ECHO Idaho: Behavioral Health in Primary Care

Exercise and Mental Health
Tara Whitaker, MD—Capital City Family Medicine

Tara Whitaker has no financial relationships to disclose.
Learning Objectives

• Review evidence for exercise as treatment for mental health conditions
• Learn tips for writing an exercise prescription
• Review motivational interviewing principles
• Get inspired to get more active!
HHS exercise guidelines

• Adults should perform 150-300 minutes of moderate physical activity weekly
• Any increase is beneficial to health, especially for people under target range
• Evidence for health benefits of physical activity on weight gain, adiposity, bone health, even for children as young as 3
• Increasing activity in older adults helps maintain independence by reducing falls and improving cognition
• *Physical activity reduces symptoms of depression and anxiety and improves sleep quality*
Some is better than nothing

- Sedentary people who begin light activity reduce risk of all cause mortality, CV disease and mortality, and T2DM
- If people are below 150-300 minutes per week, even small increases in moderate-intensity physical exercise provides health benefits—No threshold that must be exceeded to achieve benefits
Does exercise help depression?

- YES! (But of course more research is needed)
  - Meta-analysis of randomized controlled trials (Schuch, et al, 9/2015)
  - Exercise interventions vs. control conditions for diagnosed MDD or based on depression scale
  - 25 RCTs
  - Significant and large effect on depression, prior meta-analyses thought to underestimate effect
  - Supervised better than unsupervised
  - Moderate to high intensity aerobic appears best
<table>
<thead>
<tr>
<th>Study name</th>
<th>Std diff in means</th>
<th>Lower limit</th>
<th>Upper limit</th>
<th>p-Value</th>
<th>Std diff in means and 95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mota-pereira 2011</td>
<td>4.599</td>
<td>3.189</td>
<td>6.009</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>Singh 1997</td>
<td>3.105</td>
<td>2.075</td>
<td>4.135</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>Danielsson 2014</td>
<td>2.679</td>
<td>1.845</td>
<td>3.512</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>Mutrie 1988</td>
<td>2.408</td>
<td>1.115</td>
<td>3.702</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>Setaro 1985</td>
<td>1.529</td>
<td>0.899</td>
<td>2.160</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>Mcneil 1991</td>
<td>1.484</td>
<td>0.495</td>
<td>2.474</td>
<td>0.003</td>
<td></td>
</tr>
<tr>
<td>Brenes 2007</td>
<td>1.249</td>
<td>0.407</td>
<td>2.092</td>
<td>0.004</td>
<td></td>
</tr>
<tr>
<td>Hemat-far 2012</td>
<td>1.237</td>
<td>0.280</td>
<td>2.193</td>
<td>0.011</td>
<td></td>
</tr>
<tr>
<td>Pilu 2007</td>
<td>1.217</td>
<td>0.397</td>
<td>2.036</td>
<td>0.004</td>
<td></td>
</tr>
<tr>
<td>Epstein 1986</td>
<td>1.176</td>
<td>0.132</td>
<td>2.220</td>
<td>0.027</td>
<td></td>
</tr>
<tr>
<td>Doyne 1987</td>
<td>1.075</td>
<td>0.231</td>
<td>1.919</td>
<td>0.013</td>
<td></td>
</tr>
<tr>
<td>Nabkasorn 2005</td>
<td>1.052</td>
<td>0.449</td>
<td>1.655</td>
<td>0.001</td>
<td></td>
</tr>
<tr>
<td>Orth 1979</td>
<td>0.734</td>
<td>-1.112</td>
<td>2.581</td>
<td>0.436</td>
<td></td>
</tr>
<tr>
<td>Huang 2015</td>
<td>0.732</td>
<td>0.083</td>
<td>1.380</td>
<td>0.027</td>
<td></td>
</tr>
<tr>
<td>Schuch 2015</td>
<td>0.729</td>
<td>0.157</td>
<td>1.302</td>
<td>0.013</td>
<td></td>
</tr>
<tr>
<td>Singh 2005</td>
<td>0.729</td>
<td>0.063</td>
<td>1.395</td>
<td>0.032</td>
<td></td>
</tr>
<tr>
<td>Shahidi 2011</td>
<td>0.683</td>
<td>0.045</td>
<td>1.321</td>
<td>0.036</td>
<td></td>
</tr>
<tr>
<td>Oertel Knochel 2014</td>
<td>0.525</td>
<td>-0.472</td>
<td>1.521</td>
<td>0.302</td>
<td></td>
</tr>
<tr>
<td>Hallgreen 2015</td>
<td>0.452</td>
<td>0.294</td>
<td>0.610</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>Kerling 2015</td>
<td>0.362</td>
<td>-0.248</td>
<td>0.973</td>
<td>0.245</td>
<td></td>
</tr>
<tr>
<td>Gary 2010</td>
<td>0.207</td>
<td>-0.464</td>
<td>0.878</td>
<td>0.546</td>
<td></td>
</tr>
<tr>
<td>Blumenthal 2007</td>
<td>0.137</td>
<td>-0.255</td>
<td>0.530</td>
<td>0.493</td>
<td></td>
</tr>
<tr>
<td>Veale 1992</td>
<td>0.009</td>
<td>-0.481</td>
<td>0.498</td>
<td>0.973</td>
<td></td>
</tr>
<tr>
<td>Williams 2008</td>
<td>-0.022</td>
<td>-0.761</td>
<td>0.717</td>
<td>0.953</td>
<td></td>
</tr>
<tr>
<td>Sims 2009</td>
<td>-0.230</td>
<td>-0.824</td>
<td>0.363</td>
<td>0.447</td>
<td></td>
</tr>
</tbody>
</table>

