno zdravlje, a jedna je čak pokazala da redovna fizička aktivnost značajno smanjuje rizik od pojave depresije. Takođe je dokazano da čak i jednokratno vežbanje poboljšava raspoloženje i smanjuje simptome depresije [1].

Fizička aktivnost je jeftino i efikasno rešenje za sve osobe koje pate od depresije ili jednostavno žele da očuvaju svoje mentalno zdravlje a žele da smanje doze antidepressiva. Jedna studija je pokazala da osobe koje vežbaju u kontinuitetu od par godina imaju 22% manji rizik od nastanka mentalnih bolesti. Jako je bitno

and what kind of water we drink, as well as in what quantity. It seems that these last aspects are given special importance, and we rarely hear that physical activity is equally important [5]. Depression is defined as a mood disorder characterized by persistent feelings of sadness and loss of interest [6]. When a person is suffering from depression it often seems like the last thing they want to do is any kind of physical activity, however this can be extremely helpful. This is precisely what our work deals with.

#### The goal of the work

The goal of our work is to explain what depression is, how it manifests itself and how to recognize it. We will also explain how depression is diagnosed and how it is most often treated. The main goal of our work is to explain what physical activity is and how it has a positive effect on mental health, specifically on depression, and who should engage in physical activity and to what extent. Also, we will mention the negative sides of persistent training. Depression

Depression is by definition a mood disorder that makes a person sad and prone to losing interest and more often affects women. Most people will not seek medical help, 60% because of false perceptions, and the rest because of stigma and prejudice from the environment.

Depressive disorders are classified into five categories and each of them is characterized by sadness, emptiness, irritable mood that can be accompanied by somatic or cognitive changes. The categories of depression are as follows:

Mood regulation disorder,  
major depressive disorder,  
Persistent depressive disorder (dysthymia),  
Premenstrual dysphoric disorder,  
Depressive disorder due to another medical condition [6].

The World Health Organization estimates that the proportion of the population (globally) that has depression is 4.4%. These are data from 2015, which would mean that there were 322 million people with depression at that time. Today, those numbers are much higher, even the number from 2015 increased by 18.4% compared to 2005 [7]. In 2022, the share of depression increased by a whopping 25%, and the main reason was the COVID-19 pandemic [8]. As we can conclude, depression is not at all a naive problem and it is extremely important to

understand why it occurs and how it manifests itself, in order to be able to control it properly. In our work, we will specifically deal with major depressive disorder.

#### Etiology and symptoms

The etiology of major depressive disorder is multifactorial, that is, its appearance is influenced by both genetic and environmental factors. Depression can also occur in people who do not have a positive family history, but the chances are three times higher in those whose parents suffer from depression. Diseases such as Alzheimer's or Parkinson's, stroke, cancer, chronic pain or similar conditions increase the chances of developing depression. Most people react badly to the loss of a close person or some unfavorable situation in life, so this can also be a reason for depression [6].

Symptoms of depression can be:

Common symptoms of depression include:

Constantly sad, anxious or "empty" mood,  
Feelings of hopelessness or pessimism,  
Feeling irritable, frustrated or restless,  
Feelings of guilt, worthlessness or helplessness,  
Loss of interest or pleasure in hobbies or activities,  
Decreased energy (fatigue),  
Difficulty concentrating, remembering or making decisions,  
Difficulty sleeping, early morning awakening or oversleeping,  
Changes in appetite or unplanned weight changes,  
Pain, headaches, cramps, or digestive problems with no clear physical cause and that are not relieved even by treatment,

Suicide attempts or thoughts of death or suicide. For a person to be diagnosed with depression, they must have five symptoms every day, almost all day, for at least 2 weeks. One of the symptoms that must occur is a depressed mood or loss of interest in all activities. It is important to distinguish between irritability and depression [9].

#### Physical activity and depression

Depression is usually treated with medication, psychotherapy, or a combination of both. What kind of therapy will be depends solely on the severity of the symptoms and the depression itself [9]. However, sometimes the drugs do not have the desired effect, but have a counter-effect and the patient falls into even greater mental problems. Few people know the impact of

razumeti da se treba baviti fizičkom aktivnošću I kod rizika od nastanka depresije i kod već postavljene dijagnoze. Fizička aktivnost može da doprinese boljem raspoloženju i ublažavanju osećaja tuge ili samoće, a istovremeno omogućava bolji san [5].

