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## A Study on Impact of Early Mobility Training by Using Treadmill Walking with Virtual Reality on Balance and Functional Mobility among Subject with Cerebral Palsy"

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**Background of The Study:**The First two years of life of the children is a critical period for the neuroplasticity, when the motor area of brain is most likely to respond to new tasks and intensive practice of motor activities. Early Mobility training in children with cerebral palsy playing an important role in the rehabilitation of children with cerebral palsy. This study investigated the impact of early mobility training by using treadmill walking with virtual reality on balance and functional mobility among subject with cerebral palsy.

**Methodology:**18 Spastic Diplegic cerebral palsy children were selected based on the selection criteria and they were randomly divided into two groups by using closed envelop method. Children in group A were treated with treadmill training with virtual reality games and Children in group B were treated with treadmill training alone. Children in both the group received treadmill training for a period of 30 minutes per session 5 days in a week for 6 weeks along with their routine therapy program. The outcome measures were Pediatric Berg Balance Scale, 10-meter walk test and Timed get up and go test.

**Results:** The statistical report revealed that the treadmill training with virtual reality games showed highly significant improvement in functional mobility than treadmill training alone at the end of 6 weeks of intervention. The improvements in the Pediatric Berg Balance Scale, 10 meter walk test and Timed get up and go test were greater in the group A than group B (P < 0.05).

**Conclusion:** Finally, the study concluded that the early mobility training in virtual environment is one of the effective methods to increase the children's interest in a way to improving the balance and functional mobility among children with cerebral palsy.

Key Words: Cerebral Palsy, Treadmill training, Virtual reality, Balance, Functional Mobility.