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INTRODUCTION / PURPOSE

- Cerebral Palsy is a disorder characterized by abnormal muscle tone, postural dysfunction, gait dysfunction, and abnormal movement patterns.
- This disease affects children worldwide, specifically about 2-3 children out of every 1,000 in the USA as well as about 500,000 children under 18 total.¹
- Early intervention for development of gross motor function is highly important when considering improvement in functional capabilities.
- The research shows that utilization of body-weight supported treadmill training (BWSTT) in children aged 0-21 with cerebral palsy (CP) is one of the most effective ways in developing gross motor function.



Is BWSTT more effective than over ground training to improve gross motor function?

METHODS

Data Sources

Pubmed, EBSCOHost, NCBI

Inclusion Criteria

Ages 0-21, CP diagnosis, understand instructions & answer yes or no, children evaluated in gait, gait speed, or overall gross motor function

Outcomes

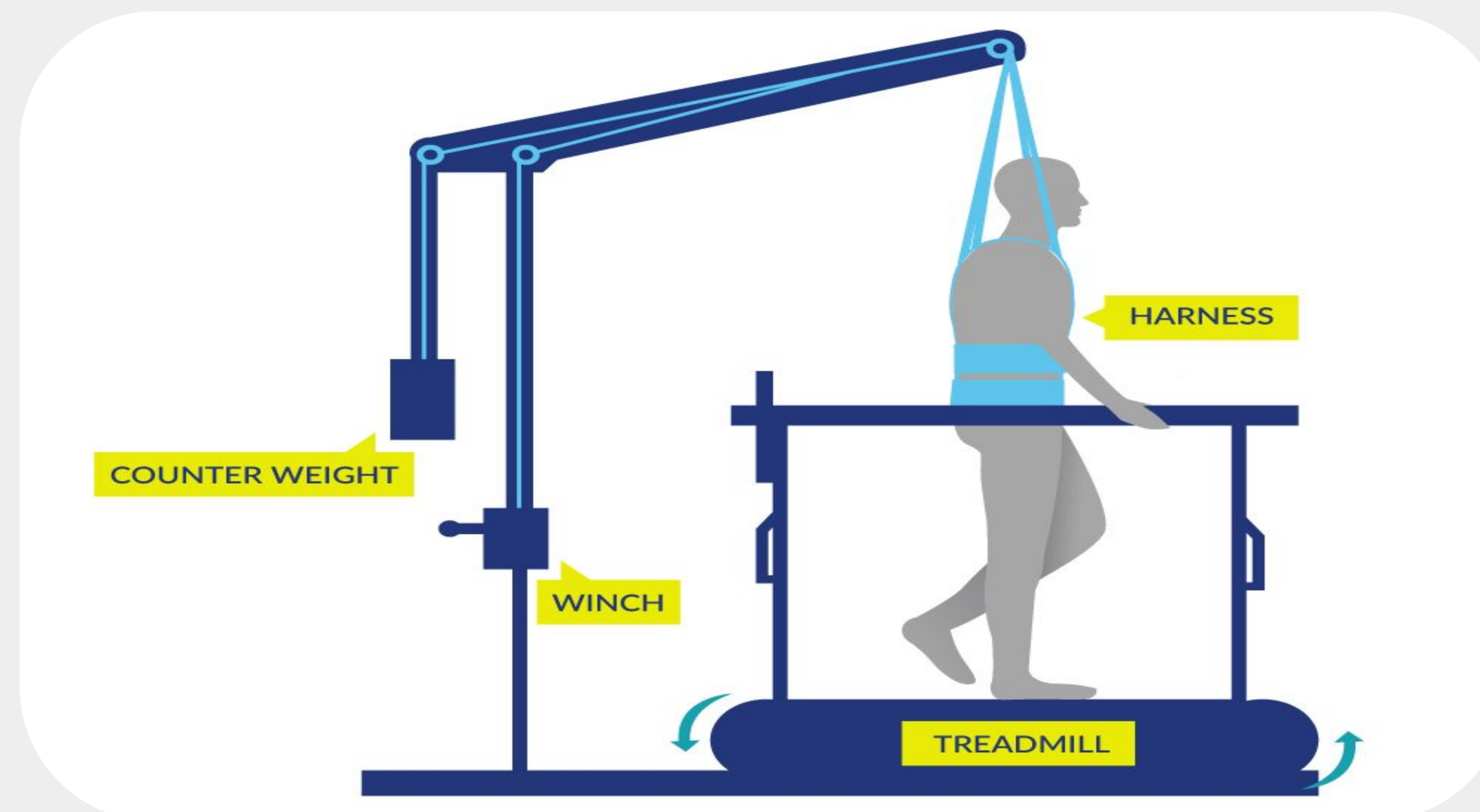
GMFM, PEDI, 10-MWT, DGI, 6-MWT, 5TSTS

Levels Of Evidence

2 Systematic Reviews (PRISMA - 1a, 3a), 5 RCTs (PEDro - 1b), 1 Case Series (PRISMA - 4), 1 Case Report (JBI - 4), 1 Clinical Control Trial (PEDro - 3b), 1 Two Period Crossover Study (PEDro - 2b)

RESULTS

- The studies suggest that there is a positive correlation between the use of BWSTT and increased motor and functional capabilities in children with CP in comparison to over ground walking²⁻⁸
- Literature for BWSTT demonstrates improvements in the following areas: step length, gait speed, limb stance times, strength, ROM, endurance, balance, and energy expenditure
- BWSTT participants tested more successfully on all 6 outcome measures post-treatment than overground training participants



3 Emerging Themes and Their Significance

- 1 Literature has identified outcome measures that have utility for clinicians to use in pediatric populations
- 2 Gait kinematics demonstrated the greatest improvement after use of BWSTT
- 3 School-based programs yielded more significant improvements in psychosocial aspects in comparison to traditional OPPT care

CLINICAL RELEVANCE

- The prognosis for functional ambulation in children with CP might depend on the extent of the disability, social setting, as well as intervention selected to improve gross motor function.
- Clinicians managing Children with CP within this specific age range of 0-21 years old should consider incorporating BWSTT into their management to improve overall gross motor function.
- Further investigation of BWSTT is needed to explore the clinical applications to populations that may fall out of our current scope of inquiry as well as long term effects on gross motor function for children with CP.

CONCLUSION

Key findings from the literature provide evidence to suggest that BWSTT is more effective than traditional overground training in this target population. Patients in the BWSTT clinical groups consistently made more significant improvements in gait kinematics, increased walking speed, improvements in social involvement and mental health, as well as improvements in overall energy levels and decreased fatigue.

REFERENCES

For a full list of references or contact information, please scan our QR code!



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