



# Motion for your mind:

Physical activity for  
mental health promotion,  
protection and care



## > Abstract

There is limited evidence and attention relating to the potential effects of physical activity on mental health. A review of the evidence for the benefits of physical activity for people with certain mental health conditions – depression, schizophrenia and dementia – indicates improved mood, slowed cognitive decline, delayed disease onset, increased muscle strength, better physical fitness, control of existing NCDs and a decreased likelihood of developing other NCDs such as diabetes and obesity.

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## > Contents

Acknowledgements	— 4
Summary	— 5
<b>Mental health conditions and other noncommunicable diseases</b>	<b>— 6</b>
<b>Effects of physical activity on selected neurological and mental disorders</b>	<b>— 7</b>
<b>Increasing physical activity levels among people with mental health conditions</b>	<b>— 8</b>
Conclusions	— 10
References	— 11
Other WHO publications	— 11



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## > Summary

While the effectiveness of physical activity in the prevention and complementary treatment of noncommunicable diseases (NCDs) such as diabetes and cardiovascular disease is widely acknowledged, less is known about its potential effects on mental health. Mental health conditions are among the main contributors to disability worldwide and frequently co-occur with other NCDs because of shared biological, behavioural and socioeconomic risk factors, including age, income, tobacco and alcohol use, an unhealthy diet and physical inactivity. The bidirectional link between physical activity and mental health conditions indicates that integrated services and accessible prevention and treatment should be planned for major NCDs, including mental health conditions.

Physical activity can be used as a complementary strategy with other treatment modalities to prevent and manage mental health conditions, as it can delay their onset and reduce a wide range of symptoms. Primary health care is the most appropriate service delivery platform for integrating physical activity into the daily lives of people at risk of or with mental health conditions, because it makes it easy to seek help and avoids perceived stigmatization.

A review of the evidence for the benefits of physical activity for people with certain mental health conditions – depression, schizophrenia and dementia – indicated improved mood, slowed cognitive decline, delayed disease onset, increased muscle strength, better physical fitness, control of existing NCDs and a decreased likelihood of developing other NCDs such as diabetes and obesity.

The barriers to the uptake and effectiveness of physical activity by people with mental health conditions include intrapersonal factors (e.g. low motivation and awareness) and environmental aspects (e.g. restricted multisectoral collaboration, limited access to recreation spaces). To overcome these barriers, there should be an appropriate multi-sectoral response at all levels of government and civil society, including:

- › awareness-raising in the general population about the role of physical activity in preventing mental health conditions;
- › support for people with mental health conditions in initiating a health-enhancing lifestyle, including better geographical and financial access to and opportunities for recreational sports;
- › education and training in use of physical activity for protecting mental health among health care and sports professionals and also among people with mental health conditions and their social networks; and
- › collaboration among relevant sectors, such as education, health and sports.



## Mental health conditions and other noncommunicable diseases

The WHO Global action plan for the prevention and control of noncommunicable diseases 2013–2020 (1) defined a target of a 25% reduction in premature mortality from major NCDs by 2025. Integrated prevention and treatment of mental disorders and other chronic diseases is essential to reach this target. As highlighted in the report Integrating the response to mental disorders and other chronic diseases in health care systems (2), action is needed within and beyond the health sector to achieve effective, efficient, integrated care for mental disorders and other chronic diseases.

The importance of physical activity in the prevention of mental health conditions and other NCDs has been acknowledged in several WHO policy documents. The Physical activity strategy for the WHO European Region 2016–2025 (3) calls for promotion of physical activity throughout the life-course and integration of physical activity into daily life to reduce the prevalence of insufficient physical activity by 10% by 2025, and the Global action plan on physical activity 2018–2030 (4) calls for a 15% relative reduction in the global prevalence of physical inactivity in adults and adolescents by 2030 to decrease the burden of NCDs and mental health conditions. The European mental health action plan 2013–2020 (5) also acknowledges the role of physical activity in mental health; it encourages Member States to include lifestyle modifications in education and treatment programmes for people with mental health conditions, delivered in primary health care settings.

People with mental health conditions tend to engage in less physical activity than the rest of the population, especially when they have severe mental disorders (6). For example, people with major depressive disorder are estimated to be 50% less likely to meet physical activity recommendations than the general population (7). Similar tendencies were found among adolescents with mood disorders and people with dementia (8, 9). An effect of physical activity on mental health conditions has been shown in numerous studies. This report describes the positive impact of physical activity on three conditions, depression, schizophrenia and dementia, because of the availability of evidence and their high prevalence and public health importance in the WHO European Region. Depression is one of the commonest mental disorders that can be appropriately treated in primary health care; schizophrenia is a severe mental disorder that affects a smaller proportion of people but can still be treated adequately in non-specialized health care settings; and dementia is a neurological disease of growing importance due to its increasing prevalence and consequent need for a scalable response in health systems. All the examples share a strong bidirectional link with common NCDs (Table 1).

