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**A STUDY ON THE EFFECTIVENESS OF TREADMILL TRAINING IN IMPROVING GAIT AND MOTOR FUNCTION IN CHILDREN WITH SPASTIC CEREBRAL PALSY - GMFCS LEVEL III AND IV.**

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**Background:** Spastic Cerebral Palsy is a developmental disorder that affects muscle control and movement. Most Cerebral palsy children have impaired gait due to spasticity and muscle weakness. Treadmill has been used for rehabilitation of gait through repeated weight loading on lower extremity.

**Objective:** This study was done to gain clarity about the aspects of gait rehabilitation using treadmill, specifically in more severely impaired children with CP, in levels of GMFCS III and IV.

**Methods:** 20 Children with spastic cerebral palsy participated in the study. **Group A**, GMFCS III (n=7) received conventional therapy along with treadmill training, **Group B**, GMFCS III (n=7) received conventional therapy along with over ground walking and **Group C**, GMFCS IV (n=6) received conventional therapy along with BWSTT.

**Results:** Within the group analysis showed that treadmill training was effective in improving gait (t value 8.573)(p.000) and motor function (t value -5.084) ( p 0.002) in Group A (**p < 0.05**), conventional training with over ground walking was effective in improving gait (t 6.049) (p 0.001) in Group B (**p < 0.05**) and that conventional therapy with BWSTT was not effective in improving motor function (t value 0.696)(p 0.518)in Group C (**p >.05**).

**Conclusion:** It can be inferred that treadmill training as well as over ground walking are both effective measures in improving walking in GMFCS level III. There was no statistical significance in analysis of variance between three groups post intervention, it is concluded that the therapy was not effective in improving gross motor function in both levels of GMFCS.

**Key words:** Spastic cerebral palsy, Treadmill Training, Gait, GMFCS, GMFM 88.