

Supplementary Table S1

Study characteristics

Author, Year	Category	Participants	Intervention/management strategy ^a	Comparator	Outcome(s) ^b	SD&OA ^c	Oxford LoE ^d
Physical activity and exercise							
Stefanantoni, 2016 (1)	Exercise (hand)	Intervention: 15 Control: 16	P: Hand stretching exercise and weekly phone call with occupational therapist, with specific timetable for when to conduct exercise C: Hand stretching exercise and weekly phone call with occupational therapist	Other SSc patients	COPM	11; I	2
Rannou, 2017 (2)	Exercise (multiple)	Intervention: 110 Control: 108	P: Personalized physical therapy session with physiotherapist and occupational therapist C: Usual care	Other SSc patients	CHFS; HAQ-DI; Oral aperture	11; R	2
Gregory, 2019 (3)	Exercise (hand)	Intervention: 17 Control: 19	P: Paraffin bath and hand exercises C: Hand exercises without wax bath	Other SSc patients	HAMIS	11; I	2
Filippetti, 2020 (4)	Exercise (general)	Intervention: 22 Control: 22	P: Home-based aerobic exercise (stationary bike), muscular endurance training (upper limbs) and stretching (hands) C: Usual care	Other SSc patients	6MWD; HAQ-DI; SF-36	11; I	2
Mugii, 2006 (5)	Exercise (hand)	Intervention: 45 Control: 21 healthy controls	P: Self-administrated stretching C: No intervention	Healthy controls	ROM	10; I	3
Oliveira, 2009 (6)	Exercise (general)	Intervention: 7 Control: 7	P: Aerobic exercise programme C: Aerobic exercise programme	Healthy controls	V0 ₂ max	10; I	3
Piga, 2014 (7)	Exercise (hand)	Intervention: 20 (10 with RA) Control: 20 (10 with RA)	P: Stretching and mobility exercises at home using a newly developed telemedicine system C: Home kinesiotherapy protocol	SSc patients and RA-patients	HAMIS	11; W	3
Lima, 2015 (8)	Exercise (general)	Intervention: 20 Control: 20	P: Muscle strength C: No intervention	Healthy controls	HAQ-DI	1; R	3
Azar, 2018 (9)	Exercise (general)	Intervention: 389 Control: 363	P: Exercise habits C: No intervention	Other SSc patients	PROMIS	5; I	3
Mitropoulos, 2018 (10)	Exercise (general)	Intervention 1: 11 Intervention 2: 11 Control: 12	P: Intervention 1: HIIT (cycling) twice a week for 12 weeks Intervention 2: HIIT (arm cranking) twice a week for 12 weeks C: No training protocol	Other SSc patients	CVC	11; W	3
Mitropoulos, 2019 (11)	Exercise (general)	Intervention: 16 Control: 16	P: Combined programme with HIIT and resistance training, twice weekly for 12 weeks C: No intervention	Other SSc patients	CVC	11; W	3
Cetin, 2020 (12)	Exercise (general)	Intervention: 14 Control: 14	P: Tai Chi C: Home exercise	Other SSc patients	Berg Balance Scale; Fatigue Severity Scale; Pittsburg	11; W	3

Author, Year	Category	Participants	Intervention/management strategy ^a	Comparator	Outcome(s) ^b	SD&OA ^c	Oxford LoE ^d
					Sleep Quality Index; Trunk Lateral Endurance Test		
Maddali Bongi, 2021 (13)	Exercise (mouth)	Intervention: 25 Control: 22	P: Home exercises for temporomandibular joint, mimic, masticatory and cervical spine muscles C: Home exercises and combined physiotherapeutic procedures performed by a physiotherapist	Other SSc patients	MHISS	11; W	3
Murphy, 2021 (14)	Exercise (hand)	Intervention: 16 Control: 16	P: Intensive occupational therapy and app-delivered home exercise. C: App alone	Other SSc patients	QuickDASH	11; W	3
Pizzo, 2003 (15)	Exercise (mouth)	Intervention: 10 selected among 35 patients with MMO≤30mm Control: N/A	P: Mouth stretching exercise and oral augmentation exercise C: N/A: intraindividual assessment	N/A; intraindividual assessment	-	10; R	4
Pinto, 2011 (16)	Exercise (general)	Intervention: 11 Control: N/A	P: Supervised, treadmill, treadmill (aerobic), stretching exercise C: N/A: intraindividual assessment	N/A; intraindividual assessment	-	10; R	4
Defi, 2021 (17)	Exercise (general)	Intervention: 11 Control: N/A	P: High-intensity interval exercise (HIIT) C: N/A: intraindividual assessment	N/A; intraindividual assessment	-	10; I	4
Mental health							
Yuen, 2012 (18)	Patient education (mouth, oral hygiene)	Intervention: 26 Control: 22	P: Orofacial exercise + multifaceted oral health intervention C: Usual care	Other SSc patients	Oral aperture	11; I	2
Uras, 2019 (19)	Patient education (mouth)	Intervention: 31 Control: 32	P: Face-to-face training + standard information programme (i.e., brochures, DVD) C: Educational materials alone	Other SSc patients	Oral aperture	11; I	2
Cüzdan, 2021 (20)	Patient education (mouth, oral hygiene)	Intervention: 28 Control: 28	P: Orofacial exercise programme followed by oral hygiene care advice C: Oral hygiene care advice followed by orofacial exercise programme	Other SSc patients	Oral aperture	11; I	2
Gokcen, 2021 (21)	Patient education (hand)	Intervention: 32 Control: 30	P: Booklet, isometric hand exercise and self-administrated stretching C: Booklet alone	Other SSc patients	DHI; HAMIS; Handgrip strength; HAQ-DI	11; I	2
Yuen, 2011 (22)	Patient education (mouth, oral hygiene)	Intervention: 26 Control: 22	P: Multi-faceted oral health intervention C: Usual care	Other SSc patients	Löe-Silness gingival index	11; W	3
Zanatta, 2017 (23)	Patient education (general)	Intervention: 10 Control: 10	P: Informative meeting followed by occupational therapy C: Informative meeting alone	Other SSc patients	HAQ-DI	10; R	3
Khanna, 2019 (24)	Patient education (general)	Intervention: 134 Control: 133	P: Self-management website C: Book	Other SSc patients	PROMIS	11; W	3
Landim, 2020 (25)	Patient education (hand)	Intervention: 40 Control: 17	P: Self-management programme composed of a booklet C: No intervention	Other SSc patients	CHFS; VAS (pain)	10; I	3

