Home-based action observation treatment for children with unilateral cerebral palsy: strategies to promote intervention engagement

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The potential benefits of action observation treatments (AOT) for individuals with motor disorders have previously been investigated.[1] These approaches have shown promise in adult populations, but there may be some limitations regarding their use in the pediatric population, especially in home-based protocols. One difficulty in this treatment is focusing the child's attention on visualizing the proposed action so that they can reproduce and perform it. Another difficulty is ensuring the child's adherence to the home-based protocol and monitoring their performance without the therapist's direct supervision. Such issues may compromise the intensity of and fidelity to the treatment.

In the study by Nuara et al.,[2] the authors analyzed the feasibility of a home-based AOT protocol with strategies to engage children with unilateral cerebral palsy (CP) in the proposed tasks. They included attractive magic-themed activities, the use of a kinetic device to provide positive feedback when the child used the affected upper extremity in the training of magic tricks, and an interactive platform in which the child practiced the tasks with another child with CP of similar age.

The use of magic-themed interventions to promote upper limb function has been shown to be motivating for children with unilateral CP.[3] The novelty of Nuara et al.'s study is in the provision of a home-based intervention with live interaction between children with CP. According to Gilmore et al.,[4] the provision of enjoyable activities and the possibility of interaction among children with a similar condition enhance the engagement of children with unilateral CP in interventions. In a home-based program, the inclusion of a platform to promote child-to-child interaction when performing activities may have helped the children to find solutions when dealing with challenges to use their hands, based on the strategies used by another child with unilateral CP. The thorough description of the intervention procedures by Nuara et al.[2] facilitates the use of these strategies in clinical practice and the replication of the proposed protocol in future studies.

One important question that should be raised regarding intervention studies, however, concerns the choice of instrumentation used to assess the effects of the proposed intervention. There are currently many assessments available to measure hand function in children with unilateral CP. Nuara et al.[2] opted for using the Besta Scale as the primary outcome measure, which measures hand function (capacity and performance) in three areas: grasp assessment, spontaneous use in bimanual tasks, and activities of daily living.[5] Of special concern is the low number of daily living activities in the test, which raises the question of whether the instrument is able to capture the complexities involved in children's use of their hands in their daily routines. It is important that, in future studies, authors employ commonly used outcome measures, such as the Assisting Hand Assessment, as well as specific measures to address the child's goal performance, daily functioning, and manual dexterity. The use of these tests allows the pooling of data regarding the efficacy of AOT and the comparison of its efficacy with different approaches aimed at improving hand function of children with unilateral CP.

The available literature regarding the use of AOT for children is generally favorable. Strategies to promote child-to-child interaction during home programs might be an important tool to engage children in the proposed intervention. Future studies should analyze the long-term benefits of home-based AOT as well as the transfer of potential improvements in hand function skills to children's daily routine.

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