

Bibliography

VÍTEK, Jiří. *The effect of physiotherapy on respiratory muscle strength and functional ability in patients with amyotrophic lateral sclerosis*. Prague: Charles University, 2nd Faculty of Medicine, Department of Rehabilitation and Sports Medicine, 2017. 132 p. Supervisor prim. MUDr. Ondřej Horáček, Ph.D.

Abstract

Objectives

To determine the effects of intensive physiotherapeutic care in patients with Amyotrophic lateral sclerosis (ALS), with the focus on objective measurement of respiratory functions and functional status.

Methods

Patients with ALS (n = 21) were non-randomly assigned into two groups. First group (group R) received a 3-week in-patient rehabilitation programme in the Rehabilitation Hospital Beroun. Second group, control group (group K), received a home exercise programme. Patients from both groups underwent spirometry examination and evaluation of functional skills via the Amyotrophic lateral sclerosis functional rating scale revised questionnaire (ALSFRS-R) three weeks apart. Among the spirometry parameters, forced vital capacity (FVC) and forced expiratory volume in 1 second (FEV1) were selected for further evaluation. These parameters are significantly associated with respiratory muscle strength and survival in patients with ALS.

Results

There were no significant differences in demographic and other variables between the two patient groups. Results after intervention show significant improvement only in the value of FVC (from 83,83 % ±13,9 to 91,67 % ±12, p = 0,004) in group R. There was also an evident improvement in the FEV1 (from 85,33 ±10,3 to 90,92 % ±8,6) in group R, but the difference did not reach the stated level of significance (p = 0,056). The score on the ALSFRS-R scale changed only in the case of one subject in both patient groups. No significant difference was found both in FVC and FEV1 in group K after intervention.

Conclusion

The 3-week intensive physiotherapeutic programme has effectiveness in improving respiratory outcome, as measured by FVC, compared to low-intensity home exercise programme in patients with ALS.

Keywords

amyotrophic lateral sclerosis, physiotherapy, physical therapy, rehabilitation, respiratory muscles