Author, Year	Category	Participants	Intervention/management strategy ^a	Comparator	Outcome(s) ^b	SD&OA ^c	Oxford LoE ^d
Samuelson, 2000 (26)	Patient education (general, self-efficacy)	Intervention: 6 Control: N/A	P: Educational programme C: N/A: intraindividual assessment	N/A; intraindividual assessment	-	10; I	4
Brown, 2004 (27)	Patient education (general)	Intervention: 5 with SSC, 5 with SLE Control: N/A	P: Educational programme C: Educational programme	SLE-patients	-	9; R	4
Poole, 2010 (28)	Patient education (mouth, oral hygiene hand)	Intervention: 17 Control: N/A	P: Customized intervention for dental hygiene and upper extremity's function C: N/A: intraindividual assessment	N/A; intraindividual assessment	KT; Oral aperture; PHP	10; I	4
Poole, 2013 (29)	Patient education (general, self-efficacy)	Intervention: 62 (49 completers, 13 non-completers) Control: N/A	P: Mail-delivered self-management programme C: N/A: intraindividual assessment	N/A; intraindividual assessment	-	10; I	4
Poole, 2014 (30)	Patient education (general, self-efficacy)	Intervention: 16 Control: N/A	P: Self-management website with 10 modules C: N/A: intraindividual assessment	N/A; intraindividual assessment	-	10; R	4
Landim, 2019 (31)	Patient education (hand)	Intervention: 22 Control: N/A	P: Home based self-management programme that consisted of a booklet and information about SSC C: N/A: intraindividual assessment	N/A; intraindividual assessment	CHFS; VAS (pain)	10; R	4
Diet and nutrition							
Low, 2019 (32)	Dietary therapy (probiotics)	Intervention: 19 Control: 21	P: Probiotics C: Placebo	Other SSC patients	GIT-score	11; I	2
Marighela, 2019 (33)	Dietary therapy (probiotics)	Intervention: 37 Control: 36	P: Probiotics C: Placebo	Other SSC patients	GIT-score; Th-17 cells	11; W	3
Frech, 2011 (34)	Dietary therapy (probiotics)	Intervention: 10 Control: N/A	P: Probiotics C: N/A: intraindividual assessment	N/A; intraindividual assessment	GIT-score	10; I	4
Ortiz-Santamaria, 2014 (35)	Dietary therapy (nutrition)	Intervention: 9 Control: N/A	P: Individually adapted nutritional intervention C: N/A: intraindividual assessment	N/A; intraindividual assessment	BMI; Energy intake; SF-36; Weight	10; I	4
Doerfler, 2017 (36)	Dietary therapy (nutrition)	Intervention: 18 Control: N/A	P: Medical nutrition therapy C: N/A: intraindividual assessment	N/A; intraindividual assessment	abPGSSGA; DXA	10; I	4

^aP: Intervention/management strategy applied to population under investigation; C: Intervention/management strategy applied to participants in the comparator group. ^bOutcomes from the studies cited in the systematic review: 6MWD: Six minute walk distance; abPGSSGA: abridged scored Patient-Generated Subjective Global Assessment; BMI: Body Mass Index; CHFS: Cochin Hand Function Scale; COPM: Canadian Occupational Performance Measure; CVC: Cutaneous vascular conductance; DHI: Duruoz Hand Index; DXA: Dual energy x-ray absorptiometry; FISI: Fecal Incontinence Severity Index; GIT-score: University of California, Los Angeles Scleroderma Clinical Trial Consortium Gastrointestinal Tract Instrument; HAMIS: Hand Mobility in Scleroderma; HAQ-DI: Health Assessment Questionnaire-Disability Index; KT: Keitel Function Test; MHISS: Mouth Handicap in Systemic Sclerosis scale; PHP: Patient Hygiene Performance index; PROMIS: Patient Reported Outcomes Measurement Information System; QuickDASH: the shortened disabilities of the arm, shoulder and hand questionnaire; ROM: range of motion; SF-36: the 36-item short form health survey; STAI: State-Trait Anxiety Inventory; VAS: visual analogue scale; VO2max: maximum oxygen consumption. ^cStudy design and overall appraisal (adapted from the Joanna Briggs Institute Manual for Evidence Synthesis (37)). ^dLoE: Levels of evidence according to the Oxford Centre for Evidence-Based Medicine (38).

Notation	Study design
1	Analytical cross-sectional study

2	Case-control study
3	Case report
4	Case series
5	Cohort study
6	Diagnostic test accuracy study
7	Economic evaluation
8	Prevalence study
9	Qualitative research
10	Quasi-experimental study
11	Randomised controlled trial
12	Meta-analysis, with or without systematic review

Notation	Overall appraisal
R	Robust
I	Intermediate
W	Weak

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