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Hippotherapy Benefits and Reasoning for Coverage

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BACKGROUND

Hippotherapy is a method utilized by occupational therapists (OTs) and other therapy professionals, which uses purposeful manipulation of equine movement as a therapy tool. It is not a profession nor a separate service than standard occupational therapy. As a tool it engages the sensory, neuromotor, and cognitive systems to promote functional outcomes (American Hippotherapy Association (AHA), Inc., 2019).

Incorporating hippotherapy into the OT plan of care is best utilized in outpatient settings. It is preferable here due to the variety of personnel, equipment, and facilities required to safely care for and use horses with those who have disabilities. The most effective use of hippotherapy is carried out by a team of skilled professionals and additional personnel including a licensed therapy professional, equine professional, horse handler, sidewalker(s), and the specially trained horse (AHA, Inc., 2017).

This appraisal focuses on individuals with neurodevelopmental disorders (NDDs). NDDs include intellectual disability, communication disorders, autism spectrum disorder (ASD), attention deficit hyperactivity disorder (ADHD), specific learning disorder, and motor disorders (American Psychiatric Association, 2013). This appraisal focuses on populations that are known for having behavior and communication problems, such as those with ASD, Down syndrome, ADHD, and intellectual disability (ID). Research indicates the presence of these disorders can have a negative effect on families and society. For example, those with these disorders often become a financial burden (Irazábal et al., 2012; Mao, 2012). Occupational therapy using hippotherapy should be offered to counteract the burden these disabilities put on families and society. Medicaid could cover these services.

FOCUSED QUESTION

What is the effectiveness of incorporating hippotherapy as a tool in occupational therapy for individuals with neurodevelopmental disorders, excluding specific learning and motor disorders, on improved engagement in daily activities?

METHODS

Review Process: The researcher of this Critically Appraised Topic (CAT) completed a thorough literature search around the topic of hippotherapy for those with neurodevelopmental disabilities excluding specific learning and motor disorders. The researcher worked to formulate a focus question that related to her doctoral capstone experience and then began to choose articles that fit the question's components. The literature search included all articles that fit within the focus question. This list had 12 articles in total. Once that was completed, a more refined list of only four articles was determined. Articles were eliminated based on the level of evidence, the year that they were completed, and how directly their outcome measures related to the focus question's outcome measure.

Inclusion Criteria: The article must be published 2013 or later. The required level of design is level III or higher. The article must discuss those with either ASD, ADHD, Down syndrome, or ID. The article must include hippotherapy as a treatment tool, and the article must report on the outcome of engagement in daily activities.

Exclusion Criteria: Exclude articles greater than a level III design. Exclude articles published prior to 2013. Exclude articles that do not include those with ASD, ADHD, Down syndrome, or ID. Exclude article where the intervention did not include hippotherapy as a treatment tool. Lastly, exclude article that did not report on the outcome of engagement in daily activities.

Search Strategy:

Categories	Key Search Terms
Patient/Client Population	Down Syndrome, ADHD, Intellectual Disability, ASD, adults, adults with disabilities, adults with special needs, disabilities, special needs, impairment, elderly, aged, older, elder, geriatric, elderly people, old people, senior
Intervention	hippotherapy, equine therapy, equine-assisted therapy, occupational therapy, horse
Outcomes	activities of daily living, participation, engagement, daily life, self-care, function, independence, daily activities

RESULTS

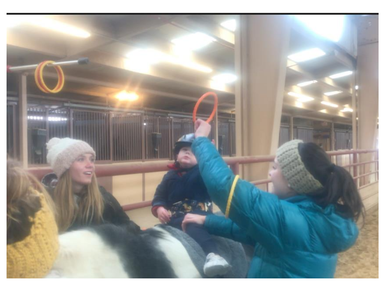
A systematic mapping review conducted by McDaniel Peters and Wood (2017, Level I) reviewed 33 studies that utilized equine-assisted interventions for children and adolescents with ASD. Twenty-five of these 33 studies reported improvements in behavior, social interaction, and communication. The remaining eight reported improvements in motor control and self-care. A limitation of this study is only 9% of included studies confirmed their respective search participants had diagnoses of ASD (McDaniels Peters & Wood, 2017, Level I).

A study conducted by Bilba (2015, Level I), investigated improvements in adaptive skills acquisition in children with psycho-motility disabilities, such as ASD and ADHD, following treatment. Results displayed a significant increase ($p<0.05$) with 57.14% of the treatment group exhibiting improvements in their adaptive skills acquisition. Whereas, only 25% of children in the control group, receiving traditional occupational therapy, exhibited a significant improvement in this area (Bîlbă, 2015, Level I).

In a pre/post-test study completed by Ajzenman, Standeven, and Shurtleff (2013, Level III) significant increases in overall adaptive behaviors (receptive communication and coping) and in participation of self-care, low-demand leisure, and social interactions were observed. Effect sizes (Cohen's *d*) were calculated with an effect size of .02 indicating a small change; .05, a moderate change; and >.08 a large change, a clinical change. The effect size was considered large for each behavior. A limitation of this study is the small sample size, which may make generalizing findings to a larger population more difficult (Ajzenman, Stadeven, & Shurtleff, 2013, Level III).

Both the assessment tools used by Bîlbă (2015, Level I) and Ajzenman, Standeven, and Shurleff (2013, Level III) were parent-report measures. This presents a limitation, because this style of data collection may result in parent biases.

A study by Lee and Yun (2017, Level III) demonstrated a significant change ($p<0.05$) in the Functional Independence Measure (FIM) score of children with ID post hippotherapy intervention. At baseline, the mean score on the FIM was 95.71 ± 11.50. After 6 weeks of intervention the score was 101.00 ± 10.68 (Lee & Yun, 2017, Level III). Limitations of this study include the small size, of only 7 participants, and the short period of time it was conducted over. It is difficult to generalize findings from this experiment due to these variables (Lee & Yun, 2017, Level III).



BOTTOM LINE FOR OT

According to this appraisal, hippotherapy should be used with children and adolescents for a duration of at least 12 weeks (Ajzenman, Stadeven, & Shurtleff, 2013; McDaniels Peters & Wood, 2017). Therapeutic activities can be done on and off the horse, so a length of time on the horse cannot be recommended.

Hippotherapy should only be used as a treatment tool in the overall OT plan of care. It should not be used alone.

Hippotherapy is costly, but in comparison to traditional OT, it provides increased engagement in daily activities (Bîlbă, 2015). With this increased engagement the burden on families and society should decrease.

Results of the appraised studies are strong enough to inform policy makers that hippotherapy as a treatment tool is a viable option in the OT plan of care. Thus, it should not be considered an exclusion under Medicaid like it is in many states.

The use of hippotherapy requires knowledge acquired as a post-graduate through continuing education, which is completed with the American Hippotherapy Association.

Further research is needed for adults with ASD, ADHD, Down syndrome, or ID for this appraisal's outcome measure. Due to the gap in research on adults, this appraisal only reviewed studies involving children and adolescents. Further research is necessary for children and adolescents considering the limitations of biases and difficulty generalizing the results of these studies to larger populations (Ajzenman, Stadeven, & Shurtleff, 2013; Bîlbă, 2015; McDaniel Peters & Wood, 2017; Lee & Yun, 2017).

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