Hippotherapy & Autism

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Introduction/Background

• Autism Spectrum Disorder
  – Impairments\textsuperscript{1,2}
  – Cerebellar & Motor impairments\textsuperscript{3}
  – Genetic & Environmental\textsuperscript{1}

• Common Interventions
  – Early intensive behavioral interventions\textsuperscript{1}
  – Therapy Sessions\textsuperscript{1,4}

• EAAT\textsuperscript{3}
  – EAA
    • Therapeutic Horseback Riding
  – EAT
    • Hippotherapy
PICO Question

What are the motor and social benefits of hippotherapy for children with autism spectrum disorder?
Methods

• Databases Searched
  – EBSCO Host
  – MEDLINE
  – PTJ

• Key Words:
  – Autism Spectrum Disorder, Animal Assisted Interventions, Horses, Rehabilitation, Children, autism, therapeutic horseback riding, social functioning, equine assisted activities and therapies, quality of life, therapeutic horseback riding, Simulated developmental horse-riding program,

• Numbers Found
  – 35 articles
  – 5 relevant
  • Inclusion vs. Exclusion Criteria
Hippotherapy

1 Pre-Post Pilot Design
- “The purpose of this investigation was to determine whether HPOT increased function and participation in children with ASD”

Intervention
- Mounted therapy
  - Occupational Therapist or OTA

Subjects

Outcome Measures
- CACS
- VABS II
- Force Plates & Video Motion Capture
Results of Hippotherapy Intervention

- Hippotherapy
  - Improved postural stability
  - Adaptive behavior improvements
  - Insignificant changes in motor & social skills
Alternative Treatment

- 4 Repeated Measures Designs
- Interventions:
  - Group or Individual Equine Assisted Therapy\textsuperscript{1,4}
  - Therapeutic Horseback Riding\textsuperscript{3}
  - Simulated Developmental Horse Riding Program using Joba\textsuperscript{2}
- Subjects:\textsuperscript{1-4}
- Outcome Measures:
  - VABS\textsuperscript{1}
  - Social Responsiveness Scale & Sensory Profile\textsuperscript{3}
  - PEDsQL & Child Health Questionnaire\textsuperscript{4}
  - BOTMP & TSIF\textsuperscript{2}
Results of Alternate Intervention

• Mixed reviews on motor improvements
  – Fine motor vs. Gross motor$^{1,2}$
  – Cerebellar effects$^3$

• Behavioral and social improvements
  – Relationships with animals & withdraw$^1$
  – Social motivation$^3$
  – Social ability
Discussion & Implications for Practice

• Various forms of treatment
• Various forms of measurement
• Overall Effectiveness
  – Postural control
  – Social skills
  – Quality of life
Areas for Future Research

• **Objective Measures**$^{3,5}$
  – Quantify effects of treatment
  – Decrease risk of bias

• **Treatment period & intensity$^{1,5}$**

• **Assessment tools for social functioning/specific domains$^{(1-5)}$**

• **More evidence$^{(1-5)}$**
  – Higher levels of evidence, such as RCT’s
  – Larger samples
  – Functionality of the activity
  – Consistency between instructors/therapists


