Format of data reporting across studies varied widely.

Under "Control group" and "Intervention group" columns, data are presented for baseline; post-intervention; follow up values (if available), or the change (Δ) between respective time points if actual values are not presented. It should be noted that in some studies samples are different for pre-post and post-follow up comparisons .

Data are presented as group mean ± SD or mean (95% CI), unless otherwise stated. P-values for within group changes are indicated when available, or non-significant changes not accompanied by p-value are indicated with NS.

Values not reported are indicated as not available (NA).

"Intervention effectiveness" represents the group x time interaction.

To ensure clarity and consistency, any data reported for mid-intervention or mid-follow up time points are not included.

FITNESS

Study	Intervention type (duration pre-post; post-follow up [when available])	Subject number (completed)	Outcomes	Intervention group	Control group	Intervention effectiveness
<td colspan="7" align="center">**RCTs with wheelchair users**</td>
Jansen, et al. (2013)	Cycling: arm and peddle (24 weeks; 24 weeks)	I: 17 C: 13	6-min arm cycle test (revs)	403.0 ± 111.7; 444.4 ± 107.6; 494.8 ± 103.6	351.5 ± 110.7; 349.9 ± 131.9; NA	pre-post: Δ (95%CI) = 13.8 (−60.7 - 88·3. p=0.697. post-follow up: Δ= 7.6. P = 0.71
			6-min leg cycle test (revs)	434.7 ± 164.8; 442.0 ±124.3; 447.3 ± 91.7	405.4 ± 113.2; 415.2 ± 158.3; NA	pre-post: Δ (95%CI) = 5.6 (−56.2 - 67.3). P=0.848. Post-follow up: Δ= −30.7. P = 0.06
Van Den Berg-Emons, R. J., et al 1998	Sport/games-based aerobic.(4 times per week participation in the training programme) (9 months; 3 months)	I : 10, C: 10	Peak aerobic power	0.91 ± 0.83 ; 1.23 ± 0.80 ; 1.02 ± 0.76. pre-post: p < 0.01; post-follow up: p=0.01	1.11 ± 0.96 ; 1.17 ± 0.94 ; 1.15 ± 0.88. NS	Pre-post: p=0.05
			Anaerobic peak power using pedal or hand bike (W/kg ffm)	2.16 ± 1.94 ; 2.48 ± 1.94 ; 2.41 ± 1.83. pre-post p=0.06	2.35 ± 1.75 ; 2.60 ± 1.86 ; 2.55 ± 1.89	NS
	Sport/games-based aerobic. (2 times per week participation in the training programme) (9 months)	I: 9, C: 9	Peak aerobic power	0.97 ± 0.77; 1.16 ± 0.83. pre-post; p < 0.01	1.11 ± 0.96 ; 1.17 ± 0.94. NS	p=0.17
			Anaerobic peak power using pedal or hand bike (W/kg ffm)	2.32 ± 1.89; 2.67 ± 2.07. pre-post p=0.06	2.35 ± 1.75 ; 2.60 ± 1.86	NS
<td colspan="7" align="center">**Non-RCTs with wheelchair users**</td>
Andrade, C., et al 1991	Complex programme: PRT and cardiovascular exercise, inc psychosocial (10 weeks)	I: 7 , C: 5	9-min run distance (m)	683 ± 330 ; 887 ± 322 p = 0.025	844 ± 362 ; 752 ± 171. p = 0.40	p <0.10
			9-min run mean heart rate (beats/min)	152 ± 26 ;149 ± 18. p <0.40	158 ± 14;160 ± 10. p <0.40	p>0.40
Unnithan, V.B., 2007	Complex programme (PRT and walking) (12 weeks)	I : 7 , C: 6	VO2 Peak max (L·min-1)	1.0 ± 0.24; 1.2 ± 0.30. p < 0.05	0.93 ± 0.21 ;0.96 ± 0.20. NS	p<0.05
			HR peak max (BPM)	146.0 ± 20.4; 149.0 ± 22.5. NS	152.0 ± 12.5;154.0 ± 10.8. NS	NS - no actual p value reported.
			VE (L·min-1)	29.3 ± 6.84 ;36.6 ± 11.76. p < 0.05	29.1 ± 5.08 ;29.1 ± 4.55. NS	p<0.05
			La (mM)	4.70 ± 1.7 ;4.41 ± 1.13. NS	5.03 ± 1.98; 5.12 ± 1.92. NS	NS - no actual p value reported.
<td colspan="7" align="center">**RCT with population with undefined wheelchair use**</td>
DeGroot, J.F., 2011	Walking (treadmill) (12 weeks)	I:18,C:14	Six minute walk distance (m)	344.8 ± 125.3, Δ = 38.7 ± 34.6, p<0.05	372.1 ± 116.5, Δ = −2.1 ± 27.8, NS	p = 0.002, d = 1.08
			VO2 Peak	beseline =32.3 ±7.1, Δ = 1.4 ± 3.7, NS	baseline = 33.4 ±11.0, Δ = -3.0 ± 7.5, NS	p = 0.034, d = 0.78
Maher, C.A., 2010	Internet-based education (10 weeks; 10 weeks)	I:20, C:41	Six minute walk test	464.3 ± 94.6; 454.7 ± 91.7; 445.3 ± 100.5	451.7 ± 107.9; 453.2 ± 108.8; 461.1 ± 108.1	Pre-Post: p = 0.52 F = 0.4; Pre-follow-up: p = 0.36 F= 1.0

Katz-Leurer, M., 2009	Functional exercises at home (6 weeks; 6 weeks for intervention group only)	I:8, C:10	Energy Expenditure Index (beats/min)	baseline = 5.8 ± 2.1, Δ = 0.0 ± 0.1; Δ = 0.0 ± 0.1, p = 0.77	5.1 ± 1.3, Δ = 0.0 ±0.1	p = 0.78
Verschuren, O., et al,;2007	Functional exercises (8 months)	I: 32 C: 33	Aerobic Capacity: level on 10m shuttle run test, min	Δ = 2.4 ± 1.9	Δ = -0.4 ± 1.6	p <0.001
			Aerobic Capacity: mean power, W	Δ = 20.4 ± 38.0	Δ = -4.8 ± 28.2	p = 0.004

				Lower Limb	**Upper Limb**	
Crompton, J., et al 2007	PRT with functional exercises (plus upper body dexterity) (6 weeks; 6 weeks)	I: 6 C: 7	10 min walk distance	Median (25th;75th centile): 714 (621;871); 803 (676;836); 680 (602;836). Overall time effect: p = 0.964	Median (25th;75th centile): 677 (569;820); 698 (579;798); 670 (575;749). Overall time effect: p = 0.401	Pre-Post: p=0.67 z=-0.43; Pre-follow-up: p=0.67 z=0.43

				peddle bike	hand bike	
Shinohara, T., 2002	Cycling peddle and arm: at anaerobic threshold. (leg 16.7 ± 4.7, hand 12.7 ± 6.3 weeks)	I: 6, C: 5	VO2 at the AT Point (ml/kg/min)	22.0 ± 5.2; 27.4 ± 7.1, p < 0.05	12.5 ± 2.3; 14.0 ± 1.0. NS	NA
			Self-assessment of endurance	5/6 repoerted improvement	1/5 reported improvement	NA

