

ERGOTHERAPY STIMULATES INDEPENDENCE IN ACTIVITIES OF DAILY LIVING AND REDUCES DEPRESSION IN PATIENTS WITH AMYOTROPHIC LATERAL SCLEROSIS

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INTRODUCTION

The amyotrophic lateral sclerosis (ALS) is a progressive neurodegenerative disorder, first described by the french neurologist Jean-Marie Charcot (maladie de Charcot or Charcot's disease) [4,5]. In United States ALS is known like Lou Gehrig's disease, after the famous American "Yankees" baseball player who died from ALS in 1941.

The ALS like a form of motor neuron disease (MND) is listed as a "rare disease".

The **AIM** of this study is to appreciate the role of ergotherapy like a part of complex rehabilitation in patients with ALS; to evaluate the effect on the independence of ALS patient in activities of daily living and on the depression grade.

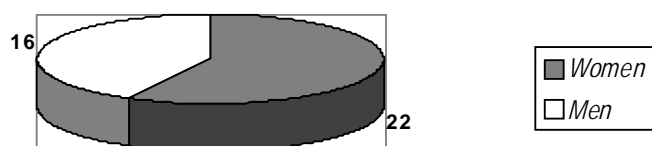
MATERIAL AND METHODS:

In the years 2004-2009 a total of 38 patients with ALS (divided into 2 groups) were observed during a 20 days treatment:

- *10 days like in-patients* in a Neurorehabilitation department of the University hospital in Pleven or of the National Specialized hospital of Physical therapy and Rehabilitation – Sofia;

and

- *10 days like out-patients* in a Medical Center – MC "Vitalis" in Sofia and MC"Pleven" in Pleven).



The REHABILITATION COMPLEX in both groups includes:

✚ PHYSIOTHERAPY

- ❖ *Analytic exercises for upper limbs,*
- ❖ *Cryomassage of lower limbs,*
- ❖ *Proprioceptive neuromuscular facilitation for lower limbs,*

✚ PREFORMED PHYSICAL MODALITIES

- ✓ *Electrophoresis with Nivalin – 10-20 mA, 10-20 min., 10 procedures, longitudinal localization of electrodes in upper limbs, with an electric device Intellect 2006 of Chatanooga group;*
- ✓ *Electrostimulations in motor points of ulnar and radial nerves and corresponding muscles, parameters depending individual electrodiagnostic results; with an electric device Intellect 2006 of Chatanooga group;*
- ✓ *Electrostimulations in extensors muscles of lower limbs (antagonists of spastic muscles), tetanizing impulses; with an electric device Intellect 2006 of Chatanooga group;*
- ✓ *Low intensity low frequency magnetic field for feet – 204 Oe, 10 min., 10 procedures, with a device Magnit N80.*

In patients of the second group we apply too

✚ ERGOTHERAPY (OCCUPATIONAL THERAPY) – training of activities of daily living, including grip and gait [3,6,7,10,12,13,14,15].