**Table 1.** Selected mental health conditions and their links with other NCDs

### Depression

- › With a population prevalence of 4.3%, depression accounts for over 5% of all years lived with disability in the WHO European Region (10).
- › Depression is associated with a 37% increase in risk for diabetes mellitus (11).
- › The risk of people with depression for coronary heart disease is 1.6–1.8 times that of the general population (12, 13). They also have an elevated risk for a poor outcome after a cardiac event.

A common mental disorder, characterized by sadness, loss of interest or pleasure, feelings of guilt or low self-worth, disturbed sleep or appetite, feelings of tiredness and poor concentration. It can be long lasting or recurrent, substantially impairing a person's ability to function at work or school, or cope with daily life. Different levels of severity of depression exist, ranging from mild to severe forms.



## Schizophrenia

- › The life expectancy of people with schizophrenia is reduced by 15–20 years, most commonly because of poorly managed physical health, in particular cardiovascular disease (14).
- › The risk of people with schizophrenia for diabetes is twice that of the general population (15).
- › People with severe mental disorders are 50% more likely to be obese than the general population; studies have reported obesity rates of about 50% for women and 30–40% for men (16).

A severe mental disorder, characterized by profound disruptions in thinking, affecting language, perception, and the sense of self. It often includes psychotic experiences, such as hearing voices or delusions. It can impair functioning through the loss of an acquired capability to earn a livelihood, or the disruption of studies. Schizophrenia typically begins in late adolescence or early adulthood.

## Dementia

- › Approximately 10 million people in the WHO European Region are affected by dementia (17).
- › In primary cohort studies, people with dementia did not have a higher prevalence of diabetes or stroke than age-matched controls. Nevertheless, the high prevalence of NCDs in elderly people indicates that their treatment should be integrated into the usual care for dementia.

A neurological syndrome characterized by a decline in cognitive function which is most commonly affecting the elderly. The term covers several diseases affecting memory, other cognitive abilities and behaviors that interfere significantly with a person's ability to maintain their activities of daily living. Alzheimer's disease is the most prevalent form of dementia and accounts for 60–70% of cases.

## › Effects of physical activity on selected neurological and mental disorders

Evidence on the effects of physical activity on mental health conditions is growing. Table 2 provides an overview of relevant outcomes in non-clinical and clinical populations. A number of hypotheses exist to explain these outcomes on the prevention and course of disease: Increased self-control and self-confidence as well as stress resistance serve as psychological explanations. Biological factors could also contribute to the effects: physical activity leads to an increased production of neurotransmitters like dopamine and serotonin, which are known to be lowered in several mental health conditions, as well as a higher number of newly generated neurons, which are important for learning and memory formation.

**Table 2.** Effects of physical activity on depression, schizophrenia and dementia

Depression	
Prevention	Treatment
<ul style="list-style-type: none"> <li>› Physical activity is a protective factor for depressive symptoms in all age groups.</li> <li>› More physical activity can decrease the risk for depression by up to 45%.</li> <li>› As little as 60 min of physical activity each week is sufficient to prevent 12% of new cases of depression.</li> </ul>	<ul style="list-style-type: none"> <li>› Physical activity is as effective as cognitive-behavioural therapy or antidepressant medication for mild depressive symptoms.</li> <li>› People with severe and treatment-resistant depression benefit from physical activity (in combination with antidepressants).</li> <li>› Physical activity can be effective treatment for depression throughout the life-course: in children, adolescents, adults, the postnatal period and late life.</li> <li>› Effects have been seen in all settings, including the community.</li> </ul>
Schizophrenia	
Prevention	Treatment
<ul style="list-style-type: none"> <li>› In a Finnish population, low physical activity during childhood and adolescence was an independent predictor of schizophrenia (18).</li> <li>› Limited evidence indicates that structured exercise interventions could improve clinical, social and cognitive domains of children at risk of schizophrenia (19).</li> <li>› Lifestyle modifications might have to be supported at an early stage of the disease because of the high risks for obesity and NCDs such as diabetes in first-episode patients.</li> </ul>	<ul style="list-style-type: none"> <li>› Overall, symptoms of schizophrenia and quality of life can be improved by increased physical activity.</li> <li>› Negative symptoms (i.e. apathy and flattened affect) might be reduced by physical activity. These symptoms are not targeted by antipsychotic medications and affect social functioning and everyday activities.</li> <li>› Complications of antipsychotic medication such as weight gain and cardio-metabolic dysfunction can be controlled through exercise.</li> </ul>
Dementia	
Prevention	Treatment
<ul style="list-style-type: none"> <li>› Physical activity can protect people from cognitive decline and neurodegenerative diseases, possibly reducing the risk for dementia by up to 10%.</li> <li>› A reduction of 25% in physical inactivity could reduce one million cases of Alzheimer disease globally.</li> </ul>	<ul style="list-style-type: none"> <li>› Increasing physical activity reduces cognitive decline.</li> <li>› Regular physical activity improves mobility, balance and the ability to walk.</li> <li>› The risk of falls can be reduced by maintaining muscle strength and healthy bones and joints.</li> <li>› These effects can initially help people with dementia to live independently for longer and can later reduce the burden of caregivers.</li> </ul>





## Increasing physical activity levels among people with mental health conditions

Various factors can impede the uptake and effectiveness of physical activity in people with mental health conditions, from intrapersonal aspects such as low motivation, to environmental factors such as the built environment, income and education. There are possibilities at all levels of governance to overcome these barriers (Table 3).