#### *Mehanizam dejstva i preporučena doza vežbe*

Mehanizam povoljnog delovanja redovne fizičke aktivnosti na depresiju:

- Distrakcija,
- Samoefikasnost.
- Društveni kontakt

Dejstvo distrakcije se objašnjava tako što osoba skreće pažnju sa nepovoljnih stimulusa u toku i nakon vežbanja i direktno dolazi do poboljšanja raspoloženja. Dejstvo samoefikasnosti se ogleda u tome da je sama fizička aktivnost izazov za pojedinca i sposobnost da je uspešno izvrši dovodi do poboljšanja raspoloženja i povećanja osećaja samopouzdanja. Društvena interakcija je možda i najočiglednija, s obzirom da su osobe sa depresijom često izolovane i nemaju želju za interakcijama ili bilo kakvim aktivnostima. Interakcija sa drugima im pomaže u poboljšanju komunikacije i pruža im podršku. Osim ova tri mehanizma, dejstvo fizičke aktivnosti na depresiju se ogleda i u lučenju hormona. U toku vežbanja se luči neurotransmiter monoamin, i povećava se njegov sinaptički prenos i funkcioniše kao antidepresiv. Hormon endorfin (enogeni opioid) koji se luči tokom vežbanja, izaziva osećaj smirenosti i poboljšava raspoloženje [4].

Većina studija je došla do zaključka da treba trenirati pet puta nedeljno [10]. Preporučeno vreme trajanje vežbanja se razlikovalo, neke su predložile 150 minuta nedeljno, a neke više od 240 minuta [10]. Trajanje fizičke aktivnosti je po našem mišljenju manje važno -bitno je da se osoba maksimalno

fokusira na fizičku aktivnost i da je primenjuje redovno. Pozitivni fizički i mentalni uticaji će nakon nekog vremena biti očigledni, ali je takođe podjednako važno da se osoba pridržava zdravog načina života. Treba izbegavati alkohol, nikotin i lekove koji nisu propisani od strane lekara.

#### *Preterano vežbanje i uticaj na mentalno zdravlje*

Za neke ljude fizička aktivnost prelazi u opsesiju, odnosno oni postaju preokupirani treningom što može da utiče na psihu i lične i profesionalne odnose. Kao posledica ove opsesije osoba može razviti: poremećaje u ishrani, dismorfiju mišića (nezadovoljstvo izgledom), zloupotrebu anaboličkih steroida, opsesiju intenzivnim treningom, poremećaj raspoloženja, poremećaj menstrualnog ciklusa kod žena i fizičko preopterećenje [4]. Bitno je „slušati svoje telo“ i raditi samo ono što osobi prija i čini da se oseća bolje.

#### ZAKLJUČAK

Iz svega prethodno navedenog može se zaključiti da redovna i pravilna fizička aktivnost može pomoći u prevenciji mnogih bolesti, kao i depresije. Treba birati fizičke aktivnosti koje izazivaju osećaj zadovoljstva, odgovaraju načinu života i savetuje se da one budu u prirodnom ambijentu. Depresija nije naivno stanje i bitno je imati dovoljno pravih informacija kako bi je mogli prepoznati na vreme. Za sve osobe koje pate od depresije ili imaju neki drugi psihički problem se savetuje da pored fizičke aktivnosti upražnjavaju zdrav način života. FIZIČKA aktivnost može biti štetna ako se preteruje i ne sprovodi pravilno. Redovna fizička aktivnost može poboljšati raspoloženje, a posebno je korisno za blagu do umerenu depresiju. Svaki vid aktivnosti je koristan, ali samo kada se radi u kontinuitetu i ako se ne preteruje. Ovo zvuči kao težak proces, ali je potrebno pronaći motivaciju i pokrenuti sebe.

