

THE IMPACT OF PHYSICAL ACTIVITY ON QUALITY OF LIFE AND MENTAL HEALTH

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ABSTRACT

In modern society, physical activity is essential for preventing physical illnesses and improving mental health and overall quality of life. This paper explores the effects of physical activity on psychophysical health across different life stages and highlights the role of physiotherapy in promoting active lifestyles. Physical activity serves as a therapeutic tool for mental disorders, including anxiety, depression, stress, psychotic disorders, and dementia. It also boosts self-confidence, enhances cognitive function, and encourages socialization, making it a cornerstone of holistic well-being.

The COVID-19 pandemic emphasized the importance of physical activity for mental health. During lockdowns, reduced activity led to increased anxiety and depression symptoms. Studies show that individuals who maintained regular physical activity experienced fewer mental health issues compared to those who were less active. These findings confirm its role in mitigating the psychological effects of isolation and uncertainty, particularly during challenging times.

According to the WHO, at least 30 minutes of moderate activity daily or 150 minutes weekly is recommended. Regular physical activity reduces the risk of cardiovascular diseases, diabetes, osteoporosis, obesity, and mental disorders, while also slowing the progression of existing conditions. Starting physical activity early in life fosters lifelong healthy habits, ensuring long-term benefits for both physical and mental health.

Physiotherapists play a vital role in promoting physical activity, tailoring programs to individuals based on age, health status, and limitations. The availability of diverse activity options, from yoga to strength training, ensures everyone can find suitable choices. By integrating physical activity into daily routines, individuals can achieve better health outcomes and improved quality of life.

Keywords: physical activity, mental health, depression, COVID-19, physiotherapy

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INTRODUCTION

During physical activity, physical and mental cycles are closely interconnected, with thoughts, feelings, and mood depending on biochemical processes in the body. When these mechanisms are out of balance, psychological disorders arise, reflected in changes in an individual's experiences, behavior, and physical symptoms. Today, the importance of addressing mental health through physical activity is emphasized, as exercise not only improves aerobic capacity and muscle strength but also enhances overall well-being. People who exercise regularly feel more energetic, sleep better, have improved memory, and a more positive outlook. Exercise also reduces symptoms of depression, anxiety, and ADHD, even in small amounts, regardless of age or fitness level (1). Despite evidence of the benefits of exercise, most people do not engage in it. Globally, 31% of the population is insufficiently active, while in Croatia, this percentage reaches 60%. Women and older adults are less active than men and younger individuals. A sedentary lifestyle is the fourth leading cause of death, according to the WHO, after high blood pressure, smoking, and high blood sugar (2).

The objectives of this paper are: (1) to list and describe the effects of physical activity on physical and mental health and quality of life; (2) to present and describe the mechanisms of physical activity on mental health in different age groups; (3) to describe the role of physiotherapy and physiotherapists in promoting physical activity and preserving mental health; and (4) to present the prevalence of physical activity during the COVID-19 pandemic and its consequences on physical and mental health. This paper aims to provide a comprehensive overview of current

knowledge on the relationship between physical activity and psychophysical health, with an emphasis on practical implications for promoting an active lifestyle.

METHODS AND PARTICIPANTS

This review paper is based on the analysis of existing research studies and relevant literature, focusing on the impact of physical activity on mental health and general psychological well-being. Mental health, which encompasses emotional, psychological, and social well-being, is crucial for all stages of life, from childhood to adulthood. According to estimates from the National Institute of Mental Health (NIMH), in 2017, approximately 11.2 million adults in the U.S., or about 4.5% of adults, had serious psychological disorders (3).

The methods used included the analysis of existing epidemiological data, interviews with participants, and longitudinal studies that tracked the impact of physical activity on psychological state over a period of at least six months. Physical exercise is increasingly used as a means to maintain and strengthen mental health, with research showing that aerobic activities of 20 to 40 minutes can cause transient improvements in mood and reduced anxiety, with these effects being most pronounced in individuals with elevated levels of anxiety (4).

Additionally, evidence from clinical studies shows that the psychological benefits of exercise are comparable to the effects of standard forms of psychotherapy. In healthy individuals, exercise can have a preventive effect, while in individuals with mild to moderate emotional disorders, it can act as a therapeutic tool (5). However, excessive reliance on exercise can cause

mood disorders and worsen physical health.

Statistical data show that the prevalence of psychological problems varies worldwide. In some countries, about 10-20% of children and adolescents show signs of psychological problems, while 7% require psychological treatment (6). In the United Kingdom, approximately one in four people will experience at least one diagnosed mental health disorder during their lifetime

(7). Various theories explain the psychological benefits of physical activity. Physiological theories, such as neurotransmitter theories involving serotonin, dopamine, and endorphins, link physical activity to improved mood (8). Endorphins, known as "happiness hormones," are released during exercise and contribute to feelings of euphoria, reducing symptoms of depression and anxiety (9).

