



Mentally Healthy and Happy Exercise Your Mind



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Introduction

Purpose

The purpose of this study is to investigate the mental health benefits of exercise on adult clients diagnosed with depression, as opposed to standard pharmacological interventions in a regional inpatient psychiatric clinical setting.

Objective

The objective of this research study is to demonstrate the therapeutic effects of moderate aerobic exercise along with mild to moderate strength training on adult clients diagnosed with depression, with intentions that healthcare providers will consider exercise as a first-line treatment for clients newly diagnosed with depression.

Abstract

Depression is the most common psychiatric disorder and is thought to affect 121 million adults worldwide, and was rated as the fourth leading cause of disease burden in 2000 with projections to become the highest cause of disease burden by 2020. Antidepressant drugs are an effective and commonly used treatment for depression although almost half of those treated with antidepressants do not achieve full remission of their symptoms, and there remains a risk of residual symptoms, relapse, and recurrence. As such, there has been an increasing interest in the role of alternative interventions for depression. Physical exercise has been proposed as a first-line treatment, which may help to improve residual symptoms of depression and prevent relapse. This will then be compared to current treatments provided in a regional inpatient psychiatric clinical setting, with recommendations for improvement.

Clinical Implications

An adult client newly diagnosed with depression who does not already incorporate exercise into their routine should try exercise as a first-line treatment. The Department of Health and Human Services recommends that adults should get at least 150 minutes of moderate aerobic activity per week, with mild to moderate strength training incorporated. Of course, exercise may not be the best treatment option for all newly diagnosed clients, but clinicians and providers should begin to consider exercise as initial treatment for clients with depression instead of the standard pharmacologic intervention. As with other treatment options for depression, exercise (as an intervention) must be tailored specifically to the individual client. There are many factors that can play a role in implementing an exercise program such as the clients current physical and mental health state, their willingness to comply, availability of recreational facilities, and which activities the client wishes to participate in. The client can participate in a wide variety of different activities as they wish so treatment doesn't seem to become repetitive. The client also has the option to pick what time of day they wish to participate in treatment, so it can be fit into their schedule appropriately.

References

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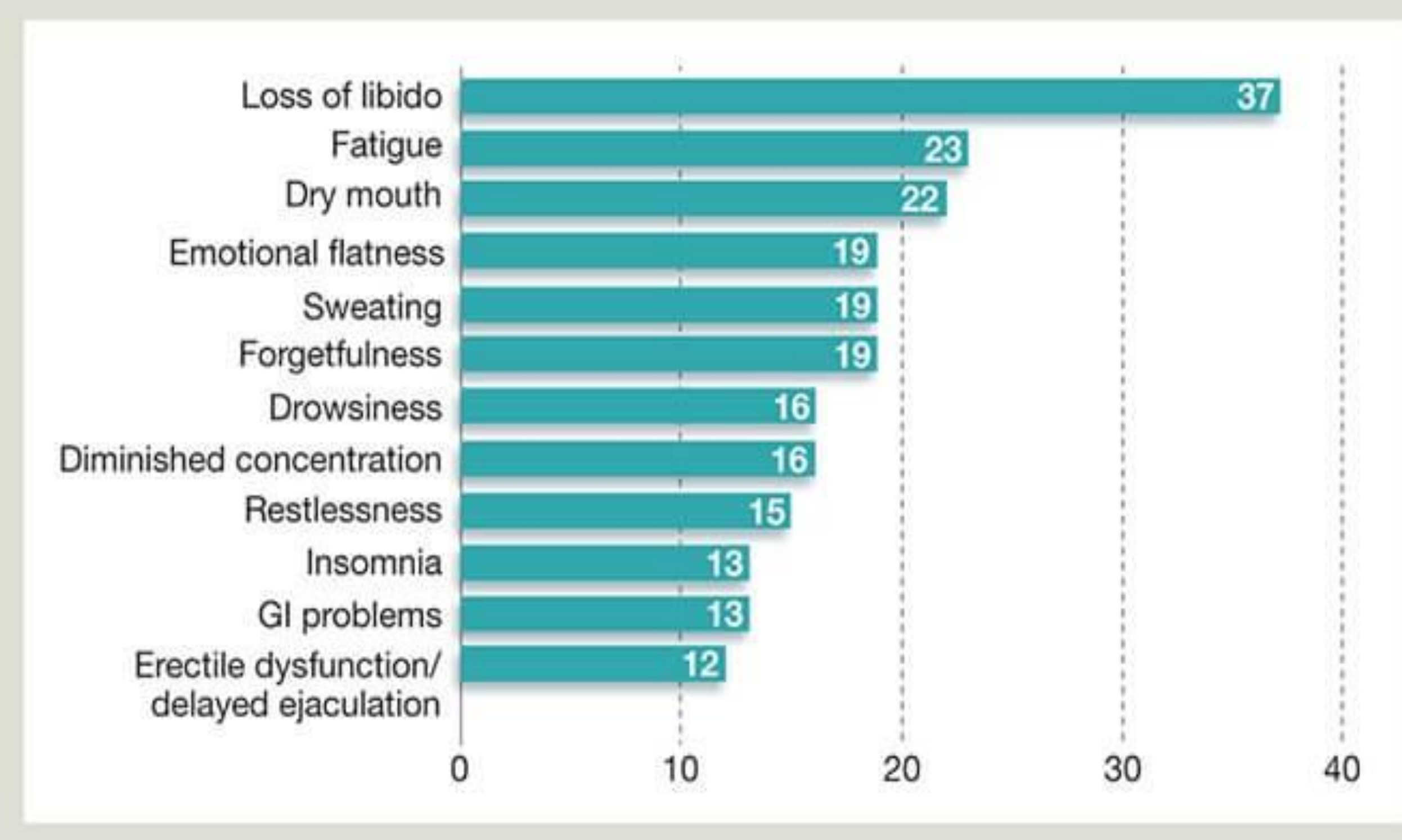
* A complete list of references are listed on the accompanying handout.*

