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Interventions for Improving Occupational Performance Post-Concussion in Children and Adolescents: A Scoping Review

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INTERVENTIONS FOR IMPROVING OCCUPATIONAL PERFORMANCE POST-CONCUSSION IN CHILDREN AND ADOLESCENTS: A SCOPING REVIEW

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Presented in Partial Fulfillment of the Master of Science in Occupational Therapy degree at Thomas Jefferson University

Objectives of Presentation:

- **Recognize** the significant impact of concussion on immediate and long-term mental and physical well being in the pediatric population.
- **Identify** the need for novel and effective interventions that address the impact of pediatric concussions.
- **Describe** current concussion interventions and management practices and the gap that exists in the literature.
- **Discuss** interventions within the scope of OT practice to address occupational performance in children and adolescents post-concussion.

Clinical Question: What interventions within the scope of occupational therapy practice are indicated in the current literature to improve occupational performance in children and adolescents who have experienced a concussion?

Methods: Identifying relevant studies

- Identifying relevant studies using PubMed, Scopus, and ERIC databases
 - **Key words:** “brain concussion”, concuss*, mild traumatic brain injur*, post-concuss*, post concussion syndrome, rehabilitation, return to play, recovery of function*, cognit*, executive function*, balance, learning, memory, attention*

Resulting Themes:

Rest (Cognitive/Physical) as an Intervention ^{4, 7, 13, 14, 17, 18, 19,20, 21, 22, 24, 25, 26, 27, 28, 30,31, 32, 33, 34, 35, 36, 38, 39, 42, 44,}

- First step of recovery is combined cognitive and physical rest which involves complete elimination of cognitive load, screen time, and physical exertion.

Progressive Return to Functional Activity ^{4, 7,13, 14,16, 17,18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 30, 31, 33, 34, 39, 40, 41, 42, 44}

- Consensus of medical professionals involves recommendations that return to functional activity should be progressive and dependent on progressive absence of symptoms.

Adaption and Accommodations ^{9, 13, 14, 17,19, 20, 22, 23, 24, 25, 27, 28, 30, 33, 34, 38, 40, 41}

- Adapting academic expectations, environments, and routines can improve children’s return to meaningful occupations post-concussion.

Interventions addressing specific symptoms ^{1, 12, 16, 20, 29, 30, 33, 37, 42}

- Some research exists examining specific interventions for concussion rehabilitation
- Current interventions predominantly target education, leisure and play skills.

Health Education and Promotion ^{13, 14, 15, 17, 21, 22, 23, 25, 26, 27, 28, 30, 34, 38, 40, 41}

- Increase concussion awareness, prevention, and health promotion through collaboration between an established key player and all potentially impacted parties (i.e. school staff, coaches, children and families)
- General education and CDC fact sheets recommended as means of concussion awareness and prevention.

Implications:

- OTs can bring an individualized approach to the interdisciplinary management of pediatric concussion
 - Provide direct intervention, modify routines or environments, and provide preventative education
- OT educators should ensure that all students learn the clinical details of pediatric concussion and receive training in interprofessional collaboration and advocacy
- OT research should focus on producing higher level evidence for specific interventions used with the pediatric concussion population and should examine efficacy of existing RTP and RTL treatment standards

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