

Health and stress

(week 6)

Depression and Health II

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Outlines

- The burden of depression
- The prevalence of depression
- Lifestyle Medicine elements
- The role of environmental stressors
- The impact of caffeine on general health
- Application of lifestyle medicine
- Conclusion and reference

Objectives

- Evaluation the impact of depression.
- Characterizing the elements of life style medicine.
- Comparison between different treatments of depression.
- Analyze the role of environmental stressors.

The burden of depression:

- Depression has the highest disease burden worldwide in terms of life-years lost to disability (Prince et al., 2007).
- It is highly prevalent, results in significant functional impairment, and **increases the risk of suicide** and comorbid physical health problems
- Recurrence is common in major depression

The prevalence of depression:

- appears to have increased over the past three decades.
- While this may be an artefact of diagnostic practices, it is likely that there are factors about **modernity** that are contributing to this rise.
- The range of **lifestyle factors** are involved in the pathogenesis of depression.
- Many of these factors can potentially be modified, yet they receive little consideration in the contemporary treatment of depression, **where medication and psychological intervention remain the first line treatments.**

“Lifestyle Medicine”

- “Lifestyle Medicine” provides a nexus between **public health promotion** and **clinical treatments**, involving the application of **environmental, behavioural, and psychological principles** to enhance physical and mental wellbeing.
- This may also provide opportunities for general health promotion and potential prevention of depression.

The role of environmental stressors

- Stress.
- Higher levels of interpersonal stress were found to be associated with greater probability of relapse (Beshai *et al.*, 2011). So, the evidence was sparse but somewhat supportive of a prognostic effect.
- There is a suggestion of **dysregulation of the adenosine system** in depression.
- While evidence supports the avoidance of caffeine in anxiety disorders, data suggests that **caffeine use from coffee consumption may be protective against depression.**

Table 1 Lifestyle medicine for depression

Lifestyle element	Evidence level	Cost	Comment
Diet	CS, LO	Moderate expense	Relationship found between dietary quality and depression; RCTs now required to validate
PA/Exercise	CS*, LO*, CTs	Inexpensive	Strong evidence of efficacy for improving mood
Recreation	OB, CTs	Variable expense	No studies exploring recreational activities for depression (aside from music therapy)
Relaxation & meditative techniques	CTs	Inexpensive	Evidence supports relaxation techniques (especially with a mindfulness component) in improving mood
Sleep	CS, LO, CTs	No expense	Strong causal link between sleep amount and quality, and depression risk
Environment	CS, LO, CTs	Potentially not adjustable	Association between reduction of pollution and mood; CTs showing NAT improves mood
Socialization	CS, LO	No expense	Strong association between social support/networks and mental health
Animal/Pet therapy	CS, CTs	Moderate expense	Studies support the psychological benefits of animals and pets
Vices (smoking, alcohol)	CS, LO	Potential to save money	Association between smoking and alcohol, and depressed mood

CS = Cross-sectional, OB = Observational Study, LO = Longitudinal, CTs - Clinical Trials, NAT = Nature-Assisted Therapy, PA = Physical Activity, Data assessing the relationship between exercise and depression has revealed mixed outcomes.

*Data assessing the relationship between exercise and depression has revealed mixed outcomes.

- **Diet** modulates several key biological processes that underscore mood disorders, including brain plasticity and function, the stress response system, mitochondria, inflammation, and oxidative processes
- E.g Smoking cigarettes increases the risk for the **genesis of affective (the start) and anxiety disorders**
- **potential risk factor for the development of de-novo depression.**

The impact of caffeine on general health:

- **Caffeine** is in many cultures the most commonly used psychoactive substance.
- It acutely increases attention, alertness, cognition and mood, with some individuals with dysphoric mood being predisposed to use caffeine more heavily, due to its mood-elevating potential (**via activation of noradrenergic and dopaminergic pathways***).
- **Caffeine** modulates the **adenosine system**, and the anxiogenic potential of caffeine is influenced by **polymorphisms of the A2A receptor**.

* A neuronal system that is responsible for the synthesis, storage and release of the neurotransmitter norepinephrine.

- **Sleep disturbance** is a frequent symptom of depression, and a strong causal link exists between insomnia and depression
- a person's **social environment** is another key lifestyle influence affecting mental health concerns.
- Positive, supportive, intimate relationships, be it via family, friends or a relationship, **have been established to have a beneficial effect on general health**, and in particular for maintaining psychological health.

- **Pets**, Humans commonly have close relationships with animals, particularly pets, and such relationships may have a theoretical benefit for alleviating depressed mood.
- Having a pet can provide physical affection and a feeling of **unconditional love**, assist in the maintenance of a routine, and also provide responsibility and an additional sense of life purpose.
- Formalized animal-assisted therapy may involve horses (equine therapy), dogs, or even interactions with some other types of animals.

Application of lifestyle medicine

- **The application of Lifestyle Medicine should be considered in the context of long-term sustainability.**
- Motivational issues, time restrictions, financial limitations, the perspective about the source of their difficulties and treatment priorities, **may influence a patient's ability to implement lifestyle changes.**

Conclusion

- a variety of lifestyle modifications exist that have appropriate potential front-line clinical application alongside **pharmacotherapies and psychological techniques to better manage depression.**

Reference:

Sarris J., *et al.*, 2014, Lifestyle medicine for depression, BMC Psychiatry, 10:14:107.