BODY COMPOSITION

Study	Intervention type (duration pre-post; post-follow up [when available])	Subject number	Outcomes	Intervention group	Control group	Intervention effectiveness
			RCTs with wheelchair users			
Van Den Berg-Emons, R. J., et al 1998	Sport/games-based aerobic.(4 times per week participation in the training programme) (9 months; 3 months)	I : 10, C: 10	Fat mass (kg)	baseline = 8.1 ± 6.2, pre-post: NS, post-follow-up: Δ = +0.7 ± 0.7, p<0.05	baseline = 5.7 ± 2.2, pre-post: Δ = +1.1 ± 1.6, p< 0.05	pre- mid(2month): p = 0.09, pre-post and follow-up: NS
	Sport/games-based aerobic. (2 times per week participation in the training programme) (9 months)	I: 9, C: 9	Fat mass (kg)	in figure no change	same control	pre- mid(2month): p < 0.05, pre-post : NS

			RCT with population with undefined wheelchair use			
DeGroot, J.F., 2011	Walking (treadmill with body weight support) (12 weeks)	I:18,C:14	BMI	20.9 ± 5.7, Δ = −0.1 ± 0.9, NS	20.2 ± 5.1, Δ =−0.3 ± 0.9, NS	p = 0.1 d = NA
			Sum of Skinfolds	108.1 ± 58.2, Δ = −1.7 ± 17.5, NS	101.9 ± 56.6, Δ = −2.4 ± 8.2, NS	p = 0.9 d = NA

Verschuren, O., et al, 2007	Functional exercises (8 months)	I: 32 C: 33	BMI	Δ = 0.7 ± 2.1	Δ = 0.3 ± 1.1	p = 0.51

METABOLISM

Study	Intervention type (duration pre-post; post-follow up [when available])	Subject number	Outcomes	Intervention group	Control group	Intervention effectiveness
		Non-RCTs with wheelchair users				
Unnithan, V.B., 2007	Complex programme (PRT and walking) (12 weeks)	I : 7 , C: 6	RER	1.02 ± 0.11; 1.02 ± 0.10. NS	1.07 ± 0.13; 1.06 ± 0.12. NS	NS

RESPIRATORY

Study	Intervention type (duration pre-post; post-follow up [when available])	Subject number	Outcomes	Intervention group	Control group	Intervention effectiveness
RCT with undefined wheelchair use						
Choi, J.A. et al. (2016)	spirometer exercise with vs without additional therapy (4 weeks; -)	I:25 C:23	FEV1 (l)	1.40 ± 0.37; 1.57 ± 0.44. p=0.005	1.35 ± 0.44; 1.35 ± 0.45. p=0.848	p = 0.017
			FVC (l)	1.95 ± 0.48; 2.15 ± 0.56. p<0.01	1.94 ± 0.66; 1.90 ± 0.69. p=0.511	p = 0.005
			FEV1/FVC (l)	72.76 ± 11.91; 74.48 ± 13.98. p=0.443	71.71 ± 17.23; 73.79 ± 15.68. p=0.563	p = 0.821
			Peak flow (l/min)	191.60 ± 56.25; 217.60 ± 67.58. p=0.003	71.71 ± 17.23; 73.79 ± 15.68. p=0.563	p = 0.085
			maximal phonation time	10.16 ± 3.70; 12.13 ± 3.61. p=0.001	9.65 ± 5.30; 10.06 ± 5.75. p=0.705	p = 0.008

QOL

Study	Intervention type (duration pre-post; post-follow up [when available])	Subject number	Outcomes	Intervention group	Control group	Intervention effectiveness
			RCTs with wheelchair users			
Jansen, et al. (2013)	Cycling: arm and peddle (24 weeks; 24 weeks)	I: 17 C: 13	PEDI self care	74.8 ± 13.2; 77.1 ± 14.1; NA	72.3 ± 13.6; 72.9 ± 12.8; NA	Pre-post: Δ (95%CI) = 4.1 (−2·2 - 10.4). P=0.192.
			PEDI mobility	57.6 ± 15.0; 55.8 ± 13.0; NA	62.7 ± 11.0; 57.7 ± 15.2; NA	Pre-post: Δ (95%CI) = 1.6 (−3.6 - 6.0). P=0.523.
Van Wely, et al. (2014) a	Complex: Life-style counselling and fitness training (6 months; 6 months)	I: 23 C: 23	CAPE Active physical	1.16 ± 0.47; 1.40 ± 0.32; 1.25 ± 0.61	1.15 ± 0.71; 1.41 ± 0.52; 1.27 ± 0.68	Δ (95%CI). pre-post: −0.01 (−0.23 - 0.22) P = 0.95. pre-follow up: −0.05 (−0.40 to 0.30) P = 0.78
			CAPE Social activities	2.92 ± 0.81; 3.00 ± 0.79; 2.95 ± 0.95	3.05 ± 0.72; 3.37 ± 0.79; 3.30 ± 0.71	Δ (95%CI). pre-post: −0.23 (−0.75 - 0.12) P = 0.28. pre-follow up: −0.17 (−0.59 - 0.26) P = 0.43
			CAPE Skill-based	1.18 ± 0.52; 1.03 ± 0.68; 0.95 ± 0.46	0.97 ± 0.56; 0.90 ± 0.66; 0.94 ± 0.64	Δ (95%CI). pre-post: −0.04 (−0.39 - 0.31) P = 0.83. pre-follow up: −0.23 (−0.49 - 0.03) P = 0.08
			Life-H	7.90 ± 1.88; 8.15 ± 1.68; 8.70 ± 1.19	8.76 ± 1.16; 8.33 ± 1.56; 8.23 ± 1.43	Δ (95%CI). pre-post: 0.38 (−0.67 - 1.43) P = 0.47. pre-followup: 0.92 (0.10 - 1.74) P = 0.03
			Self-perception: Athletic	2.85 ± 0.46; 2.84 ± 0.54; 2.87 ± 0.48	3.03 ± 0.51; 2.90 ± 0.59; 2.87 ± 0.54	Δ (95%CI). pre-post: 0.07 (−0.20 - 0.35) P = 0.59. pre-follow up: 0.08 (−0.20 - 0.35) P = 0.57
			Self-perception: Motor	3.14 ± 0.51; 3.03 ± 0.51; 3.15 ± 0.40	3.18 ± 0.42; 3.14 ± 0.55; 3.14 ± 0.47	Δ (95%CI). pre-post: −0.07 (−0.31 - 0.16) P = 0.53. pre-follow up: 0.01 (−0.23 - 0.24) p =0.94
			Self-perception: self-worth	3.41 ± 0.40; 3.42 ± 0.43; 3.53 ± 0.43	3.39 ± 0.51; 3.34 ± 0.64; 3.46 ± 0.53	Δ (95%CI). pre-post: 0.07 (−0.22 - 0.36) P = 0.63. pre-follow up: 0.03 (−0.23 - 0.30) P = 0.80
			CP-QOL: Social well-being	75.9 ± 8.4; NA; 76.5 ± 7.2	75.4 ± 11.9; NA; 79.4 ± 10.5	Δ (95%CI). pre-follow up: −3.1 (−7.9 - 1.7) P = 0.19
			CP-QOL: Functioning	71.1 ± 8.6; NA; 72.9 ± 9.6	71.3 ± 11.4; NA; 75.5 ± 9.4	Δ (95%CI). pre-follow up: −2.5 (−7.3 - 2.3) P = 0.30
			CP-QOL: Participation and physical health	65.5 ± 11.6; NA; 68.9 ± 9.3	67.2 ± 16.5; NA; 70.7 ± 14.0	Δ (95%CI) pre-followup: −0.8 (−5.7 to 4.1) P = 0.75
			CP-QOL: Emotional well-being and self-esteem	77.7 ± 8.2; NA; 78.2 ± 7.1	79.7 ± 15.1; NA; 79.6 ± 12.7	Δ (95%CI). pre-follow up: −0.3 (−5.3 - 4.7) P = 0.90
			CP-QOL: Pain and impact of the disability	30.5 ± 16.8; NA; 34.4 ± 16.4	32.9 ± 21.0; NA; 28.4 ± 14.8	Δ (95%CI). pre-follow up: 5.0 (−5.2 - 15.2) P = 0.33
			Non-RCTs with wheelchair users			
Andrade, C., et al 1991	Complex programme: PRT and cardiovascular exercise, inc psychosocial (10 weeks)	I : 7 , C: 5	Global self-worth	3.3 ± 0.3; 3.6 ± 0.3. p = 0.025	3.6 ± 0.4; 3.1 ± 0.3. NS	p<0.01
	Functional exercises (Intensive Lemo vs Move&Walk) (4 weeks)	Lemo:22, Move and Walk:30	Mobility from PEDI FS (Pediatric Evaluation of Disability Inventory-Functional Skills	**Lemo:** 50.1 ± 21.8; 50.9 ± 22.9	**Move&Walk:** 37.1 ± 21.8; 38.3 ± 21.2	both NS and interaction NS.

