

5th International Conference on

PHYSIOTHERAPY

November 27-29, 2017 Dubai, UAE

Implementation of early rehabilitation programs for patients after traumatic brain injury in acute care

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Introduction: The incidence of brain injury is high and result often in severe neurological impairment and functional disability with associated and sometimes catastrophic socio-economic consequences. Rehabilitation medicine is now challenged by patients who survive with severe complex deficits (sensorimotor, disorders of consciousness and neurocognitive as well as neurobehavioral) confirmed the importance of immediate rehabilitation following the injury and the importance of a rehabilitation continuum of care. Early rehabilitation programs can be implemented not only in rehabilitation hospitals, but also in acute care. Especially physio-therapeutical early mobilization including bed cycling and other specialized therapy options is one of the main points in the therapy program.

Aim: The aim of the study is to show the implementation of early rehabilitation programs for patients after traumatic brain injury in acute care and to evaluate the outcome after 12 and 24 months.

Methods & Subjects: A total of 51 survivors (age 33.8, range 16-64 years, m:f=4 :1) of severe brain injury (GCS<8 for at least 24 hours) underwent a multidisciplinary early rehabilitation program. Duration of rehabilitation program was at mean 18.4 (4-78) days adapted to the individual capability for 3-4 hours/day, until they were discharged from hospital. The follow-up examination took place 12 and 24 months after the STBI.

Results: Data revealed a high level of independence in activities of daily living (mean Barthel Index after one year 92.7 points, after two years 93.7 points). After one and two years, 74.5% and 80.4% of the patients, respectively, were completely independent of need for care. Nevertheless, more than half of the patients had sensorimotor, behavioral, speech, visual and/or auditory disturbances. Return to work rates improved between one and two years after trauma, as evidenced by the rate of patients being back to full time work at one year (n=14, 28%) and two years (n=20, 40%) post-STBI. Return to work rates improved between one and two years after trauma, as evidenced by the rate of patients being back to full time work at one year (n=14, 28%) and two years (n=20, 40%) post-STBI; although, none of these changes reached statistical significance.

Discussion & Conclusion: In summary the successful implementation of early rehabilitation programs for patients after traumatic brain injury in acute care is possible. Focused on outcome, the data revealed a high level of independence in activities of daily living. There are still changes in both impairment and disability related areas between one and two years post-STBI, but the degree of improvement is variable depending on the area being considered. Clinicians should remain aware of the fact that modulation of impairment and disability appear to continue well beyond one year post-STBI which may impact on decisions regarding the provision and intensity of further rehabilitation efforts.

Biography

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