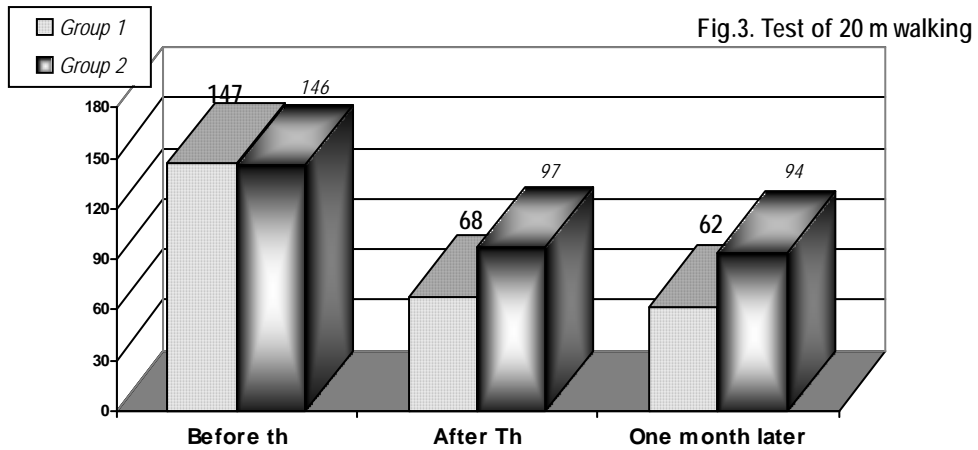
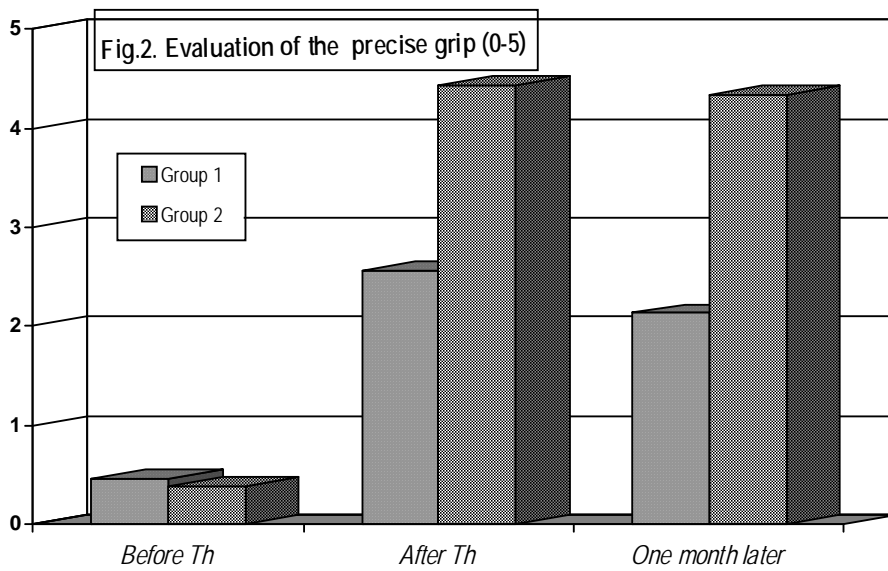
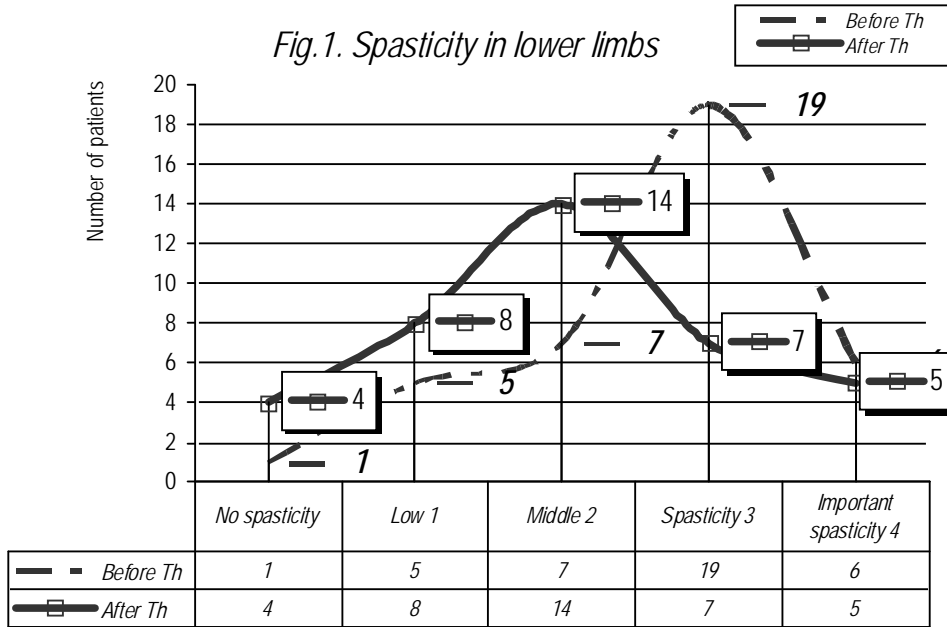
Patients were examined before, during, after treatment and one month later, according a Protocol, including clinical patterns of ALS (motor weakness, hypotrophy in upper limbs, cramps and spasticity in lower limbs, psychometric tests – Zung-D) and some investigations (neurofunctional tests and neuroimager) [1,2,8,9,11].

Statistical analysis was effectuated by t-test (ANOVA) and Wilcoxon rank test.