Odman , P., 2005	Functional exercises (combined Lemo + Move&Walk) (4 weeks intensive; 1 year voluntary partcipation)	52	Mobility from PEDI FS (Pediatric Evaluation of Disability Inventory-Functional Skills	42.7 + 22.5; 43.6 + 22.6; 43.6 + 22.8	pre-4 weeks: p = 0.03, 4 weeks-1 year: NS

<p align="center" style="color:red">RCT with population with undefined wheelchair use</p>

DeGroot, J.F., 2011	Walking (treadmill with body weight support) (12 weeks)	I:18,C:14	Total Fatigue PEDS QL (%)	baseline = 70.5 ± 16.4, Δ = 7.8 ± 9.8, p<0.05	74.2 ± 16.2, change = -0.4 ± 9.9 , NS	p = 0.06 d = NA

Demuth, S.K., 2012	Cycling / complex: strengthening and cardiorespiratory phases in each session (3 months)	I : 28, C:29	QoL (PedsQL): Physical functioning	67.2 (57.2–77.3); 70.4 (61.9–79.0). p = 0.21	65.9 (58.2–73.5); 69.9 (63.7–76.2) , p = 0.3	Δ = -0.8 (-10.0–8.3), p= 0.85
			QoL (PedsQL): Psychosocial Health Summary	62.8 (53.8-71.8); 69.7 (61.8-77.6). p = 0.008	68.0 (61.8-74.2) ; 69.5 (63.5-75.5). p = 0.40	Δ = 5.4 (-0.5-11.5), p = 0.07
			QoL (PedsQL): Total Score	64.2 (55.6-72.8); 70.0 (62.3-77.6), p = 0.006	67.3 (62.0 - 76.6), p = 0.22; 69.6 (64.1 - 75.2), p = 0.22	Δ = 3.5 (-2.0-8.8), p = 0.21
			Paediatric Outcomes Data Collection Instrument (PODCI) parent responses: Global function and symptoms	74.8 (70.3-79.4); 75.2 (70.4-80.1), p = 0.78	75.1 (70.4-79.9); 75.4 (70.9-79.9), p = 0.86	Δ = 0.1 (-4.1-4.3), p = 0.96
			Paediatric Outcomes Data Collection Instrument (PODCI) parent responses: Happiness	82.9 (78.0-87.8); 86.1 (80.9-91.3) p = 0.25	76.7 (69.4-84.1); 77.4 (71.9-82.9), p = 0.80	Δ = 2.5 (-5.1-10.2), p = 0.51
			Paediatric Outcomes Data Collection Instrument (PODCI) parent responses: Satisfaction with symptoms	50.0 (36.3-63.7); 51.9 (39.6-64.1), p = 0.77	44.8 (32.5-57.1); 32.8 (21.9-43.6) , p = 0.046	Δ =13.9 (-3.3-31.2), p = 0.11
			Paediatric Outcomes Data Collection Instrument (PODCI) parent responses: Treatment expectations	64.2 (56.4-72.0); 62.5 (53.2-71.7), p = 0.68	61.8 (55.3-68.3); 42.4 (33.8-51.5), p = 0.0002	Δ = 17.7 (5.2-30.0), p = 0.006

				Supported Walking	PRT	
Gates, P.E; 2012	PRT vs walking-partial body weight support (home) (12 weeks; 4 weeks)	I: 11 C: 12	PedsQLCP (child)	69.2 ± 13; 71.6 ± 17; 69.3 ± 18	68.4 ± 15; 62.1 ± 18; 70.3 ± 16. pre-post and pre-follow-up: p = 0.01	p = 0.016
			The Piers-Harris Self-Concept scale	45.3 ± 9; 48.1 ± 8; 46.8 ± 10. NS	42.7 ±7; 44.6 ± 8; 47.6 ± 7. NS	p = 0.14
			Canadian Occupational Performance Measure (COPM) - Performance	4.46 ± 2.2; 5.17 ± 2.2; 5.99 ± 2.7	3.16 ± 1.8; 4.10 ± 2.2; 4.51 ± 2.7	p = 0.95. Combined main effect of time p = 0.003; pre-post: p = 0.008; pre-follow-up: p = 0.01
			Canadian Occupational Performance Measure (COPM) - Satisfaction	4.38 ± 2.7; 5.37 ± 2.5; 6.36 ± 2.7	3.49 ±1.5; 4.58 ±1.6; 4.96 ± 2.5	p = 0.75. Combined main effect of time p = 0.0008; pre-post: p = 0.015; pre-follow-up p = 0.001
			Children's Assessment of Participation and Enjoyment (CAPE): Diversity	26.6 ± 5.3; 25.2 ± 9.5; 24.6 ± 9.3	24.9 ±6.3; 18.6 ± 5.4; 19.4 ± 4.0	NS
			Children's Assessment of Participation and Enjoyment (CAPE): Intensity	2.12 ± 0.5; 2.16 ± 1.0; 2.39 ± 1.1	2.14 ± 0.5; 1.68 ± 0.6; 1.80 ± 0.5. pre-post: p = 0.01, pre-follow-up: p = 0.01.	p = 0.05
			Children's Assessment of Participation and Enjoyment (CAPE): With Whom	2.47 ± 0.5; 2.41 ± 0.5; 2.35 ± 0.4	2.10 ± 0.3; 1.93 ± 0.4; 2.17 ± 0.5. post-follow-up: p = 0.02	p = 0.04
			Children's Assessment of Participation and Enjoyment (CAPE): Where	2.63 ± 0.6; 2.46 ± 0.5; 2.59 ± 0.4	2.03 ± 0.4; 2.18 ± 0.3; 2.14 ± 0.4	NS

