Equine-Assisted Therapy: A Systematic Review of Interventions to Improve Outcomes in Adults

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**Problem**
Lack of strong evidence regarding equine-assisted therapy interventions in adults

**Purpose**
The first systematic review to synthesize findings on equine-assisted therapy intervention studies

Equine-assisted therapy is treatment that incorporates equine activities and/or the equine environment (PATH International, 2015)

**Theoretical/Conceptual Framework**
CONSORT guidelines (Schulz et al., 2010) - randomized controlled trial study quality
DOWNS and BLACK guidelines (Downs & Black, 1998) - quasi-experimental study quality

**Inclusion Criteria**
- Studies of adults age 16 years or older
- Studies with a sample size of 5 or greater
- Quasi-experimental/experimental design
- Intervention involving living horses
- Articles published in English

**Databases**
- ProQuest (1872-2014)
- Cumulative Index of Nursing and Allied Health Literature (CINAHL) (1982-2014)
- Medline (1950-2014)
- Google Scholar (2008-2014)
- Educational Resources Information Center (ERIC) (1964-2014)
- PEDro Database (1929-2014)
- Cochrane Reviews
- Psych Info (1806-2014)
- Database of Abstract Review and Effects (DARE) (1993-2014)
- DELTA Society’s list of equine research articles (2014)

**Results**
- 23 intervention studies - 450 subjects
- Publication dates ranged from 1988-2014
- Nine of the studies published since 2012
- Sample size: 7 - 32 participants
- Ages: 16 - 85 years old
- Countries: Brazil (n=4), the United States (n=7), Korea (n=3), Germany (n=3), Italy (n=2), and Switzerland (n=2), Canada (n=1), Portugal (n=1) Sweden (n=1)
- Study Designs
  - Randomized controlled trials (n=8)
  - Quasi-experimental (n=15)

**Diagnoses Included**
- Older adult’s with Imbalance
- Multiple Sclerosis
- Brain Disorders
- Cerebral Palsy
- Stroke
- Spinal Cord Injury

**INTERVENTION TYPES**

**Hippotherapy (n=14)**
Horse’s movements dynamically challenge the rider with a tri-rotational movement of their torso, pelvis, hips, legs and spine improve core strength, trunk control and breath support
Goal: To improve motor function & speech

**Therapeutic Horseback Riding (n=9)**
Care, grooming, saddling and riding a horse which contributes to the cognitive, physical, social and emotional well-being of disabled people
Goal: Certified instructors introduce/improve horseback riding

**Limitations**
- Small sample size 100% (n=23/23)
- Lack of randomization 65% (n=15/23)
- Lack of a control group 39% (n=9/23)
- Theoretical or conceptual framework lacking 100% (n=23/23)
- Follow up of participants with a maintenance period was lacking 78% (n=18/23)

<table>
<thead>
<tr>
<th>Statistically Significant Outcomes Impacted by Equine-Assisted Therapy</th>
<th>Outcome</th>
<th>Percent Significant (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>94% (n=17/18)</td>
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<tr>
<td>Balance</td>
<td>92% (n=12/13)</td>
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<tr>
<td>Cadence/stride</td>
<td>80% (n=8/10)</td>
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<tr>
<td>Stability</td>
<td>71% (n=5/7)</td>
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<tr>
<td>Quality of Life/Self-Efficacy/Well-Being</td>
<td>63% (n=5/8)</td>
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<tr>
<td>Spasticity</td>
<td>80% (n=4/5)</td>
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</table>

**CONCLUSION**
Equine-assisted therapy shows promise as an intervention to improve balance, gait, cadence, stability and spasticity in adults with varied diagnoses

Studies lack methodological rigor

**RECOMMENDATIONS**
- Future research on equine-assisted therapy should be theory-based
- Research should investigate the impact of equine-assisted therapy interventions on joint and spine mobility in adults with osteoarthritis using a randomized controlled trial design that is fully-powered with a maintenance period

Acknowledgement: Saint Luke’s College of Health Sciences for support