Antidepressants

Currently, antidepressants (ADs) in conjunction with psychotherapy remain the most common treatment choice for clients newly diagnosed with depression, with selective serotonin re-uptake inhibitors (SSRIs) considered as the first-line class of medications. Among the different ADs, SSRIs offer as much benefit as other medications with the least amount of risk in terms of safety and side effects. They are the most widely prescribed class of ADs (Simon et al, 2017). Though these medications have the potential to reduce symptoms of depression, they come along with unfavorable side effects (see figure below). A recent study even showed an increased risk of suicidal thinking when first starting AD therapy, especially for those under the age of eighteen, and a frightening increase in those who stop their medication abruptly (Coupland et al, 2015). It is important to be aware if the client has been having suicidal thoughts before starting AD therapy because when first starting AD therapy, your energy and motivation improve before your mood. The client can initially remain suicidal, but now have the energy to consider it further. Also, ADs often take time to reach a therapeutic level in the body to where their effects can be noticed; usually one to two weeks before the client can notice change, and six to twelve weeks to reach consistent therapeutic levels in the body. Healthcare providers tend to wait this long to evaluate the effectiveness of the prescribed treatment, which can be extremely time consuming when finding a therapy that relieves the insidious symptoms of depression. If the provider deems the treatment ineffective, they typically will increase the medication dose, add additional medications to the treatment regimen, switch medications, or take further action as they see fit. Unfortunately, alternative interventions such as exercise are not considered as a treatment by many providers and is not mentioned as a reliable form of treatment for any stage of depression in any span of life.

Advantages	Disadvantages
Can Ultimately be Effective at Treating Symptoms of Depression	Low Compliance
Nonstrenuous Treatment Option	Increased Risk for Suicide / Self-Harm
Medication Can Reverse Some Effects of Depression and Provide Energy for Reengagement with Life	Average 6-12 Weeks to See Full Effects
Not Considered to be Addictive	A Myriad of Side Effects
	Drug / Diet Interactions
	Increased Healthcare Cost
	Cannot Stop Treatment Abruptly

Figure. Most frequent adverse effects in primary care patients using different types of antidepressants



Side Effect Answers. (2017). [Bar Graph of adverse effects with antidepressants]. *Antidepressants: A complete review of proven medications*. <https://sideeffectanswers.com/antidepressants/>