#### LITERATURA

1. Lazarević U, et al. "Influence of Physical Activity on Degree of Depression, Anxiety and Stress in Students of University of Belgrade - Faculty of Medicine." *Sport - Nauka i Praksa*, 2021;11(2): 57-66. doi:10.5937/snp21020571
2. MacAuley D. "A History of Physical Activity, Health and Medicine." *Journal of the Royal Society of Medicine*, 1994;87(1):32-35. doi:10.1177/014107689408700114.
3. Krivokapic D, Popovic S.. Uticaj rekreativnih aktivnosti na psihičko zdravlje.2011. Dostupno na: [https://www.researchgate.net/publication/318723266\\_Uticaj\\_rekreativnih\\_aktivnosti\\_na\\_psihicko\\_zdravlje](https://www.researchgate.net/publication/318723266_Uticaj_rekreativnih_aktivnosti_na_psihicko_zdravlje)
4. Aurélio M., et al. "Physical Activity and Mental Health: The Association between Exercise and Mood. *Scieb. Br*, 2005;60(1):61-70. Dostupno na: <https://www.scieb.br/j/clin/a/nJtsYg7cXYppsF7VZ7h hHXw/?format=pdf&lang=en>.
5. Ostojic S. Stojanovic M. Veljović D, Medjedovic B.at al. FIZIČKA AKTIVNOST I ZDRAVLJE: Definicija problema, savremena zapažanja i preporuke. 2009;3:1-13.
6. Chand S.P., Hasan A. Depression. StatPearls Publishing, 2022.

regular physical activity on mental health, and even fewer know how physical activity can affect depression.

The positive impact of physical activity on the prevention and control of physical diseases is clear, and today there is increasing interest in the impact on mental health and depression [5]. Even a large number of studies have proven the positive effects of exercise on mental health, and one even showed that regular physical activity significantly reduces the risk of depression. Even a single exercise session has also been proven to improve mood and reduce symptoms of depression [1].

Physical activity is a cheap and effective solution for all people who suffer from depression or simply want to preserve their mental health, and at the same time do not want to take medication. One study showed that people who exercise continuously for a couple of years have a 22% lower risk of mental illness. It is very important to understand that you should not engage in physical activity only if you are at risk of developing depression, or if you already have a diagnosis. Even if you're in a bad mood, exercise can help you feel better and alleviate feelings of sadness or loneliness, while also helping you sleep better [5].

Mechanism of action and recommended dose of exercise

The mechanism of the beneficial effect of regular physical activity on depression is described as follows:

distraction,

Social contact and

Self-efficacy.

The effect of distraction is explained by the fact that a person diverts attention from unfavorable stimuli during and after exercise and directly improves mood. The effect of self-efficacy is reflected in the fact that the physical activity itself is a challenge for the individual and the ability to successfully perform it leads to an improvement in mood and an increase in the sense of self-confidence. Social interaction is perhaps the most obvious, given that we previously stated that people with depression are often isolated and have no desire for interactions or any activities. Interacting with others helps them have someone to talk to and gives them support. Apart from these three mechanisms, the effect of physical activity on depression is also reflected in the release of hormones. During exercise, the neurotransmitter

monoamine is secreted, and its synaptic transmission increases and is said to function as an antidepressant. The hormone endorphin (enogenic opioid), which is secreted during exercise, causes a feeling of calmness and improves mood [4].

Different studies have shown different results and most have come to the conclusion that you should train five times a week. The recommended time and duration of exercise varied, some suggested 150 minutes a week, some more than 240 and so on [10]. However, the duration of physical activity is less important in our opinion. What is important is that the person focuses as much as possible on that physical activity and applies it regularly. The positive physical and mental effects will be apparent after a while, but it is also equally important that a person eats healthy and drinks enough water.

Excessive exercise and the impact on mental health

For some people, physical activity turns into an obsession, that is, they become preoccupied with training, which can affect the psyche and personal and professional relationships. As a consequence of this obsession, a person can develop eating disorders, muscle dysmorphia (dissatisfaction with appearance), use of anabolic steroids, obsession with intense training, mood disorders, cycle disorders in women and simply too much training [4]. It is important to listen to your body and do only what pleases the person and makes him feel better.

