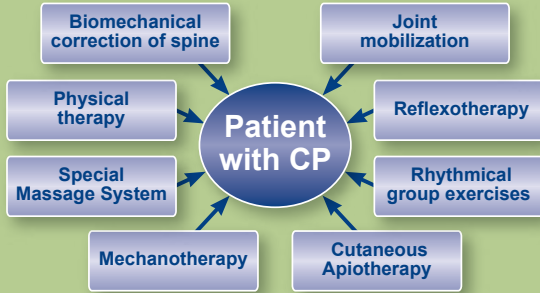




Changes in Gross Motor Functions in Patients with CP during Treatment by the Intensive Neurophysiological Rehabilitation System

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Main components of Intensive Neurophysiological Rehabilitation System



Background

The Intensive Neurophysiological Rehabilitation System is a relatively new treatment for patients with Cerebral Palsy that combines different treatment modalities. The main component is a biomechanical correction of the spine and large joints combined with reflexotherapy, physical therapy, special massage therapy, rhythmical group exercises, mechanotherapy, and beeswax wraps.

Objective

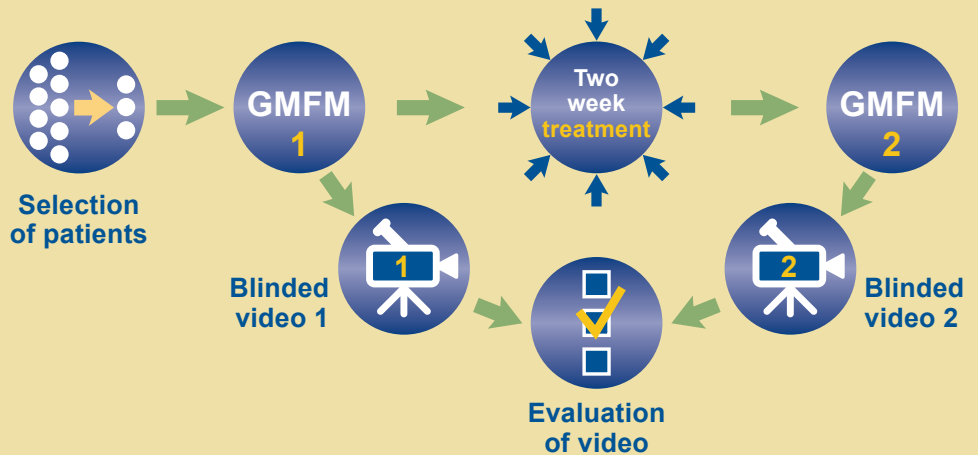
This pilot study is aimed at evaluating changes in gross motor functions in patients with Cerebral Palsy during a two-week course of intensive rehabilitation.



Design / Methods

Forty patients with Cerebral Palsy aged 3 to 15 years were evaluated with GMFM- 66 Item Sets test before and after the two-week treatment course. The performance of the tasks was recorded on videos.

All recordings were rated by a trained specialist who did not know which video was filmed before or after the treatment course. A statistical analysis of the data was drawn up, using T-test for paired samples.



Results

The average increase of the GMFM score after treatment totalled 2.1 points, from 48.6 to 50.7 ($p < 0.01$). The most significant improvement was noted in patients at GMFCS level IV – with an increase of 3.1 points ($p < 0.05$) and in patients in the 4-6 year-old age group with an average increase of 2.3 points ($p < 0.01$).

Distribution of patients according to GMFCS and age

Diagnosis	N	GMFCS level	N	Age group (years)	N
CP, spastic bilateral	35	I	3	2- 4	6
CP, spastic unilateral	3	II	10	4- 6	25
CP, dystonic form	2	III	13	7- 9	3
		IV	9	10- 12	3
		V	5	12- 15	3

Changes of GMFM score after treatment

	N	GMFM mean score	GMFM mean score	Mean difference	Significance (2 sided)
Whole group	40	48,6	50,7	2,1	< 0,01*
I level	3	85,0	89,4	4,4	0,16
II level	10	65,6	66,9	1,3	0,12
III level	13	49,3	50,7	1,4	0,007*
IV level	9	34,6	37,7	3,1	0,009*
V level	5	16,2	18,7	2,5	0,093

* statistically significant difference

Conclusion

The study shows improvement in gross motor functions in patients with Cerebral Palsy following a treatment course of the Intensive Neurophysiological Rehabilitation System. Randomised clinical trial should be conducted to assess the outcome of the treatment system.

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