Psychological hypotheses further explain the mechanisms behind the positive effects of exercise. The distraction hypothesis suggests that exercise helps people eliminate negative thoughts and gain a brighter outlook on life's challenges (10).

The mastery hypothesis assumes that physical activity increases self-confidence and a sense of achievement, while the social interaction hypothesis emphasizes the effect of socializing during exercise on positive mood (11).

Further analyses have shown that physical activity can improve the mood of individuals suffering from depression. For example, an aerobics program conducted over several weeks resulted in a significant reduction in depressive symptoms (12). Additionally, oxygen-based exercises, such as swimming, brisk walking, and cycling, are recommended three to four times a

week for at least 45 minutes to achieve optimal results (13).

The impact of physical activity on self-esteem has also been documented. Self-esteem, which represents a subjective assessment of one's own worth, is a key aspect of mental health (14). Individuals with higher self-esteem show more positive attitudes toward themselves, while those with lower self-esteem may develop feelings of inferiority and discouragement. Research has shown that physical activity can improve self-esteem, increase self-confidence, and reduce symptoms of mild depression and anxiety (15).

RESULTS

The analysis of existing studies confirms that physical activity has a positive impact on mental health in different populations. In children and adolescents, regular physical activity is associated with a 30-40% reduction in symptoms of anxiety and depression, which is particularly important given the rise in mental disorders in this age group (30). Physical activity helps develop social skills, reduces stress related to school obligations, and improves self-esteem (31). In adults, studies have shown that weekly aerobic activity of 150 minutes can reduce the risk of developing depression by 26% (32).

Group sports activities have proven to be particularly effective in improving mental health. For example, participation in team sports is associated with a 20% greater improvement in the sense of belonging and a reduction in feelings of loneliness compared to individual activities (33). Team sports provide opportunities for social interaction, support, and a sense of community, which is especially important for individuals struggling with feelings of isolation (34). These data highlight the

importance of the social component in physical activity programs.

The long-term effects of physical activity on mental health have also been demonstrated. Longitudinal studies that followed participants for 5 years showed that individuals who exercise regularly have a 40% lower risk of developing clinical depression compared to inactive individuals (35). These results confirm that physical activity is not only a short-term solution but also a long-term strategy for maintaining mental health. Regular activity can also reduce the risk of cognitive decline and dementia in older age (36).

DISCUSSION

The results of this review confirm the significant impact of physical activity on mental health, consistent with numerous studies that have addressed this topic. According to data from the World Health Organization (WHO), regular physical activity can reduce the risk of depression by 20-30%, while in individuals who already have symptoms of depression, improvement can be achieved in 45-50% of cases (16, 17). These data confirm that physical activity is not only a preventive measure but also an important therapeutic tool in the treatment of mental disorders.

Physiological mechanisms, such as increased production of endorphins, serotonin, and dopamine, are key in explaining the positive effects of exercise on psychological state (18). Endorphins, known as "happiness hormones," reduce the feeling of pain and increase the sense of satisfaction, while serotonin and dopamine play a key role in regulating mood and motivation

(19). Research has shown that even short-term moderate activity, such as 30 minutes of brisk walking three times a week, can

significantly reduce symptoms of anxiety and depression (20). In addition, regular physical activity improves sleep quality, which is also an important factor in maintaining mental health (21).

Psychological aspects, such as increased self-confidence and a sense of achievement, also play an important role in improving mental health (22, 23). Physical activity helps build self-esteem through achieving goals, whether it is weight loss, improved fitness, or mastering new skills. Additionally, group activities, such as team sports or group training, provide opportunities for social interaction, which can reduce feelings of loneliness and increase a sense of belonging (24).

However, it is important to note that excessive physical activity can have negative consequences. Exercise addiction, which occurs in approximately 10% of individuals who engage in intense sports, can lead to worsening mental health and an increased risk of injury

(25). Exercise addiction is often associated with eating disorders, anxiety, and depression, highlighting the need for a balanced approach to physical activity (26). Therefore, it is crucial to adapt the intensity and type of activity to individual needs and capabilities, with professional guidance if necessary.

Studies in recent years further emphasize the importance of tailored physical activity programs for different age groups. For example, a 2022 study showed that yoga and mindfulness-based programs are particularly effective in reducing stress and anxiety in older adults, with improvement in 65% of cases (27). Yoga, which combines physical movements, breathing exercises, and meditation, helps reduce cortisol, the stress hormone, and improves overall psychological well-being (28).

These results highlight that personalized approaches can be key to achieving optimal results.