Study	Intervention	N	Outcome measure	Intervention group	Control group	Significance
			Children's Assessment of Participation and Enjoyment (CAPE): Enjoyment	4.18 ± 0.5; 4.30 ± 0.5; 4.47 ± 0.4	4.03 ± 0.4; 4.36 ± 0.5; 4.49 ± 0.5	NS
Scholtes, V. A; 2012	PRT with functional exercises (12 weeks; 6 weeks)	I: 24 C: 23	CAPE	44.65 ± 18.30; 39.04 ± 13.28; 32.20 ± 9.27	36.63 ± 13.08; 31.14 ± 13.60; 31.83 ± 11.78	pre-post: p=0.86 Regression coefficient (95% CI) = -0.87 (-10.45–8.71); pre-follow-up: p=0.12 Regression coefficient (95% CI) = -7.34 (-16.50–1.89)
			MobQues-28 (0-100)	68.42 ± 20.93; 67.51 ± 24.58; 70.03 ± 23.49	64.77 ± 26.26; 66.43 ± 25.93; 67.49 ± 20.33	Pre-Post: p = 0.87 Regression coefficient (95% CI) = -0.46 (-6.0-5.07); pre-follow-up: p = 0.44 Regression coefficient (95% CI) = -2.22 (-7.88-3.43)
Verschuren, O., et al,; 2007	Functional exercises (8 months)	I: 32 C: 33	Self-concept (SPPC) - Athletic competence	Δ = 2.0 ± 4.2	Δ = -1.3 ± 3.7	p = 0.005
			Self-concept (SPPC) - Physical appearance	Δ = 0.03 ± 0.2	Δ = 0.2 ± 4.4	p = 0.90
			Self-concept (SPPC) - Global perception of worth	Δ = 0.5 ± 3.3	Δ = -1.0 ± 4.0	p = 0.20
			Participation (CAPE) - Overall activities	Δ = 0.0 ± 0.5	Δ = -4.0 ± 0.6	p = 0.002
			Participation (CAPE) - Formal activities	Δ = 0.2 ± 0.4	Δ = -4.0 ± 0.8	p = <0.001
			Participation (CAPE) - Informal activities	Δ = 0.0 ± 0.7	Δ = -0.4 ± 0.7	p = 0.07
			Participation (CAPE) - Recreational activities	Δ = 0.2 ± 1.0	Δ = -0.4 ± 1.1	p = 0.69
			Participation (CAPE) - Social activities	Δ = -0.1 ± 0.8	Δ = -0.4 ± 1.1	p = 0.12
			Participation (CAPE) - Skill-based activities	Δ = 0.2 ± 0.5	Δ = -0.6 ± 0.9	p = <0.001
			Participation (CAPE) - Self-improvement activities	Δ = -0.1 ± 0.9	Δ = -0.5 ± 0.8	p = 0.10
			Health-realted quality of life (TACQOL-PF) - Pain and symptoms	Δ = -0.14± 3.6	Δ = -1.0 ± 2.3	p = 0.30
			Health-realted quality of life (TACQOL-PF) - Basic motor functions	Δ = 2.1 ± 4.3	Δ = -1.7 ± 4.3	p = <0.001
			Health-realted quality of life (TACQOL-PF) - Autonomy	Δ = 0.5 ± 4.3	Δ = -0.2 ± 3.1	p = 0.02
			Health-realted quality of life (TACQOL-PF) - Cognitive functioning	Δ = 0.9 ± 4.7	Δ = -0.2 ± 4.0	p = 0.04
			Health-realted quality of life (TACQOL-PF) - Social functioning	Δ = 0.7 ± 4.0	Δ = 0.0 ± 3.9	p = 0.13
			Health-realted quality of life (TACQOL-PF) - Global positive emotions	Δ = 0.3 ± 3.9	Δ = - 0.1 ± 1.9	p = 0.25
			Health-realted quality of life (TACQOL-PF) - Global negative emotions	Δ = 0.7 ± 2.9	Δ = - 0.1 ± 1.9	p = 0.15
Wang et al. (2013)	Motivation: music during PRT (6 weeks; 12 weeks)	I:18 C:18	PEDI mobility (function)	73.0 ± 12.5; 75.1 ± 11.5; 76.2 ± 10.7. p<0.05	73.2 ± 13.9; 74.3 ± 13.6; 74.2 ± 13.2. p<0.05	pre-post: p=0.12 ES=0.28. pre-follow up: p=0.09 ES=0.31
			PEDI self-care (function)	77.4 ± 13.7; 78.6 ± 12.8; 79.9 ± 11.9. p<0.05	75.0 ± 10.8; 75.9 ± 11.0; 78.0 ± 10.8. p<0.05	pre-post: p=0.47 ES=0.13. pre-follow up: p=0.78 ES=0.05

