FUNCTIONAL INDEPENDENCE OF STROKE AND TRAUMATIC BRAIN INJURED PATIENTS AT ADMISSION AND DISCHARGE OF INPATIENT REHABILITATION

Priit Eelmäe [1, 3, 4], Siu Etti [1, 2]

[1] Haapsalu Neurological Rehabilitation Centre, Estonia; [2] University of Tartu, Estonia;
[3] Centre of Excellence in Health Promotion and Rehabilitation, Estonia; [4] Tallinn University Haapsalu College, Estonia;

BACKGROUND

Haapsalu Neurological Rehabilitation Centre (HNRC) is one of the major providers of neurological rehabilitation in Estonia covering approximately one third of the in-patient physical and rehabilitation medicine services in Estonia. HNRC strongly believes high-quality rehabilitation can only be achieved by utilizing the best contemporary knowledge of neurorehabilitation. The focus of HNRC's activities is on the active participation of the patients, their personal goals and interest, enabling them to experience various social situations in a supportive environment.

In April 2010 HNRC signed a contract with UDSMR in order to start rehabilitation team-members based using of Functional Independence Measure (FIM®) in a reliable way.

AIM

The purpose of the present study was to examine the functional independence of stroke and traumatic brain injured (TBI) patients before and after inpatient rehabilitation and to determine the factors influencing rehabilitation outcome.

METHODS AND MATERIAL

The current retrospective study included 109 patients who acquired TBI (n = 19) or stroke (n = 90) at 2014, and were treated in HNRC during a respective year. Case histories and a clinical database were used for data collection. For statistical analysis standard statistical methods were used. The functional independence of the patients was measured at the beginning of the rehabilitation period on the third day and at the end of rehabilitation during the last three days with the FIM®-instrument. Patients were divided into groups on basis of their diagnosis, length of stay, FIM® score achieved at admission, amount of received physiotherapy and psychosocial therapy (speech therapy, psychotherapy, occupational therapy, social counselling) sessions and extra physiotherapy sessions on Saturdays. Study was approved by Tallinn Medical Research Ethics Committee (permission No 1035 /18.05.2015).

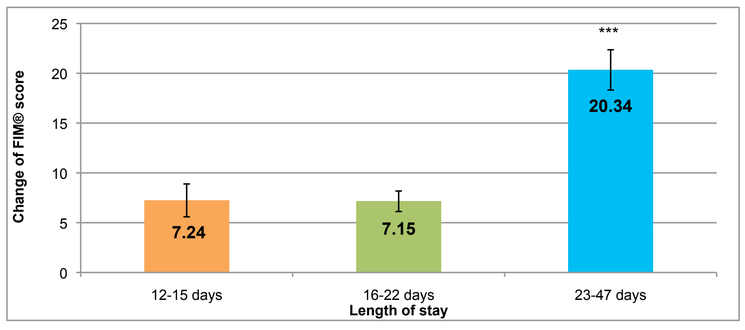

Figure 1. *Improvement of FIM® score as compered different length of stay in rehabilitation hospital (*** – p<0.001 represent differences from both columns)*

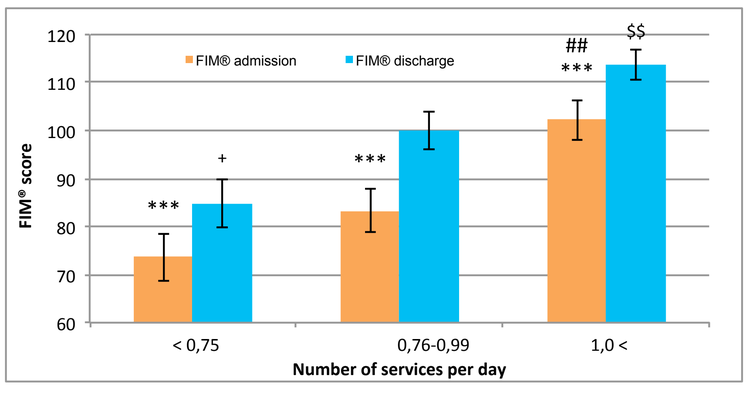

Figure 2. *FIM® score in admission and discharge as compared number of physiotherapy services per day including weekends, admission and discharge day (*** – p<0.001 represent differences with blue column on same group; ## – p<0.001 represent difference from first two blue column; $$ – p<0.001 represent difference from first two orange column; + – p<0.05 represent difference from second blue column)*

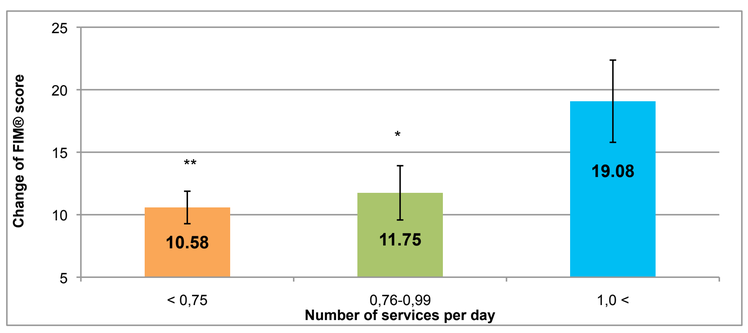

Figure 3. *Improvement of FIM® score as compered number of psychosocial services per day including weekends, admission and discharge day (* – p<0.05 and ** – p<0.01 represent differences from blue column)*

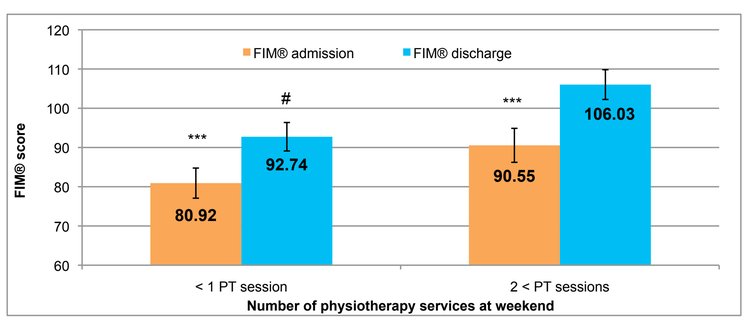

Figure 4. *FIM® score in admission and discharge as compared number of physiotherapy services at weekend (*** – p<0.001 represent differences with blue column on same group; # – p<0.05 represent difference from blue column)*

RESULTS AND CONCLUSION

This evaluation indicates that a growth of higher functional performance is related to the length of stay (**Figure 1.**), a higher FIM® score at the end of rehabilitation is related to a bigger amount of physiotherapy sessions (**Figure 2.**) and a higher FIM® score at the beginning of rehabilitation. The FIM® score was higher in the patients who received higher amount of psychosocial services (**Figure 3.**). Extra physiotherapy sessions twice or more on Saturdays (**Figure 4.**) may improve the rehabilitation outcome. A limitation of the study is the lack of comparison group.

QR 1. *This QR code leads to a video introducing Haapsalu Neurological Rehabilitation Centre (HNRC)*

QR 2. *This QR code leads to a video introducing rehabilitation services offered by HNRC for stroke and TBI patients*

Photos: Silver Raidla

Correspondence
Priit Eelmäe
e-mail: priit.eelmae@hnrk.ee
tel: +372 5393 2020
address: Sadama 16 Haapsalu 90502 ESTONIA
www.hnrk.ee