RESULTS

The comparative **analysis of results** demonstrates a statistically significant ($p < 0.05$) favorable effect on spasticity 0-4 (fig.1), grip (fig.2), velocity of the gait (fig.3), independence in activities in daily living 0-5 (fig.4), functional tests, depression (fig.5); especially in patients treated with ergotherapy - group 2.

Fig.1. Spasticity in lower limbs



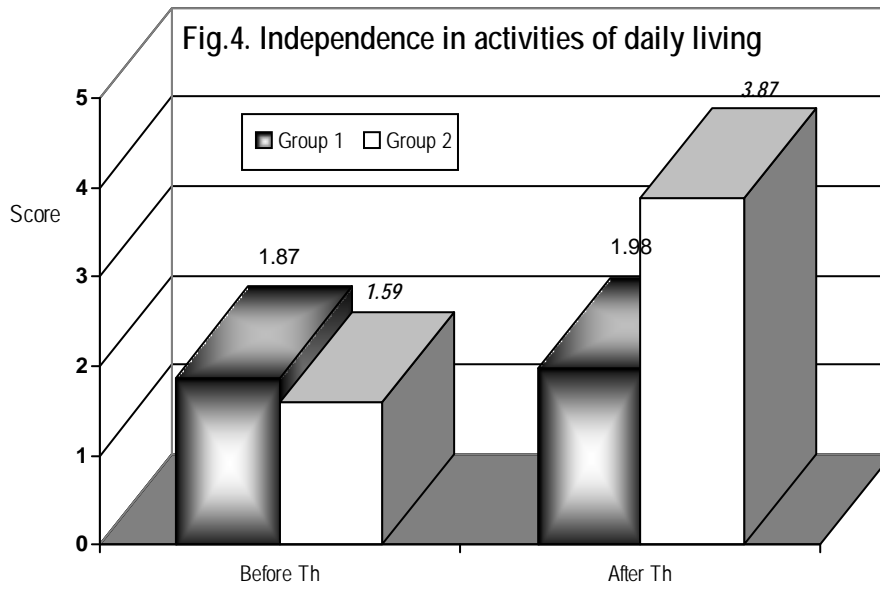
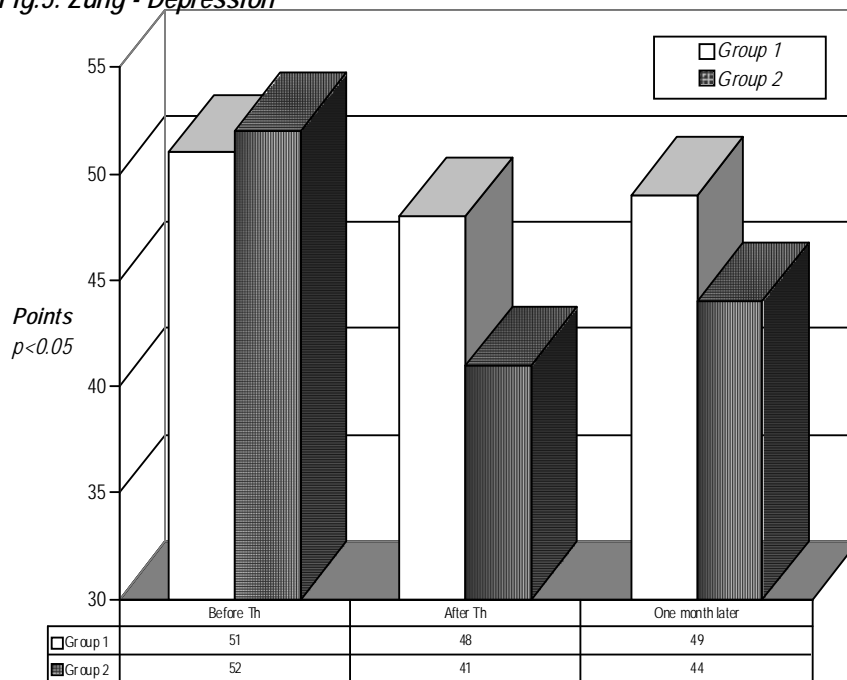


Fig.5. Zung - Depression



CONCLUSION

The complex rehabilitation of ALS ameliorates the independence of patients in activities of daily living and reduces depression.

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