Poster Abstracts

P1

Prevalence and correlates of fatigue in patients with Multiple Sclerosis

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Fatigue, a frequent disabling symptom that influences quality of life in many neurological disorders is overshadowed by physical impairments and has not received focused attention. The present hospital based prospective study explored the prevalence of fatigue and its correlates in Multiple sclerosis, a relatively rare disorder in India.

Thirty-one consenting, non- consecutive patients, assessed at NIMHANS between February 2010 and December 2011, with definite multiple sclerosis as per McDonald's criteria were evaluated with a questionnaire that included personal data, Kurtzke's expanded disability status scale (EDSS), Beck depression inventory (BDI), Krupp fatigue severity scale (FSS) and Pittsburgh sleep quality index (PSQI), modified Barthel index (MBI) and WHO Quality of Life – BREF questionnaire. Exclusion criteria for the study were: presence of infection, and relapse or pulse methyl prednisolone use in the preceding one month and medication use which may contribute to fatigue.

The demographic profile of the group was as follows: mean age - 30.0±9.0 years, men: woman: 7:24, number of relapses - 4.74±3.6 , mean duration of illness - 4.9±4.4 years and mean EDSS score -3.45±2.24. The major impairments were Quadriparesis -7, (22.6%), paraparesis -15, (48.4%), sensory disturbances -18(58.1%), visual problems -22(71%), sphincter disturbances -18 (58.1%), diplopia -13(41.9%), dysarthria -10 (32.3%) and ataxia -8. (25.8%). Fatigue was rather common with the mean fatigue score in the cohort being 38.7±18.5. Eighteen patients (58.07%) with score above the cut off value of 36 in the fatigue severity scale were older (p-**0.01**), had poor quality of sleep (p-0.005), higher score on depression scale (p-0.005) and poor quality of life indices than their counterparts. However, they did not differ on Barthel score. All the four domains of QoL were significantly affected by fatigue.

Assessment of fatigue should be routinely carried out during evaluation for rehabilitation, in view of its therapeutic implications.

P2

Shefstim: an automated setup of functional electrical stimulation for drop foot

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Shefstim: An Automated setup of functional electrical stimulation for drop foot using a novel 64 channel prototype stimulator and electrode array

Background: Functional electrical stimulation (FES) correct drop foot following upper motor neurone disorders. 44% of patientsusing FES have difficulty identifying correct stimulation. We have developed Shefstim, an 8 × 8 multi-array stimulator which automatically determine best site of stimulation.

Objective: To compare Shefstim with FES.

Subjects and methods: Twenty one participants (Stroke- 10, Multiple sclerosis-11) were recruited.They performed two walks of 10 m for each of the following conditions: own setup (PS), clinician setup (CS), automated setup with Shefstim (AS) and no stimulation (NS). The PS and CS used conventional FES; the AS condition used Shefstim. Outcome measures were walking speed, foot angle at initial contact and the Borg Rating of Perceived Exertion.

Results: Mean walking speeds were: NS - 0.61 m/s , PS- 0.72 m/s, CS - 0.68 m/s and AS 0.65- m/sAll setups significantly increased speed (AS p <0.05, PS p <0.01, CS p <0.01). Speed for AS was comparable to CS. PS was faster than both, AS (p <0.01) and CS (p <0.05). Dorsiflexion angles for AS (4.2°%) were larger than NS (-3.0°%) (p <0.01), not different to PS (4.3°%, p >0.05) and less than than CS (6.0°%, p <0.05). Mean time to set up Shefstim (5.9 min) was shorter than FES (11.0 min).

Conclusions: This study has demonstrated that Shefstim produces results comparable to FESand warrant future studies outside the laboratory.

P3

Effect of pranayama and meditation as an add-on therapy in rehabilitation of patients with Guillain-Barré syndrome–A randomized control pilot study

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Objective: To study the add-on effects of pranayama and meditation in rehabilitation of patients with Guillain-Barré syndrome (GBS).

Design: Randomized control pilot study.

Setting: Neurological rehabilitation unit of university tertiary research hospital.

Subject: Twenty two GBS patients, who consented for the study and satisfied selection criteria, were randomly assigned to yoga and control groups. Ten patients in each group completed the study.

Method: The yoga group received 15 sessions in total over a period of 3 weeks (1 hour per session), one session per day on five days per week that consisted of relaxation, Pranayama (breathing practices) and Guided meditation in addition to conventional rehabilitation therapeutics. All the patients were assessed using Pittsburgh Sleep Quality Index, Numeric pain rating scale, Hospital anxiety and Depression scale and Barthel index score. Mann-Whitney U test and Wilcoxons signed rank test were used for statistical analysis

Results: Quality of sleep improved significantly with reduction of PSQI score in yoga group (p=0.048). There was reduction of pain scores, anxiety and depression in both the groups without statistical