GROSS MOTOR FUNCTION

Study	Intervention type (duration pre-post; post-follow up [when available])	Subject number	Outcomes	Intervention group	Control group	Intervention effectiveness
RCTs with wheelchair users						
Jansen, et al. (2013)	Cycling: arm and peddle (24 weeks; 24 weeks)	I: 17 C: 13	Motor Function Measure	65.1 ± 15.6; 65.6 ± 16.9; 64.6 ± 14.7	70.9 ± 13.7; 61.5 ± 13.0; NA	pre-post: Δ (95%CI) = 4.9 (2.2 - 7.6). P=0.002. post-follow up: Δ= −5.7 P = .01
Van Wely, et al. (2014) b	Complex: Life-style counselling and fitness training (6 months; 6 months)	I: 23 C: 23	GMFM-66	77 ± 14; 79 ± 13; 79 ± 14	80 ± 14; 79 ± 14; 82 ± 14	Δ (95%CI). pre-post: 2.8 (0.2 - 5.4). pre-follow up: −0.9 (−3.3 - 1.4)
Non-RCTs with wheelchair users						
Gordon, et al. (2013)	Nintendo Wii (6weeks; -)	I:7 C: -	GMFM-88	63 ± 25; 70 ± 24. NA		NA
Odman , P., 2005	Functional exercises (Lemo vs Move&Walk) (4 weeks)	Lemo:24, Move and Walk:30	GMFM Total	**LEMO**: 53.2 ± 29.1; 55.9 ± 29.5	**Move&Walk:** 37.7 ± 30.0; 38.9 ± 30.4	Lemo: p= 0.0003; M&W: p =0.0001. Interaction = NS
	Functional exercises (combined Lemo + Move&Walk) (4 weeks intensive; 1 year voluntary partcipation)		GMFM Total	44.6 + 30.3; 46.5 + 30.9; 48.1 + 31.4		pre-4 weeks: p = 0.0001, 4 weeks-1 year: NS
Unnithan, V.B., 2007	Complex programme (PRT and walking) (12 weeks)	I : 7 , C: 6	GMFM D and E (total score)	30.35 ± 16.95; 33.85 ± 17.87, p < 0.05	30.76 ± 12.52; 30.76 ± 12.52, NS	p = 0.05
RCT with population with undefined wheelchair use						
Choi, J.A. et al. (2016)	spirometer exercise with vs without additional therapy (4 weeks; -)	I:25 C:23	GMFM-66	53.83 ± 24.93; 57.37 ± 23.34. p=0.001	57.92 ± 23.97; 61.58 ± 24.24. p=0.003	p= 0.916
Dodd, K. J.; 2003	PRT with functional exercises (6 weeks; 12 weeks)	I: 11 C: 10	GMFM D, %	75.2 ± 14.4; 80.1 ± 13.7; 80.4 ± 13.2	74.6 ± 20.9; 80.5 ± 12.6; 80.7 ± 15.0	NA
			GMFM E , %	52.8 ± 31.3; 57.2 ± 29.7; 58.2 ± 31.3	68.3 ± 30.1; 69.5 ± 27.9; 67.8 ± 28.6	pre-post: p=0.07 F(1,19)=3.80, pre:follow-up: NA
			GMFM total, %	64.2 ± 27.8; 69.0 ± 21.4; 69.6 ± 21.4	71.7 ± 24.9; 75.3 ± 21.3; 74.3 ± 21.4	NA
Fowler, E. G., 2010	Cycling / complex: strengthening and cardiorespiratory phases in each session (12 weeks)	I: 26, C: 26	GMFM-66	69.6 (65.4-73.9); 70.8 (66.6 to 74.9) p=0.002	68.8 (64.5 to 73.0); 69.3 (65.4 to 73.3), p=0.12	p= 0.23
Scholtes, V. A., et al, 2010	PRT with functional exercises (12 weeks; 6 weeks)	I: 24 C: 23	GMFM-66 (1-100)	76.1 ± 12.8; 76.1 ± 11.8; 76.6 ± 13.0	71.8 ± 12.5; 73.1 ± 12.4; 72.7 ± 12.8	*Pre-Post:* p = 0.48 Regression coefficient (95% CI) = -0.56 (-2.11-0.99). Pre=follow-up: p = 0.73 Regression coefficient (95% CI) = 0.26 (-1.23-1.76)
Verschuren, O., et al,;2007	Functional exercises (8 months)	I: 32 C: 33	GMFM D (standing)	Δ = 2.6 ± 5.4	Δ = -0.7 ± 5.1	p = 0.03
			GMFM E (walking)	Δ = 1.5 ± 6.4	Δ = -0.9 ± 3.5	p = 0.27

Wang et al. (2013)	Motivation: music during PRT (6 weeks; 12 weeks)	I:18 C:18	GMFM: D	79.3 ± 13.4; 83.5 ± 8.7; 82.6 ±11.6. p<0.05	79.9 ± 11.8; 80.3 ± 11.4; 80.9 ± 11.7. p<0.05	pre-post: p=0.004 ES=0.54. pre-follow up: p=0.06 ES=0.34
			GMFM: E	63.3 ± 23.4; 67.8 ± 23.4; 69.2 ± 22.8. p<0.05	62.0 ± 26.1; 64.0 ± 25.9; 65.4 ± 25.4. p<0.05	pre-post: p=0.04 ES=0.37. pre-follow up: p=0.07 ES=0.33

<p style="text-align:center; color:red; font-weight:bold;">non-RCT with population with undefined wheelchair use</p>

Chen et al. 2012	Cycling in Virtual Reality (Home) (12 weeks)	I : 13, C: 15	Gross motor function: The BOTMP	30.6 ± 13.2, 34.2 ± 23.2	26.8 ± 10.0, 22.9 ± 12.4	ANCOVA, effect size = 0.090, p = 0.130

Crompton, J., et al 2007	PRT with functional exercises (plus upper body dexterity) (6 weeks; 6 weeks)	I: 6 C: 7		**Lower Limb**	**Upper Limb**	
			Gross Motor function 66, %	Median (25th;75th centile): 73.1 (70.0;76.8), 72.6 (70.0;79.9), 72.6 (71.7;80.9). Overall time effect p = 0.495	Median (25th;75th centile): 71.2 (62.3; 75.7); 71.4 (62.2; 79.7); 72.5(64;79.1). overall time effect: p = 0.244	Pre-Post: p=0.32 z=-1.0; Pre-follow-up: p=0.83 z = -0.22
			Gross Motor Function Dimension D, %	Median (25th;75th centile): 82.1 (76.9;87.2), 84.6 (79.5;92.3), 87.2 (79.5;92.3). Overall time effect: p = 0.540	Median (25th;75th centile): 78.2 (67.3;82.1); 79.5 (67.3;85.9); 83.3 (75.6;86.5). Overall time effect: p = 0.01	Pre-Post: p = 0.89 z = -0.15. Pre-follow-up: p=0.28 z = -1.08
			Gross Motor Function Dimension E, %	Median (25th;75th centile): 83.3 (79.2;94.4); 83.3 (76.4;93.1); 80.6 (77.8;94.4). Overall time effect: p = 0.070	Median (25th;75th centile): 79.9 (51.0;88.5); 79.2 (48.6;92.7); 79.2 (49.5;91.9). Overall time effect: p = 0.834	Pre-Post: p=0.43 z = 0.79; Pre-follow-up: p=0.22 z = -1.22

