Oral Communication

OC-939

BIKE3 Study: Effects of Adapted Dynamic Cycling on Children and Adolescents With Cerebral Palsy, Down Syndrome and Prader-Willi Syndrome

Topic: Miscellaneous

Giulia Stella[1], Gessica Della Bella[1], Roberta Scrima[2], Marianna Avola[2], Alessandra Lacopo[2], Federica Pauciulo[2], Caterina Delia[2]

[1]*Day Hospital Neurorehabilitation and Adapted Sport Activity, Bambino Gesù Children's Hospital, Roma, Italy*
[2]*Italy*

BACKGROUND

Port is a fundamental right with proven benefits for physical, psychological, and social well-being. In children with intellectual and motor disabilities, Adapted Physical Activity (APA) promotes inclusion and, when integrated into the Individual Rehabilitation Project (IRP), improves quality of life (QoL). Within APA, Adapted Dynamic Cycling (ADC) represents an effective tool for motor, psychological, and social development.

METHODS

The BIKE3 study (Be Inclusive Kind Empathic Free) evaluated the effects of using an adapted bicycle (AB) on children and adolescents with intellectual and motor disabilities. A total of 30 participants were recruited (60% with Cerebral Palsy, 26.67% with Down Syndrome, 13.33% with Prader-Willi Syndrome), with a mean age of 8.07 years (range: 3-14). The primary outcome was QoL, while secondary outcomes included trunk control and the impact of the device. Evaluations were conducted at baseline (T0), after three months (T1), and after 12 months (T2) from the delivery of the AB.

METHODS

Results showed a significant improvement ($p < 0.001$) in QoL, measured using PEDSQL, from T0 to T1 and from T0 to T2, whereas the difference between T1 and T2 was statistically significant but less pronounced ($p < 0.05$). Trunk control, assessed with the LSS, progressively improved from T0 to T2. The impact of the device, measured using PIADS and QUEST, showed high scores, with greater satisfaction in the first three months.

The data suggest that AB is not merely an assistive device but a true rehabilitative tool, capable of enhancing motor skills, social integration, and psychological well-being in children with disabilities. Integrating ADC into IRPs could represent a significant shift in managing childhood disabilities, promoting an active lifestyle and reducing social isolation. Further studies with larger samples and long-term follow-up will help confirm these findings and optimize rehabilitation intervention protocols.

CONCLUSION

The data suggest that AB is not merely an assistive device but a true rehabilitative tool, capable of enhancing motor skills, social integration and psychological well-being in children with disabilities. Integrating ADC into IRPs could represent a significant shift in managing childhood disabilities, promoting an active lifestyle and reducing social isolation.

Statement of Disclosures

None

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Corresponding Author:
Giulia Stella
Day Hospital Neurorehabilitation and Adapted Sport Activity, Bambino Gesù Children's Hospital, Roma, Italy
Email: giulia.stella@opbg.net