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Efficacy of a district-specific and global rehabilitative rehabilitation program tailored for Systemic Sclerosis patients: a pilot study

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BACKGROUND: Rehabilitation may contribute to the management of Systemic Sclerosis (SSc) dealing with disabilities due to skin and joint involvement. Our aim was to evaluate the efficacy of a district specific and global rehabilitation program tailored for SSc patients.

MATERIALS AND METHODS: 20 SSc patients (7 males and 13 females; age and disease duration 57.1 ± 15.0 years and 9.0 ± 4.1 years, respectively) were enrolled and randomly assigned to 2 groups. Interventional Group (10 pts) underwent a rehabilitation program including hand (connective tissue massage and Mc Mennell joint manipulation) and face treatments (Kabat's method, connective tissue massage and kinesitherapy), both performed 1 hour/session, twice a week, and a global rehabilitation technique chosen between hydrokinesytherapy or land-based kinesytherapy (1 hour/session, once a week), both comprising respiratory exercises. Observational Group (10 patients) was only provided with educational advices and medical information about SSc. Patients were evaluated at baseline (T0) and after the 9 weeks treatment period (T1). Interventional Group was also assessed after a 9 weeks follow-up (T2). Patients were evaluated for global health status by Physical (PSI) and Mental Synthetic Index (MSI) of SF-36 and HAQ disability index (DI); for hand and face involvement by Hand Mobility in Scleroderma (HAMIS) test, Duruöz scale, fist closure and hand opening, mouth opening and a purpose-built-questionnaire to assess mouth functionality (based on 14 Visuo Analogic scales).

RESULTS: Patients of Interventional and Control Group group were similar in their baseline values. No drop out from the study was registered. At the end of the treatment, patients of Interventional Group improved significantly in all the parameters evaluated. However, the statistical significance was lost at the 9 weeks follow-up for almost all the items assessed, excluding HAMIS test and mouth opening (Table). No changes was observed in Control Group.

CONCLUSION: The association of district-specific and global rehabilitative techniques conceived and tailored for SSc patients improves global health status, hand and face disability and functionality, with its effects partially maintained at follow-up.

To maintain the results, we advice to add a home self management program after the end of the treatment.

Global health, hand and face assessment at the study entry (T0), at the end of treatment (T1) and at follow-up (T2) in Interventional Group (mean ± SD)

	T0	T1	T2	pT0 -T1	p T0 -T2
MSI (SF-36)	36.9 ± 6.0	44.6 ± 6.0	34,7 ± 4,6	<0.005	NS
PSI (SF-36)	37.9 ± 7.9	44.9 ± 8.6	39.0 ± 7.9	<0.05	NS
HAQ	1.2 ± 1.2	0.9 ± 1.1	0.8 ± 1.2	<0.05	NS
HAMIS TEST	10.2 ± 4.8	6.0 ± 3.7	6.4 ± 7.4	<0.005	<0.01
Durouz scale	23.3 ±19.9	14.0 ± 16.0	17.3 ± 17.3	<0.01	NS
Hand opening* (cm)	15.7 ± 1.3	16.4 ± 1.7	14.7 ± 3.1	NS	NS
Fist closure* (cm)	1.4 ± 2.2	0.4 ± 0.9	0.5 ± 0.8	<0.05	NS
Mouth opening (cm)	3.4 ± 1.1	4.0 ± 1.2	4.8 ± 1.4	<0.05	<0.01
FACE-VAS (0-10 cm)	3.7 ± 1.3	3.1 ± 1.1	4.0 ± 1.0	<0.002	NS

Legend: MSI =Mental Synthetic Index; PSI =Physical Synthetic Index; HAQ= Health assessment questionnaire;Face-VAS = Visuo Analogic scales (VAS) Questionnaire on Face involvement: *Mean values between right & left hand