Psychological or Emotional Impairment after Stroke

What is the evidence for the effectiveness of interventions to improve occupational performance for those with psychological and/or emotional impairment after stroke?

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Significance of the Review Question

- Psychological and/or emotional impairment occur in 30 – 50% of persons post-stroke (Roger, Go, Lloyd-Jones, Benjamin, Barry, Borden, et al., 2012)
- Most common conditions include:
  - Depression
  - Anxiety disorders
  - Psychoses
  - Post-stroke dementia (Falk-Kessler, 2011)

Consequences of psychological and/or emotional impairment post-stroke:
- Impedes rehabilitation
- Impairs physical function
- Impairs cognitive function
- Increases stress on caregivers
- Increased risk of death
- Increased risk of suicide (Hackett, Anderson, House, Nibbel, 2008; Whyte, Mullard, Rovner, & Reynolds, 2006)
- Greater morbidity
- Increased dependency
- Higher use of drugs and alcohol
- Increases use of health resources
- Poor compliance with treatment of co-morbidities

Search Process & Results

- 2261 articles reviewed
- 41 articles met criteria
- Five categories identified

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<th>Categories</th>
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<th>III</th>
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<td>4. Education</td>
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Results - Exercise

- Level I: Moderate evidence
  - Strengthening intervention—HRQOL-Mental component at 10-wkS (Chuay, Nymark, Brouwer, Culham, Day, Heard, et al., 2006)
  - ROM intervention—Depression measure (Tseng, Chen, Wu, & Lin, 2007)
- Level I: Insufficient evidence
  - Progressive resistance training—Mental health or depression measures (Cutinha, O'Neill, Bean, Phillips, Stern, Frontiera, et al., 2004; Sims, Galea, Taylor, Dobbie, Jepperson, & Joubert, 2006)
  - Tai Chi—Mental health or depression measures (Taylor-Piliae & Coull, 2011)
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Results - Exercise

- **Level I: Insufficient evidence**
  - Very early mobilization—Depression & anxiety measures at 7 days (Cumming, Collar, Thrift, & Bernhardt, 2008)
  - Other exercise programs—Intensive exercise, ergometry, bilateral arm exercises, walking, treadmill, home based exercise—Short term improvement on depression & anxiety measures, but not long term (Hodgson, Groenewald, Lindstrom, & Wester; 2010; Li, Staudenr, Richards, Rigler, Pena, Reker, et al., 2006; Langhammer, Stanghelle, & Lindmark, 2008; Lemon, Cama, Goey, Stephenson, & Blake, 2008; Reid, Greig, Cunningham, Lewis, Dinnen, & Saunders, et al., 2007; Morris, van Wijck, & Gledhill, 2007)

- **Level II: Insufficient evidence**
  - Exercise & recreation activities (Hand, Eng, Liu-Ambrose, & Tavel, 2015)
  - Community based exercise (Stuart, Bernardi, MacKenzie, Tavani, Segaren, Mayer, et al., 2009)

Results-Care Coordination Interventions

- **Level I: Mixed evidence**
  - Care coordination in the community—HRQOL & depression measures (Manning, Nadeau, Ahmed, White, Gladwin, et al., 2012)
  - Family support Organizer—Depression or anxiety scores (Lincoln, Francis, Liley, Lineham, & Summerveld, 2015; Tilling, Consal, Marshall, Danese, & Wolfe, 2005)
  - Day service—Depression or anxiety (Cor, Phillips, & Walker, 2004)

Results-Education Interventions

- **Level I: Insufficient evidence**
  - Leisure education program—Depression reduced (Desrochers, Nouel, Richelle, Catterson, Fontaine, Vanglip et al., 2006)
  - Stroke education program—Reduction in anxiety, but not depression (Smith, Forder, & Young, 2004)

Results-Community Rehabilitation

- **Level I: Moderate evidence**
  - Intensive vs. non-intensive home based rehabilitation (greater number of rehab team visits)—HRQOL, anxiety, & depression improved (Ryan, Endesby, & Rigby, 2004)

- **Level I: Insufficient evidence**
  - Community-based OT—HRQOL mental health measures (Egan, Keadler, Laporte, McCall, & Carter, 2007)
  - Community-based OT intervention to improve mobility—psychological well-being measure (Gugan, Gladman, Avery, Walker, Oates, & Gecen, 2004)

Results-Behavioral Interventions

- **Level I: Moderate evidence**
  - Motivational interviewing—Depression measures (Kittaneh, Avon, Deane, Dickson, & Doherty, et al., 2007)
  - Problem-solving therapy—CG 2.2 times more likely to develop depression than IG (Robinson, Jorge, Mason, Acorn, Suckling, Small, et al., 2008)
  - Psychosocial/behavioral intervention + Antidepressant med—Reduces depression (Mitchel, Viethe, Becker, Bresta, Cain, Frum, et al., 2009)

- **Level I: Insufficient evidence**
  - Knowledge & behavior therapy—Depression & QOL (Chang, Zhang, Xie, & Chen, 2011)

Limitations of Reviewed Studies

- Wide variety of types and severity of stroke, participant ages, time post-stroke, setting (acute, rehab, community)
- Several studies had small sample sizes
- Studies excluded persons who had aphasia and cognitive deficits
- Intervention protocols were often not described
- Treatment fidelity was not addressed
- Most interventions were not implemented by OT
- Many studies used depression, anxiety, or HRQOL measures as secondary measures
- Measures of depression, anxiety, and HRQOL were self-report
Implications for Practice: Summary

- Occupational therapists are uniquely qualified to address both psychological and physical impairments post-stroke.

- Evidence for effective interventions includes:
  - Moderate evidence for motivational interviewing, problem-solving therapy, and behavioral interventions.
    - OT can deliver these with specialized training and delivered within scope of practice.
  - Moderate evidence for strengthening and ROM.
  - OT should do this in occupation-based activities.
  - Mixed evidence for inpatient care coordination and community outreach.
    - OT can work on the team to develop and implement programs.
  - Moderate evidence for leisure education and stroke education.
    - OT is highly qualified to deliver.
  - Moderate evidence for more intensive home-based rehabilitation.
    - OT should recommend home health OT and greater number of home rehab visits.

Implications for Research

- More research is needed with OT specific interventions.
- Must use a well-defined protocol, treatment manual.
- Must measure treatment fidelity to ensure adherence to the protocol and differentiation from usual care.
- Include participants with aphasia and cognitive deficits.

This presents an opportunity for occupational therapists to perform much needed research!

Thank you!

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