Mental health and exercise
Learning Objectives

• Understand the prevalence and assessment of mental disorders  
  NICE CG123

• Understand the role of physical activity (PA) in the prevention and management of mental disorders  
  NICE PH44

• Appreciate the hypothesized mechanisms underlying relationship between physical activity and improved mental health

• Understand the link between mental illness, cardiometabolic disease and physical activity

• Understand barriers to physical activity experienced by people with mental illness

• Know physical activity guidelines to provide “teachable moments” and support to people experiencing mental health problems  
  NICE QS 84 RCPsych 2015 MIND 2015
Overview of prevalence and health impact of mental health disorders

- **1 in 4** people suffer from a mental health condition at some point in their lives, at a cost of over **£22.5 billion**/year in the UK alone

- Depression is among the **top five** most common presentations to general practice

- Strong association between mental illness and **metabolic syndrome**
Burden of mental disorders and other #NCDs

Non communicable diseases = NCDs

Account for nearly 30% of disability adjusted life years!

Figure 1: Contribution by different non-communicable diseases to disability-adjusted life-years worldwide in 2005. Data adapted from WHO, with permission.³

PA reduced both depressive symptoms and major depression

• Physical activity is effective in reducing depression in both clinical AND non-clinical populations  
  
NICE [CG90]

• There is a bi-directional relationship between physical activity and depressive symptoms throughout adulthood

• Recommendations for physical activity in depression comparable to general population guidelines
  
  – Uncertainty around ideal specific physical activity variables

Pinto Pereira et al (2014) JAMA Psychiatry
Rebar et al (2015) Health Psychology
Cooney et al (2013) Cochrane Database of Systematic Reviews Issue 9
Both aerobic and non-aerobic exercise effective as an adjunctive treatment.

Recent evidence demonstrating efficacy of augmenting cognitive behavioural therapy with exercise – obsessive compulsive disorder – panic disorder – posttraumatic stress disorder


Figure 2. Scores on the primary outcome measure, Ham-A. Error bars indicate the standard error (SE).
PA for schizophrenia and related disorders

• Important role in improving BOTH physical and mental wellbeing
  ✔ walking, yoga, physical/physiotherapy & team sports

• Low levels of cardiorespiratory fitness (CRF) contributes to premature mortality

• Physical activity can improve CRF in people with schizophrenia within 6–8 weeks, leading to > 15% reduction in all-cause mortality

• Physical activity is a key component of lifestyle interventions at all stages of illness, from first diagnosis to established illness
Potential mechanisms

• Exercise-induced increases in protein PGC-1α in skeletal muscle alter kynurenine-kynurenic acid metabolism

• Exercise-induced increases in BDNF

• Impact allostatic load by decreasing sympathetic nervous system and hypothalamic–pituitary–adrenal axis activity

• Reducing anxiety

• Distraction from ruminating thoughts

• Improved body image

• Social support

• Mastery

• Improved coping

“From basic cellular changes in muscle impacting brain chemistry, to psychosocial impacts – all may have a role to play”

Vancampfort et al (2014) Disability & Rehabilitation
Benefits of exercise for people experiencing poor mental health

• Improved cardiometabolic health
• Decreased symptoms
  – depression, anxiety, schizophrenia and bipolar disorder, fatigue, pain
• Improved self esteem and mastery
• Improved sleep quality
  – sleep disturbance often precedes development of psychiatric symptoms
• Physical activities offered as an adjunct to traditional mental health services may facilitate engagement

http://www.rcpsych.ac.uk/healthadvice/treatmentwellbeing/physicalactivity.aspx
NICE CG90 : note to be updated March 2015
Interrelationships between mental and physical health

- Sedentarity
- Physical Activity
- Smoking
- Eating behavior
- Negative Symptoms
- Self-esteem
- Stress
- Quality of Sleep
- Self-efficacy
- Health-related Lifestyle
- Physical Fitness
- Cardio-respiratory Fitness
- Muscular Strength
- Antipsychotic medication
- Mental Health
- Metabolic Syndrome
- Waist circumference
- Triglycerides
- HDL-cholesterol
- Blood Pressure
- Glucose

Recreated with permission from Vancampfort et al. (2010) Psychiatry Research
Cardiometabolic disease and mental illness

• Preventable cardiovascular disease greatest contributor to the *scandal of premature mortality* faced by those experiencing mental illness

• Physical inactivity is a key modifiable risk factor

• ‘Sit less and move more’ should be the pragmatic focus of physical activity interventions for people with serious mental illness versus ‘population’ guidelines

Thornicroft (2011) British Journal Psychiatry
Lester UK adaptation
“Don’t just screen- INTERVENE!”

• Clinical algorithm for the treatment of cardiometabolic abnormalities in people experiencing mental illness (especially those taking psychotropic medications)
• Lifestyle modification is the cornerstone of the clinical algorithm
• Multidisciplinary expertise essential e.g. mental health physiotherapists, exercise physiologists, dietitians

Download Lester UK Adaptation: www.rcpsych.ac.uk/quality/NAS/resources
Barriers to being physically active

• Important to consider the **psychosocial and physical barriers**

• Lack of motivation is a symptom experienced by some people with mental disorders
  – not the same as being lazy!

• Lack of self confidence, low self esteem and lack of self efficacy can inhibit willingness to participate in PA programs

• Sedative effects of antipsychotic medicines may increase sedentary time

• High rates of cardiometabolic disease and obesity make PA participation more challenging

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Vancampfort & Faulkner (2015) Mental Health & Physical Activity
Soundy et al (2014) Psychiatric Services
You know, just 30 minutes of exercise a day can reduce depression by 50%.

JUST GIVE ME THE DRUGS!

Credit: Chato B. Stewart
Physical activity guidelines

• Standard age appropriate guidelines are appropriate for people experiencing mental disorders

• Achieving this amount of physical activity may be unrealistic in many cases: the ideal exercise program is one that the patient will ACTUALLY follow!

• Discouraging sedentary behaviour, encouraging more incidental activity and developing tailored structured programs, in consultation with exercise specialists is the best way to maximise the benefits of PA for people with mental illness!

More more!

Sit less!

Choose a fun activity!

Provide support!

Mind, the mental health charity: *5 ways to get moving and feel better’*
Summary

• People experiencing mental illness are at high risk of cardiometabolic disease

• Exercise can positively impact upon mental health symptoms whilst simultaneously improving physical health outcomes

• Benefits for broad range of conditions including depression, anxiety and schizophrenia
Additional resources

- http://www.rcpsych.ac.uk/healthadvice/treatmentswellbeing/physicalactivity.aspx
- http://www.mentalhealth.org.uk/content/assets/PDF/publications/lets-get-physical-report.pdf
References