Oral Communication
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Impact of Premorbid Physical Activity Level on Recovery Following an Isolated Traumatic Brain Injury in Acute Care Setting

Topic: Neuroscience

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BACKGROUND

Physical activity has numerous health benefits and pre-clinical studies suggest that being physically active could be neuroprotective for traumatic brain injuries (TBI).

The aim of this exploratory study is to determine if premorbid physical activity level influences the functional recovery in the acute phase following a TBI.

METHODS

Adults (> 18 years old) with a diagnosis of isolated TBI (mild complicated, moderate or severe) were included in the study (n = 51). Physical activity was documented with the International Physical Activity Questionnaire (IPAQ) in METs per week. Clinical outcomes were Glasgow Outcome Scale Extended (GOS-E), Disability Rating Score (DRS), Berg Balance Scale (BBS), length of stay, intensive care unit length of stay and orientation at discharge. Multiple regression analyses were performed to determine the effect of physical activity (METs per week) on clinical outcomes.

RESULTS

A total of 51 patients was included in our study. The aim of this exploratory study was to determine if premorbid physical activity level influenced the functional recovery in the acute phase following a TBI. A majority of our participants were men, 65 years and older, and fall was the most common cause of TBI. These findings are similar to recent epidemiologic studies for TBI patients in Canada. TBI severity proportions among hospitalized adults is 80% mild, 10% moderate and 10% severe. Results from this study were different, favoring moderate TBI. This is probably related to our inclusion criterion (mild TBI were not included, mild complex TBI were probably discharged before the neuropsychological evaluation and many severe TBI were polytraumas and thus excluded). Regarding our outcome variables, our results are similar to the literature. Comparing METS/week of our study to results from general population. Our population was older and tended to be less active, the validity of the IPAQ is known to be lower for sedentary behavior and light physical activity.

CONCLUSION

To our knowledge, this is the first study exploring the relation between physical activity prior to TBI and acute functional recovery in a human population.

Statement of Disclosures

None

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