

Kinect Base Virtual Reality versus Biodex Gait Training on Lower Limbs Function in Burned Patients

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Abstract : Back ground and purpose : Mobility is a major problem for burn patients regarding their quality of life, the burn injury influence the ability to participate in daily living activities. Patients physical health significantly affected by their immobility. The purpose of the current study was to investigate is there is a difference between the use of Kinect base virtual reality and Biodex gait training for improvement of lower limbs functions in burned patients.

Subjects : Forty-two post lower limbs burn patients participated in this study and divided into two groups, twenty-one patients each (9 males and 12 females in each group). Their age ranged from 18 to 40 years.

Procedures : In the first group, patients practiced aerobic exercises using Xbox Kinect 360™ for twenty minutes a day, three times/ week for 4 weeks , while the second group patients practiced aerobic exercises using Biodex Gait trainer 2™ treadmill for the same time. The functions of the lower limbs were assessed by lower limbs function index and the measurement of gait parameters using Biodex Gait trainer 2™ treadmill.

Results : The study showed a significant improvement in lower limbs functions and gait parameters in both groups ($p < 0.05$) except the time on each foot which found to be insignificant . Also it showed that there was no significant difference between the two groups.

Conclusion : It was concluded that using either Kinect base virtual reality or Biodex Gait training had a significant benefits for improving lower limbs functions after burn, but there was no significant difference between them.

Key words : Kinect Virtual reality, Biodex treadmill, Burn, lower limbs function.