**Std diff in means** = standardized differences in means, **CI** = Confidence Interval
Does exercise help anxiety?

• Maybe
  – Meta-analysis 6 RCTs
  – Statistically significant decrease in symptoms compared to controls
  – Moderate effect size
  – Need more data
Does exercise help other mental illnesses?

- Schizophrenia: Evidence that aerobic physical activity can reduce psychiatric symptoms, improve cognition.
- Bipolar: paucity of data, concern for hypomania/mania with exercise, but unproven (more evidence for unipolar depression).
- PTSD: Some evidence of benefit.
Specific activity effects

• Yoga:
  – In MDD, yoga vs exercise and yoga vs medication had similar benefit
  – Less effective than ECT
  – Effective in perinatal period (if focus on meditation and breath control)

• Resistance training:
  – Improves anxiety symptoms in healthy participants and those with physical and mental illness

• Tai Chi:
  – Studies have shown reduces anxiety in older adults with anxiety disorders who are already on medication, but conflicting data/mixed results
Exercise in nature might be EVEN better

- Greater sense of wellbeing when walking in urban vs. rural setting
- Green spaces seem to promote better attention span in adults and children compared to concrete
- Nature seems to lessen the impact of stressful life events
How do you write an exercise prescription?

• Meet patients where they are
  – Motivational interviewing as a starting place for discussing barriers, prior benefits and individual attitudes
  – Start with what people already enjoy, activity can take many forms. Focus on enjoyment, fun, social engagement

• Be specific
  – Write down specific goal after discussion
    • Start with manageable goal (starting dose)
    • Consider small walks throughout the day, parking farther from work, etc.

• Follow-up on progress
  – Ask about activity at every visit
  – Slowly push toward longer duration and higher intensity
Motivational Interviewing for Behavior Change: 5 Principles

1. Empathy through reflective listening
2. Develop personal discrepancy between goals and current behavior
3. Avoid argument and direct confrontation
4. Adjust to resistance to change
5. Support self-efficacy and optimism
Motivational interviewing: OARS

- Open-ended questions (how, what, tell me about)
- Affirmations (sincere)
- Reflective listening (check to confirm understanding)
- Summarize (underscore ambivalence)
Key Points

• Exercise is a safe and effective treatment for many mental health disorders
• Secondary health benefits are vast
• Write exercise prescriptions early and often
• More research is needed into the specific type and amount of exercise that is most beneficial for mental health disorders
• Get outside for exercise when possible
• Motivational interviewing techniques are useful for behavior change
Selected References


• Additional references available upon request