MOBILITY

Study	Intervention type (duration pre-post; post-follow up [when available])	Subject number	Outcomes	Intervention group	Control group	Intervention effectiveness
<td colspan="7" align="center">**RCTs with wheelchair users**</td>
Jansen, et al. (2013)	Cycling: arm and peddle (24 weeks; 24 weeks)	I: 17 C: 13	Raise from floor (s)	6.3 ± 4.6; 4.8 ± 1.6; NA	8.8 ± 5.3; 21.1 ± 18.0; NA	Pre-post: Δ=16.3. p=0.961.
			10m run (s)	6.4 ± 1.7; 7.4 ± 3.9; NA	8.2 ± 2.2; 7.3 ± 1.8; NA	Pre-post: Δ = −0.7. p=0.522.
Van Wely, et al. (2014) b	Complex: Life-style counselling and fitness training (6 months; 6 months)	I: 23 C: 23	1-min walk (m)	86 ± 20; 92 ± 25; 91 ± 25	92 ± 20; 96 ± 17; 93 ± 19	Δ (95%CI). pre-post: 2 (−4 - 9). pre-follow up: 3 (−43 - 10)
<td colspan="7" align="center">**RCT with population with undefined wheelchair use**</td>
DeGroot, J.F., 2011	Walking (treadmill with body weight support) (12 weeks)	I:18,C:14	Peak walking speed	5.2 ± 2.0, Δ = 0.9 ± 0.8, p < 0.05	5.7 ± 1.9, Δ = -0.06 ± 0.6, NS	p = 0.001, d =1.14
Dodd, K. J.; 2003	PRT with functional exercises (6 weeks; 12 weeks)	I: 11 C: 10	Self-selected walking speed, m/min	47.4 ± 23.3; 48.0 ± 21.2; 48.6 ± 23.3	49.5 ± 24.5; 50.5 ± 20.8; 51.4 ± 16.5	NA
			Timed stair, s	27.4 ± 34.7; 21.1 ± 25.6; 25.1 ± 33.6	22.4 ± 20.5; 21.7 ± 21.5; 19.7 ± 15.2	Pre-Post: p=0.10 F(1,19)=2.97. Pre-folow-up: NA
Fowler, E. G., 2010	Cycling / complex: strengthening and cardiorespiratory phases in each session (12 weeks)	I: 26, C: 26	600-Yard Walk-Run Test speed (m/min)	85.0 (69.7 - 100.4) ;90.6 (75.4 - 105.7), p=0.008	81.6 (65.9 - 97.4) ;84.1 (67.6 - 100.7) p=0.16	p = 0.24
			30s Walk Test speed (m/min)	66.9 (58.6 - 75.1); 68.0 (60.4 - 75.7), p = 0.64	58.7 (51.0 - 66.5); 62.1 (54.4 - 69.8), p = 0.18	p = 0.52
Katz-Leurer, M., 2009	Functional exercises at home (6 weeks; 6 weeks for intervention group only)	I:8, C:10	Balance performance FRF (cm)	18.7 ± 5.2, Δ = 3.0 ± 1.6; Δ = 0.1 ± 2.1, p = 0.89	19.3 ± 4.8, Δ = 1.9 ± 4.0	p = 0.01
			Balance performance FRP (cm)	11.0 ± 2.9, Δ = 4.0 ± 3.7; Δ = 1.1 ± 4.1, p = 0.49	14.3 ± 3.7, Δ = 0.3 ± 3.1	p = 0.01
			Balance performance FRNP (cm)	10.5 ± 5.3, Δ = 3.2 ± 2.9; Δ = 0.2 ± 5.0, p = 0.93	12.5 ± 3.1, Δ = 0.4 ± 1.0	p = 0.10
			TUG (m/s)	10.1 ± 3.0, Δ = 1.6 ± 2.1; Δ = 0.0 ± 0.9, p = 0.86	8.1 ± 1.6, Δ = 0.0 ± 0.7	p < 0.01
			Walking velocity (m/s)	0.96 ± 0.12, Δ = 0.04 ± 0.1; Δ = 0.05 ± 0.1, p = 0.88	1.02 ± 0.19, Δ = 0.01 ± 0.1	p = 0.84
			Two-minute walk test (m)	114.1 ± 23.9, Δ = 8.0 ± 13.5; Δ = 1.8 ± 11.1, p = 0.12	118.9 ± 22.2, Δ = 0.2 ± 22.4	p = 0.78
			Sit to stand	15.7 ± 5.8, Δ = 3.7 ± 3.5, p = 0.02; Δ = 1.0 ± 2.4, p = 0.65	NA, NA	NA
Scholtes, V. A., et al, 2010	PRT with functional exercises (12 weeks; 6 weeks)	I: 24 C: 23	STS test (reps)	12.9 ± 2.8; 13.6 ± 3.0; 14.3 ± 2.9	10.8 ± 3.0; 12.7 ± 4.3 ; 12.7 ± 4.6	Pre-Post: p = 0.32 Regression coefficient (95% CI) = -0.75 (-2.21-0.72); Pre-follow-up p = 0.97 Regression coefficient (95% CI) = 0.03 (-1.43-1.49)
			LSU test (reps)	15.6 ± 4.0; 17.0 ± 5.1; 17.5 ± 4.8	13.3 ± 5.4; 15.4 ±4.3; 15.8 ± 6.6	*Pre-Post:* p = 0.9 Regression coefficient (95% CI) = 0.48 (-1.45-2.40); *Pre-follow-up:* p =NA Regression coefficient (95% CI) = 0.13 (-1.84-2.10)
			Comfortable Walking Speed (m/s)	0.95 ± 0.29; 1.03 ± 0.33; 1.00 ± 0.28	0.95 ± 0.28; 1.07 ± 0.38; 1.06 ± 0.34	pre-post: p=0.56 Regression coefficient (95% CI) = -0.04 (-0.18–0.10); pre-follow-up: p = 0.25 Regression coefficient (95% CI) = -0.06 (-0.17–0.04)

Study	Intervention	N	Measure	Values (Pre; Post; Follow-up)	Values (Control / Second)	Statistics
Scholtes, V. A; 2012	PRT with functional exercises (12 weeks; 6 weeks)	I: 24 C: 23	Cadans (Steps/min)	109.01 ± 20.67; 113.70 ± 19.52; 112.61 ± 21.38	103.58 ± 25.02; 111.07 ± 26.51; 109.60 ± 23.45	pre-Post: p=0.74 Regression coefficient (95% CI) = -1.80 (-12.22–8.62); pre-follow-up: p=0.55 Regression coefficient (95% CI) = -2.43 (-10.44–5.59)
			Step Length (m)	1.03 ± 0.22; 1.07 ± 0.26; 1.05 ± 0.20	1.09 ± 0.19; 1.13 ± 0.25; 1.14 ± 0.23	Pre-Post: p=0.82 Regression coefficient (95% CI) = -0.01 (-0.11–0.09); pre-follow-up: p=0.47 Regression coefficient (95% CI) = -0.03 (-0.10–0.05)
			Fast Walking Speed (m/s)	1.29 ± 0.45; 1.34 ± 0.48; 1.30 ± 0.45	1.25 ± 0.39; 1.23 ± 0.43; 1.26 ± 0.44	Pre-post: p=0.30 Regression coefficient (95% CI) = 0.04 (-0.04–0.12); pre-follow-up: p=0.78 Regression coefficient (95% CI) = -0.01 (-0.08–0.06)
			Timed stair test (s)	10.75 ± 15.93; 9.63 ± 12.06; 11.25 ± 17.34	14.08 ± 17.50; 12.14 ± 11.22; 11.71 ± 8.51	Pre-Post: p=0.64 Regression coefficient (95% CI) = 0.83 (-2.64–4.30); pre-follow-up: p=0.29 Regression coefficient (95% CI) = 2.87 (-2.41–8.16)
Verschuren, O., et al,;2007	Functional exercises (8 months)	I: 32 C: 33	Agility 10 x 5-m Sprint Test	Δ = -4.5 ± 4.1	Δ = 0.2 ± 4.4	p <0.001
Wang et al. (2013)	Motivation: music during PRT (6 weeks; 12 weeks)	I:18 C:18	10 m walk speed (m/s)	52.0 ± 17.7; 55.4 ± 16.2; 56.8 ± 16.8. p<0.05	46.3 ± 20.8; 49.9 ± 22.1; 50.9 ± 21.5. p<0.05	pre-post: p=0.87 ES=0.03. pre-follow up: p=0.77 ES=0.05