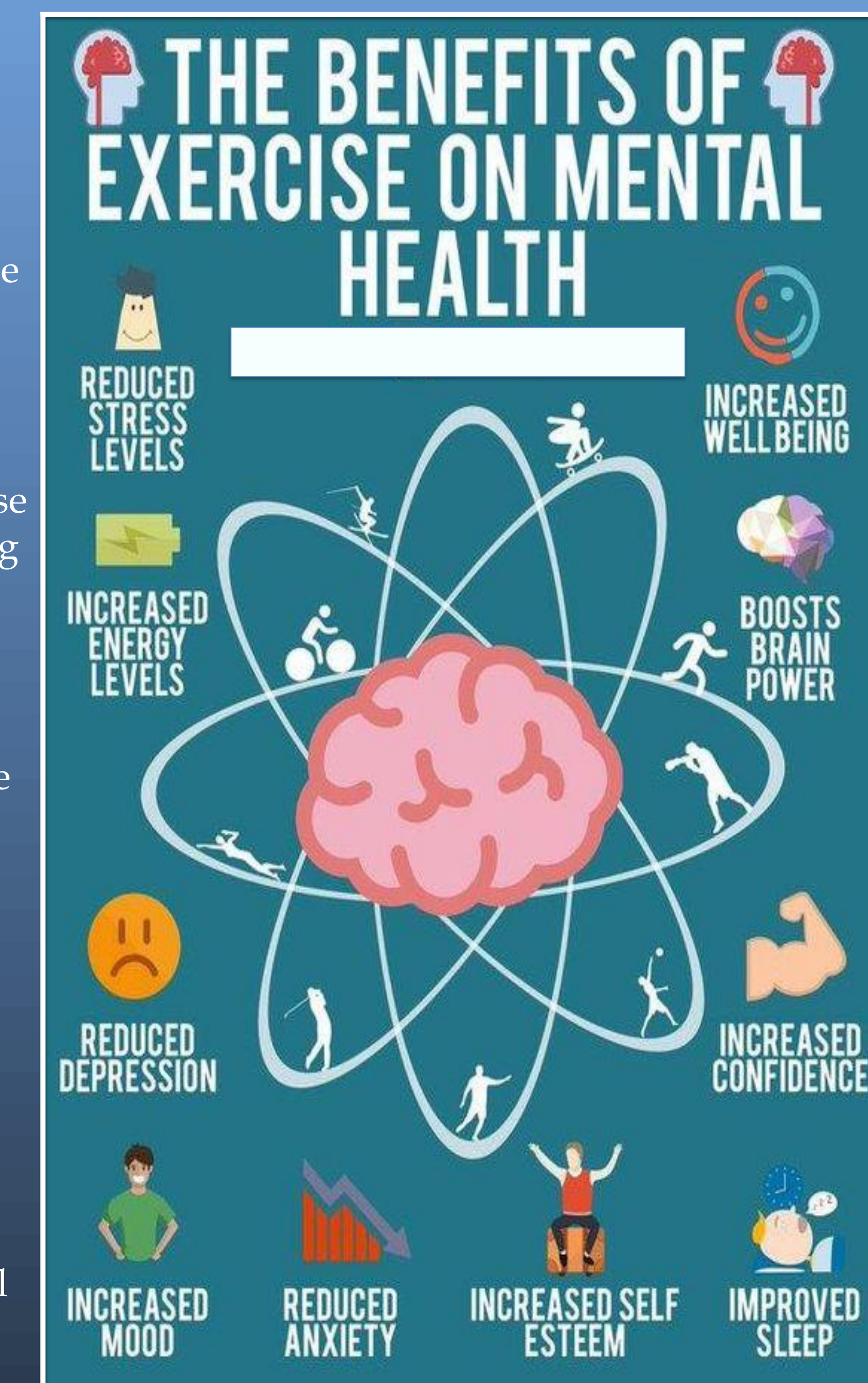
Exercise

Improvements in providers recommending exercise as a treatment should be considered a target in treatment for depression. The exact pathologic mechanism as to how exercise affects overall mood is unknown, but we do know that exercise reduces symptoms of depression via a neurobiological mechanism that includes increased noradrenaline levels, decreased cortisol (stress hormone) levels, and changes in hippocampal neurogenesis such as an increase in b-endorphins, vascular endothelial growth factor, brain-derived neurotrophic factor, and serotonin (Ernst et al., 2006).

There are numerous existing theories as to how exercise affects mood and overall demeanor, but a specific study involving clients less than sixty years of age diagnosed with major depressive disorder (MDD) via the established criteria provided by the DSM5 showed that mixed aerobic exercise and strength training, but not strength training or aerobic exercise alone, were effective treatments for depression in adults. This study used validated screening tools such as the Hamilton Depression Scale16 [HAM-D], Beck Depression Inventory17 [BDI], Geriatric Depression Scale18 [GDS], and others to assess the extent of MDD in each individual. This was the first study to calculate mean-difference changes in depressive symptoms across two commonly used measures in adults. Specifically, they found a 5.2-point reduction in HAM-D and a 6.2-point reduction in BDI scores. While this reduction is smaller than that reported in a recent meta-analysis focusing on adults, it exceeds the threshold for clinically meaningful change proposed by the National Institute for Health and Care Excellence guidelines for depression treatment.

In addition to lowering HAM-D and BDI scores, the study found that group exercise was more effective for older clients than it was for clients on the younger end of the spectrum. This may be particularly important in a population known to be at high risk of social isolation. Future research should consider the mental health benefits of exercise not only as a means of increasing physical activity, but also as a vehicle for promoting social interaction.

In conclusion, exercise should be considered as an effective non-pharmacological treatment for depression in adults. The effectiveness of alternative methods such as exercise are especially relevant because late-life depression is a major societal burden, resulting in increased health care costs, increased risk of morbidity, suicide, cognitive and functional decline, as well as increased mortality.



Advantages	Disadvantages
Plethora of Physical & Mental Health Benefits	Low Compliance
Social Interaction (Group Exercise)	Not an Option for Debilitate Clients
Low Cost / Budget Friendly	Risk for Injury
Array of Exercises that Clients Can Try	A Need for Recreational Facilities
Incorporates Leisure into Treatment Regimen	Other Medications / Comorbid Conditions Play a Role
Can be Specifically Tailored for Each Individual Client	