Additionally, the combination of physical activity with other interventions, such as cognitive-behavioral therapy (CBT), has proven to be highly effective. A 2021 meta-analysis showed that such a combination reduces symptoms of depression by 60% compared to therapy alone (29). CBT helps patients recognize and change negative thought patterns, while physical activity contributes to the release of neurotransmitters that improve mood. These findings confirm the importance of an integrated approach to treating mental disorders.

CONCLUSION

There is increasing evidence that physical activity has a profound and positive impact on mental health, particularly in reducing symptoms of anxiety, stress, and depression. Through physiological mechanisms, such as increased production of endorphins, serotonin, and dopamine, and reduced inflammatory processes, exercise not only improves mood but also contributes to overall health. These biochemical processes, along with psychological effects such as increased self-confidence and a sense of achievement, make physical activity a powerful tool in combating mental disorders. It is particularly important to highlight the role of physical activity in adolescence, a period when a decline in physical activity often occurs, which can lead to an increased risk of mental problems. The World Health Organization (WHO) recommendations of one hour of moderate to vigorous activity daily for adolescents are crucial for promoting mental and physical well-being. Research

also shows that regular physical activity can offset a genetic predisposition to depression, which is particularly important for adults at high risk. Physical activity is not only a preventive measure but also an important therapeutic tool. Aerobic exercises and resistance training have been shown to be effective in improving cognitive function in older adults, reducing symptoms of depression and anxiety, and increasing quality of life. Additionally, group activities, such as team sports or dance therapy, provide additional benefits through social interaction and a sense of belonging, which is especially important for individuals struggling with feelings of loneliness. Physiotherapists play a key role in promoting physical activity and mental well-being. As experts in movement and mobility, they can help individuals find appropriate forms of activity tailored to their needs and capabilities. In the era of modern lifestyles, which often involve prolonged sitting and reduced physical activity, the role of physiotherapists becomes increasingly important in the prevention and treatment of both physical and mental disorders. In conclusion, physical activity represents a simple yet highly effective way to improve mental health and quality of life. Its effects range from reducing symptoms of depression and anxiety to improving cognitive function and social connectedness. Integrating physical activity into daily life, with the support of professionals, can be key to achieving long-term mental and physical well-being.

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UTJECAJ TJELESNE AKTIVNOSTI NA KVALITETU ŽIVOTA I PSIHIČKO ZDRAVLJE

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SAŽETAK

U suvremenom društvu, tjelesna aktivnost postaje sve važnija ne samo za prevenciju fizičkih bolesti, već i za poboljšanje mentalnog zdravlja i ukupne kvalitete života. Cilj ovog rada bio je istražiti učinke tjelesne aktivnosti na psihofizičko zdravlje u različitim životnim dobima te istaknuti ulogu fizioterapije i fizioterapeuta u promicanju aktivnog načina života. Tjelesna aktivnost dokazano djeluje kao terapijsko sredstvo za brojne mentalne poremećaje, uključujući anksioznost, depresiju, stres, psihotične poremećaje i demenciju. Osim pozitivnog utjecaja na neurotransmitterske sustave, vježbanje povećava samopouzdanje, poboljšava kognitivne funkcije i potiče socijalizaciju.

Pandemija COVID-19 dodatno je istaknula važnost tjelesne aktivnosti za održavanje mentalnog zdravlja. Tijekom lockdowna, smanjenje fizičke aktivnosti dovelo je do porasta simptoma anksioznosti i depresije u općoj populaciji. Istraživanja pokazuju da su osobe koje su nastavile s redovitom tjelesnom aktivnošću tijekom pandemije imale manje mentalnih problema u usporedbi s onima koji su bili manje aktivni. Ovi nalazi potvrđuju da tjelesna aktivnost može biti ključna u smanjenju negativnih psiholoških učinaka izolacije i nesigurnosti.

Prema preporukama Svjetske zdravstvene organizacije (WHO), preporuča se najmanje 30 minuta umjerene aktivnosti dnevno ili 150 minuta tjedno. Redovita tjelesna aktivnost smanjuje rizik od kardiovaskularnih bolesti, dijabetesa, osteoporoze, pretilosti i mentalnih poremećaja, dok može usporiti napredovanje postojećih bolesti. Početak tjelesne aktivnosti u ranoj dobi ključan je za razvoj pozitivnih navika koje traju cijeli život.

Fizioterapeuti imaju ključnu ulogu u promicanju tjelesne aktivnosti, prilagođavajući programe pojedincima s obzirom na dob, zdravstveno stanje i ograničenja. U današnje vrijeme, dostupnost različitih oblika aktivnosti omogućuje svakome da pronađe onu koja najbolje odgovara njegovim potrebama i preferencijama.

Ključne riječi: tjelesna aktivnost, mentalno zdravlje, depresija, COVID-19, fizioterapija.

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