Non-RCT with population with undefined wheelchair use

Study	Intervention	N	Measure	Values		Statistics
Blundell, S.W. et al; 2003	Functional exercises (6 weeks)	I: 7	L LSUT (repetitions)	3.3 ± 3.3; 7.9 ± 3.8; 6.8 ± 3.8		Pre-Post: p = 0.001 F(1,7) = 42.83; Post-follow-up: p = 0.065 F(1,7) = 4.77
			R LSUT (repetitions)	3.0 ± 3.5; 7.8 ± 3.8; 7.0 ± 3.5		Pre-Post: p = 0.001 F(1,7) = 48.60; Post-follow-up: p = 0.142 F(1,7) = 2.74
			MAS – STS Score	1.5 ± 1.8; 2.0 ± 4.0; 2.5 ± 3.5		Pre-Post: p = 0.014 F(1,7) = 6.00; Post-follow-up: p = 1.000 F(1,7) = 0.00
			Min. chair height (cm)	26.9 ± 15.3; 16.6 ± 11.5; 16.6 ± 13.5		Pre-Post: p = 0.002 F(1,7) = 24.99; Post-follow-up: p = 0.413 F(1,7) = 0.76
			Walking speed (m/s)	0.70 ± 0.35; 0.88 ± 0.36; 0.86 ± 0.48		Pre-Post: p = 0.079 F(1,7) = 4.21; Post-follow-up: p = 0.874 F(1,7) = 0.03
			Stride length (m)	0.67 ± 0.19; 0.82 ± 0.18; 0.79 ± 0.24		Pre-Post: p = 0.008 F(1,7) = 13.66; Post-follow-up: p = 0.637 F(1,7) = 0.24
			Cadence (steps/min)	118.1 ± 39.1; 123.8 ± 31.6; 121.5 ± 43.5		Pre-Post: p = 0.584 F(1,7) = 0.33; Post-follow-up: p = 0.812 F(1,7) = 0.06
			10-m walk test (s)	20.8 ± 14.3; 14.0 ± 7.7; 18.0 ± 14.3		Pre-Post: p = 0.049 F(1,7) = 5.68; Post-follow-up: p = 0.283 F(1,7) = 1.35
			2-min walk test (m)	74.9 ± 32.4; 98.5 ± 46.2; 100.5 ± 48.7		Pre-Post: p = 0.108 F(1,7) = 3.40; Post-follow-up: p = 0.748 F(1,7) = 0.11

Study	Intervention	N	Measure	Upper Limb	Lower Limb	Statistics
Crompton, J., et al 2007	PRT with functional exercises (plus upper body dexterity) (6 weeks; 6 weeks)	I: 6 C: 7	Timed up and go (TUG), seconds	Median (25th;75th centile): 8.45 (7.73;13.34); 8.43 (6.27;12.16); 8.83 (6.46;12.25). Overall time effect: p = 0.050	Median (25th;75th centile): 9.33 (6.91;11.53); 7.93 (6.82;8.89); 7.77 (6.43;8.67). Overall time effect: p = 0.135	Pre-Post: p=0.89 z = -0.14; Pre-follow-up: p=0.57 z = -0.57

STRENGTH

Study	Intervention type (duration pre-post; post-follow up [when available])	Subject number	Outcomes	Intervention group	Control group	Intervention effectiveness
<td colspan="7" align="center">**RCTs with wheelchair users**</td>
Jansen, et al. (2013)	Cycling: arm and peddle (24 weeks; 24 weeks)	I: 17 C: 13	MRC strength scale total	31.0 ± 5.5; 31.6 ± 1.4; NA	31.4 ± 4.4; 28.6 ± 5.7; NA	Pre-post: Δ (95%CI) = 1.4 (−0.3 - 3.1). P=0.098.
Van Den Berg-Emons, R. J., et al 1998	Sport/games-based aerobic. (4 x per week no strength data) (9 months; 3 months)	I : 10, C: 10	Isokinetic muscle strength	NA	NA	NA
	Sport/games-based aerobic. (2 times per week participation in the training programme) (9 months)	I : 9, C: 9	Isokinetic muscle strength	Least affected limb flexion: pre-post: Δ = 39%, p<0.01. Most affected limb flexion pre-post: Δ = 28%, p<0.05. Least affected limb extension pre-post: Δ = 12%, p = 0.05. Most affected limb extension pre-post: Δ = 24%, p<0.05.	NS, no data reported	NA
Van Wely, et al. (2014) b	Complex: Life-style counselling and fitness training (6 months; 6 months)	I: 23 C: 23	Functional muscle strength (reps)	43 ± 16; 51± 20; 53 ± 18	42 ± 18; 53 ± 21; 56 ± 22	Δ (95%CI). pre-post: 0 (−5 - 5). pre-follow up: −4 (−9 - 2)
<td colspan="7" align="center">**Non-RCTs with wheelchair users**</td>
Andrade, C., et al 1991	Complex programme: PRT and cardiovascular exercise, inc psychosocial (10 weeks)	I : 7, C: 5	Isometric muscle (shoulder flexion): absolute torques (N°m)	9 ± 2.6; 10.3 ± 2.4, p = 0.1	12.5 ± 9.68; 12.5 ± 7.8, p <0.40	p <0.25
			Isometric strength (shoulder extension): absolute torques (N°m)	6.6 ± 1.6; 7.6 ± 1.9, p = 0.05	9.68 ± 6; 10 ± 7.3, p <0.40	p <0.25
			Isometric strength (shoulder abduction): absolute torques (N°m)	10.7 ± 4.9; 11.3 ± 4.7, p < 0.25	12.4 ± 5.8; 13 ± 7.8, p <0.40	p <0.40
			Isometric strength (elbow flexion): absolute torques (N°m)	16.8 ± 8.3; 20.3 ± 7.6, p < 0.0025	21.6 ± 5.1; 21.2 ± 4.3, p <0.40	p<0.01
			Isometric strength (elbow extension): absolute torques (N°m)	17.8 ± 8.5; 19.2 ± 8.7, p <0.005	21.7 ± 3.1; 22.2 ± 4.3, p <0.40	NA
<td colspan="7" align="center">**RCT with population with undefined wheelchair use**</td>
DeGroot, J.E. 2011	Walking (treadmill with body weight	I:18 C:14	Muscle Strength (Handgrip, N)	73.9 ± 46.9, Δ = 1.6 ± 9.9, NS	86.4 ± 55.4, Δ = -3.0 ± 7.6, NS	p = 0.2 d = NA