#### Conclusion

From all of the above, we can conclude that regular and proper physical activity can help prevent many diseases, as well as depression. However, it can be harmful at the same time if a person overdoes it and does not implement it properly. You should choose physical activities that you genuinely enjoy, that suit your lifestyle, and it is always advised that they be outside in nature.

Depression is not a naive condition and it is important to have enough real information to be able to recognize it in time. For all people who suffer from depression or have some other psychological problem, it is advised that in addition to physical activity, they have the following:  
enough sleep,

7. Depression and Other Common Mental Disorders. (WHO) Dostupno na: <https://apps.who.int/iris/bitstream/handle/10665/254610/WHO-MSD-MER-2017.2-eng.pdf>
8. "COVID-19 Pandemic Triggers 25% Increase in Prevalence of Anxiety and Depression Worldwide." Who.int, Dostupno na: <https://www.who.int/news/item/02-03-2022-covid-19-pandemic-triggers-25-increase-in-prevalence-of-anxiety-and-depression-worldwide>. Accessed 19 Feb. 2023.
9. National Institute of Mental Health. Depression. Dostupno na: <https://infocenter.nimh.nih.gov/sites/default/files/2022-01/depression.pdf>
10. Mammen G, Faulkner G. Physical Activity and the Prevention of Depression A Systematic Review of Prospective Studies. American journal of preventive medicine. 2013;45(5):649-57. DOI: 10.1016/j.amepre.2013.08.001.

Regular and healthy meals,  
Avoiding alcohol, nicotine, drugs, even medicines  
not prescribed by a doctor.

Regular physical activity can improve mood and  
is especially beneficial for mild to moderate  
depression. Every type of activity is useful, but

only when it is done continuously and if it is not  
overdone. It may sound like a difficult process,  
but it is necessary to find the motivation and  
start yourself.

## LITERATURE:

1. Lazarević U, et al. "Influence of Physical Activity on Degree of Depression, Anxiety and Stress in Students of University of Belgrade - Faculty of Medicine." *Sport - Nauka i Praksa*, 2021;11(2): 57-66. doi:10.5937/snp21020571.
2. MacAuley D. "A History of Physical Activity, Health and Medicine." *Journal of the Royal Society of Medicine*, 1994;87(1):32-35. doi:10.1177/014107689408700114.
3. Krivokapic D, Popovic S.. Uticaj rekreativnih aktivnosti na psihičko zdravlje.2011. Dostupno na: [https://www.researchgate.net/publication/318723266\\_Uticaj\\_rekreativnih\\_aktivnosti\\_na\\_psihicko\\_zdravlje](https://www.researchgate.net/publication/318723266_Uticaj_rekreativnih_aktivnosti_na_psihicko_zdravlje)
4. Aurélio M., et al. "Physical Activity and Mental Health: The Association between Exercise and Mood. *SciELO. Br*, 2005;60(1):61-70. Dostupno na: <https://www.scielo.br/j/clin/a/nJtsYg7cXYppsF7VZ7hhHXw/?format=pdf&lang=en>.
5. Ostojic S. Stojanovic M. Veljović D, Medjedovic B. at al. FIZIČKA AKTIVNOST I ZDRAVLJE: Definicija problema, savremena zapažanja i preporuke. 2009;3:1-13.
6. Chand S.P., Hasan A. Depression. StatPearls Publishing, 2022.
7. Depression and Other Common Mental Disorders. (WHO) Dostupno na: <https://apps.who.int/iris/bitstream/handle/10665/254610/WHO-MSD-MER-2017.2-eng.pdf>
8. "COVID-19 Pandemic Triggers 25% Increase in Prevalence of Anxiety and Depression Worldwide." Who.int, Dostupno na: <https://www.who.int/news/item/02-03-2022-covid-19-pandemic-triggers-25-increase-in-prevalence-of-anxiety-and-depression-worldwide>. Accessed 19 Feb. 2023.
9. National Institute of Mental Health. Depression. Dostupno na: <https://infocenter.nimh.nih.gov/sites/default/files/2022-01/depression.pdf>
10. Mammen G. Faulkner G.. Physical Activity and the Prevention of Depression A Systematic Review of Prospective Studies. *American journal of preventive medicine*. 2013;45(5):649-57. DOI: 10.1016/j.amepre.2013.08.001.