Brain Play:
Identifying Diverse Interventions to Improve the Ability to Participate in Play Among Children with Brain Injuries
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Objectives of Presentation: At the end of this session, participants will...
1. Describe the occupational performance challenges for children who have sustained a brain injury in relation to play participation.
2. Differentiate the levels of effectiveness of diverse interventions that promote participation in play in children with brain injuries.
3. Apply and integrate the evidence, clinical expertise and client preferences in order to best promote play in children with brain injuries.

PICO: Within the scope of occupational therapy (OT), what diverse interventions (I) improve the ability to participate in play (O) among children diagnosed with a brain injury (P)?

Methods: Using PubMed, CINAHL, & Scopus 5,841 articles through database searches → full text 15* (1 could not be accessed)

Condensed search terms:

<table>
<thead>
<tr>
<th>Population</th>
<th>Intervention</th>
<th>Outcomes</th>
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<tbody>
<tr>
<td>Pediatric, child, Stroke, Acquired brain injury (ABI) traumatic brain injury (TBI), neurological insult</td>
<td>Aquatic Therapy, Kinesiotaping, Animal-Assisted Therapy, Virtual Reality, Yoga, Pediatric Occupational Therapy, Rehabilitation</td>
<td>playthings, play participation, engagement, occupational performance</td>
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Critiqued the articles using PRISMA, Quantitative Critical Review Form to analyze, AOTA’s Levels of Evidence, & Strength of Evidence30, 27, 3

Results:

Theme 1: Motor Function
Strength: Moderate

**Moderate evidence** was found regarding the effectiveness of diverse OT interventions to improve motor functioning among children with a brain injury. **Action Observation Treatment** led to **improved upper extremity motor functioning** for kids with CP. **Aquatic Therapy** resulted in **improved motor skills, body functioning, participation in activities, and walking speed and endurance** among children with CP. **Hippotherapy** has led to **mixed results** to improve gross motor functioning among children with CP, more significant outcomes with CP patients classified between levels 1 and 3 on GMFCS. **Technology based intervention** (VR, Wii, Computer Assisted) led to **mixed results** for improved motor functioning among children with CP.

Theme 2: Increased Motivation
Strength: Limited

**Insufficient evidence** was found supporting improved motivation when participating in diverse OT interventions Utilizing **virtual reality** and **game based play** improves motivation to participate, influencing quality of life and increased change. **Hippotherapy** is highly motivating as it provides an opportunity for children to challenge themselves. **Aquatic therapy** can be more fun and motivating for children to increase participation. Incorporating a **play car** for mobility improved enjoyment and flexibility into the child’s life.

Theme 3: Parental Satisfaction
Strength: Mixed

**Insufficient evidence** was found regarding parental satisfaction with diverse interventions. Mother noted increased confidence in her daughter’s abilities and increased empowerment to help her try novel activities following a Hippotherapy intervention. Caregivers reported improved: **trunk control, following directions, flexibility & happiness** following a Hippotherapy intervention. Caregivers noted their child demonstrated increased fun & flexibility through the use of toy car to improve mobility.

References