**Table 3.** Common barriers and possible means for increasing physical activity in people with mental health conditions

Barrier	Response	Policy options
Low motivation (resulting in low rates of initiation and adherence)	Social support Professional support	Physical activity counselling in primary care Promotion of physical activity among caregivers, relatives and friends Provision of supervised group sports
Restricted multisectoral collaboration	Integration of mental health conditions into existing mental health and sports policies or creation of new policies	Government leadership, including identification of intersectoral actions and allocation of resources for regional and local projects Collaboration between health care providers and sports associations Collaboration between primary care facilities and sports clubs
Limited awareness in the general population	Conduct mass media campaigns Health education Health literacy	Campaigns in communities, schools and workplaces Integration of preventive counselling into primary care National physical activity guidelines, including mental health conditions
Limited awareness of the benefits of physical activity among health and sports professionals	Health education	Integration of effects of physical activity on mental health conditions in the curricula of health care workers Training of non-specialized health professionals in counselling techniques (e.g. behavioural activation, motivational interviewing and behavioural counselling) Creation of evidence-based guidelines
Restricted access to spaces for physical activity	Increase geographical proximity Reduce financial constraints	Creation of public recreational spaces Subsidies or reimbursement schemes for exercise or sports facilities Schemes for physical activity on prescription

**Low motivation** is one of the main reasons that people with mental health conditions do not take up and adhere to physical activity. Social support is a crucial motivator, and this can be increased by raising awareness about the positive impacts of physical activity on health among patients, their relatives and friends (20). Social support is also one of the main advantages of group interventions: the emotional and informational support provided by peers can help people to initiate, comply with and adhere to exercise.

**Increasing motivation and raising awareness** can both be done in primary care. The effectiveness of such initiatives depends, however, on the awareness, knowledge, attitudes and communication competence of health care professionals. These can affect the frequency and quality of information on the benefits of physical activity that they provide to patients. Therefore, positive attitudes towards the use of physical activity should be engendered among health professionals in primary care (21). Training in brief interventions such as motivational interviewing and behavioural counselling can also have positive outcomes, as they can empower people with mental health conditions to change their behaviour (20). Sports professionals such as physiotherapists and exercise physiologists can increase levels of physical activity, as supervision has repeatedly been reported as an important factor in the initiation of and adherence to exercise interventions. To enable both health and sports professionals to provide such support, their curricula should include the positive effects of physical activity on mental health and tools for counselling patients to increase their physical activity.

**Lack of or limited access** to spaces for physical activity is a common barrier. Environmental factors such as geographical proximity to sports facilities and the provision of recreation spaces can promote a physically active lifestyle (20). Financial constraints can be overcome through subsidies or reimbursement schemes for sports programmes or facilities, and physical activity on prescription could be incorporated into national health systems. This would lower the costs associated with increased physical activity for people with mental health conditions and facilitate integration of physical activity as treatment into medical practice. Physical activity is nevertheless more than a single prescription: it should become part of the daily routine. An active lifestyle should therefore be facilitated in general, with the provision of long-term opportunities for people with mental health conditions as well as for the general population.

The Physical activity strategy for the WHO European Region 2016–2025 (3) offers guidance for policy-makers on priorities and options for increasing physical activity. The options include the promotion of physical activity by health professionals, early identification, counselling and referral in primary care and improved access to physical activity facilities and offers. The strategy highlights the life-course approach, which is especially relevant for mental health conditions, which can affect all age groups, although certain age groups are at higher risk for specific disorders, such as schizophrenia in young adults and dementia in elderly people. Thus, the life-course approach can facilitate the development of national policies for physical activity and mental health conditions.

## > Conclusions

Physical activity can be an effective strategy for promoting mental health and well-being and contribute to the treatment of mental health conditions. To further support the use of physical activity in the prevention and management of mental health conditions and other chronic conditions, a stronger evidence base is needed; the availability of high-quality evidence remains limited, particularly with regard to the appropriate amount of physical activity for people with mental health conditions and the size of the effects of different interventions.

Policy-makers are nonetheless encouraged to take the available evidence into account at all levels of governance. Collaboration within the government and among sectors, such as education, health and sports,

is necessary to increase physical activity among people with mental health conditions and those at risk of developing them. Adaptation of existing policies and creation of new strategies could increase the low levels of physical activity among people with mental health conditions and complement cost-effective strategies. Strategic policy frameworks such as the Physical activity strategy for the WHO European Region 2016–2025 (3) and The European mental health action plan 2013–2020 (5) offer guidance for responding to this challenge and for transforming health care systems appropriately.

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