



[Firth, J., Solmi, M., Wootton, R.E., Vancampfort, D., Schuch, F.B., Hoare, E., Gilbody, S., Torous, J., Teasdale, S.B., Jackson, S.E. and Smith, L. 2020, 'A meta-review of "lifestyle psychiatry": the role of exercise, smoking, diet and sleep in the prevention and treatment of mental disorders', *World Psychiatry*, vol. 19, no. 3, pp.360-380.](#)

Study aim

1. To better understand the evidence for the causal role of lifestyle factors in the onset and prognosis of mental disorders.
2. To present an empirical overview of the field of 'lifestyle medicine' for mental illness.

Definition of terms

Lifestyle factors: A term used here to refer to health behaviours such as physical activity, diet, tobacco smoking and sleep.

Mental disorders: For this study included mood disorders (moderate or severe depression and bipolar disorder), psychotic disorders (including schizophrenia and related conditions), anxiety and stress-related disorders, dissociative disorders, personality disorders, and ADHD.

Background

There is an increasing (academic and clinical) interest in how "lifestyle factors" or behaviours associated with physical health may also relate to mental health and psychological well-being. In response, international and national health bodies are producing guidelines to address health behaviours in the prevention and treatment of mental illness.

Why this interest? Because:

- There has been little improvement in primary prevention of mental illness, with clear gaps in both the evidence and implementation for such interventions.
- The rate of common mental disorders (i.e., depression and anxiety) appear to even be increasing among the younger generations.
- An emerging body of research has linked both the onset and symptoms of various mental disorders to lifestyle factors

Method (pp. 360-363)

A meta-review of top-tier studies¹ was conducted to scan data on the links between physical activity, sleep, dietary patterns, and tobacco smoking on risk and treatment outcomes for a range of mental disorders.

An analysis and synthesis of these studies was then done to identify what lifestyle factors might help to prevent and treat depression, anxiety and stress-related disorders, schizophrenia, bipolar disorder, and attention-deficit/hyperactivity disorder.

¹ These were 29 meta-analyses of prospective/cohort studies, 12 Mendelian randomization studies, two meta-reviews, and two meta-analyses of randomized controlled trials.



Findings

Pages 364-373 have 8 tables that summarise the converging evidence on the roles of exercise, smoking, diet, and sleep. I will present some general findings:

Physical activity

- Physical activity is the most widely researched lifestyle factor
- Overall, we can conclude that physical activity has a protective role in reducing risk for certain mental disorders. Studies also indicate that exercise interventions may provide effective adjunctive treatment for depression, anxiety, and stress related disorders, psychotic disorders and ADHD.
- Specifically, 150 minutes of moderate activity or 75 minutes of vigorous activity per week is recommended.
- Most studies focused on aerobic activity but there is now evidence that muscular strength and resistance training also protects against mental illness, even independently of general physical activity.

Sleep

- Poor sleep has prospective links with various psychiatric disorders and there is one study that indicates a causal role in bipolar disorder. Sleep disturbances are linked to a higher risk of suicidal behaviour for people living with mental illness.
- As medicine, sleep is found to reduce symptoms of depression. In youth experiencing symptoms of psychosis, sleep reduces the severity of symptoms.

Tobacco

- There is increasingly strong evidence implying that tobacco smoking as a causal factor in onset of both common and severe mental illness
- Specifically multiple meta-analysis show that smoking is associated with heightened prospective risk of mental disorders, earlier age of onset, and adverse outcomes in those living with mental illness.

Diet

- Understandings of the causal effects of diet on mental health and severe mental illnesses is unclear. Some studies show a healthy diet reduces the risk of depressive symptoms, but there is an absence of evidence to support causal roles for diet patterns in the onset of mental illness.
- A Mediterranean diet has largely positive effects on mental health.

Recommendations

Directions for future research

More research is needed on diet and sleep. Specifically, we need:

- Diet -to clearly establish causal relations between dietary patterns and risk of mental illness, and how diet should be best addressed within mental health care.



- Sleep -to understand the complex, bidirectional relations, and the benefits of non-pharmacological sleep-focused interventions.

Also, we need better understanding of:

New lifestyle factors – namely the internet and digital technologies because they are recognised to influence psychological wellbeing. It is a complex field to study.

Underlying mechanisms of lifestyle factors. Two stand out:

Inflammation is emerging as a key biological mechanism linked to multiple behaviours that influence the risk of mental illness. We know that exercise, Mediterranean diet, improve sleep, and not smoking are behaviours that have anti-inflammatory effects.

Microbiome - The role of the gut biome in mental health is also an area receiving considerable research interest. We know the microbiome is influenced by exercise and diet.

Implementing findings at public health and clinical service levels

Need better understanding of enablers and barriers to encourage lifestyle medicine across a range of interventions, including:

- using behaviour change techniques with specific, measurable behavioural goals and self-monitoring
- involving dedicated “physical health” staff, such as professionals in specific aspects of health behaviour change, delivering supervised sessions for service users
- training mental health staff in the importance and goals of lifestyle interventions
- facilitating peer-support to improve uptake and adherence.