Study	Intervention	Sample	Outcome	Intervention group	Control group	Statistics
DeGroot, J.F., 2011	support) (12 weeks)	I:18,C:14	Muscle Strength (Quadriceps, N)	155.2 ± 62.8, Δ = -8.7± 71.7, NS	157.9 ± 51.0, Δ = -27.2 ± 27.2, p < 0.05	p = 0.7 d = NA
Dodd, K. J.; 2003	PRT with functional exercises (6 weeks; 12 weeks)	I: 11 C: 10	Strength of the ankle plantarflexors, kg	11.0 ± 15.8; 11.1 ± 12.5; 16.6 ± 15.2	17.5 ± 13.1; 15.4 ± 11.6; 13.8 ± 9.0	NA
			Strength of the knee extensors, kg	27.5 ± 10.9; 33.1 ± 15.8; 32.5 ± 11.4	23.7 ± 11.5; 25.5 ± 9.9; 25.2 ± 7.8	NA
			Strength of the hip extensors, kg	7.9 ± 7.6; 10.6 ± 10.2; 10.8 ± 9.1;	8.5 ± 8.4; 11.5 ± 10.7; 10.6 ± 8.3	NA
			Ankle plantarflexors + Knee extensors, kg	38.5 ± 23.2; 44.2 ± 25.5; 49.2 ± 25.3	41.1 ± 20.0; 40.9 ± 20.2; 38.9 ± 15.0	Pre-Post: p=0.046 F(1,19)=4.58; Pre-follow-up: p=0.041 F(1,18)=6.25
			Total extensor, kg	46.5 ± 29.6; 54.8 ± 34.5; 60.0 ± 33.0	49.6 ± 25.9; 52.4 ± 27.7; 49.5 ± 21.1	Pre-Post: p=0.094 F(1,19)=3.12; Pre-follow-up: p=0.087 F(1,18)=3.28
Fowler, E. G., 2010	Cycling / complex: strengthening and cardiorespiratory phases in each session (12 weeks)	I: 26 , C: 26	Knee extensor moments (N.m/kg)) 0°/s	1.24 (1.04 -1.45) ; 1.25 (1.10 - 1.41), p= 0.88	1.14 (1.0 - 1.28) ; 1.19 (1.02 - 1.36), p=0.25	p = 0.55
			Knee extensor moments (N.m/kg) 30°/s	1.05 (0.91 -1.19); 1.09 (0.95 - 1.22), p = 0.39	1.09 (0.91 - 1.27); 1.01 (0.83 - 1.19), p = 0.13	p = 0.08
			Knee extensor moments (N.m/kg) 60 °/s	0.88 (0.76 - 0.99) ; 0.89 (0.76 - 1.0), p = 0.76	0.88 (0.72 - 1.05); 0.86 (0.69 - 1.04), p =0.63	p= 0.58
			Knee extensor moments (N.m/kg) 120 °/s	0.66 (0.57 - 0.75); 0.75 (0.64 - 0.85), p = 0.006	0.72 (0.60 - 0.84); 0.75 (0.59 - 0.92), p = 0.45	p = 0.27
			Knee flexor moments (N.m/kg) 0°/s	0.46 (0.36 - 0.57); 0.47 (0.36 - 0.58), p = 0.69	0.40 (0.26 - 0.54); 0.45 (0.32 - 0.58), p = 0.11	p = 0.41
			Knee flexor moments (N.m/kg) 30°/s	0.30 (0.23 - 0.37); 0.35 (0.27 -0.42), p = 0.025	0.34 (0.23 - 0.44); 0.35 (0.24 - 0.46), p = 0.57	p = 0.31
			Knee flexor moments (N.m/kg) 60°/s	0.29 (0.22 - 0.36); 0.29 (0.21 - 0.36), p = 0.95	0.28 (0.19 - 0.36); 0.27 (0.18 - 0.37), p = 0.94	p= 0.99
			Knee flexor moments (N.m/kg) 120°/s	0.21 (0.16 - 0.26); 0.26 (0.19 - 0.32), p = 0.09	0.20 (0.13 - 0.28); 0.28 (0.17 - 0.38), p = 0.01	p = 0.43
Katz-Leurer, M., 2009	Functional exercises at home (6 weeks; 6 weeks for intervention group only)	I:8,C:10	Hip abduction	2.5 ± 2.5, Δ = 0.7 ± 1.9; Δ = 0.3 ± 1.4, p = 0.89	3.7 ± 2.5, Δ = 0.8 ± 1.1	p = 0.88
			Hip extension	4.1 ± 3.7, Δ = 1.6 ± 2.2; Δ = 0.6 ± 1.2 p = 0.22	5.7 ± 3.6, Δ = 0.7 ± 1.3	p = 0.36
			Knee extensors	4.9 ± 3.5, Δ = 0.2 ± 4.4; Δ = 0.0 ± 0.8 p = 0.75	6.6 ± 3.7, Δ = 0.0 ± 0.7	p = 0.63
			Knee flexors	3.0 ± 3.2, Δ = 0.0 ± 3.0; Δ = 0.3 ± 1.4 p = 0.46	4.2 ± 2.2, Δ = 0.1 ± 1.0	p = 0.88
Scholtes, V. A., et al, 2010	PRT with functional exercises (12 weeks; 6 weeks)	I: 24 C: 23	Knee Extensors (N/Kg)	4.78 ± 1.12; 5.39 ± 1.10; 5.20 ± 1.04	4.36 ± 1.05; 4.48 ± 1.12; 4.46 ± 1.20	p , Regression coefficient (95% CI). pre-post: p = 0.01, 0.56 (0.13-0.99) ; pre-follow-up: p = 0.16, 0.35 (-0.16-0.85)
			Knee Flexors (N/Kg)	2.73 ± 0.79; 2.76 ± 0.75; 2.67 ± 0.86	2.25 ± 0.96; 2.27 ± 1.02; 2.33 ± 0.90	p , Regression coefficient (95% CI). pre-post: p = 0.71, 0.05 (-0.25-0.36). Pre-follow-up: p = 0.58, -0.10 (-0.43-0.24)
			Hip Flexors (N/Kg)	3.96 ± 0.75; 4.43 ± 0.99; 4.46 ± 0.90	3.76 ± 0.99; 4.12 ± 0.99; 4.43 ± 0.86	p , Regression coefficient (95% CI). pre-post: p = 0.41, 0.16 (-0.22-0.55); Pre-follow-up: p = 0.55, -0.12 (-0.50-0.27)
			Hip Abductors (N/Kg)	2.66 ± 0.76; 2.78 ± 0.85; 2.90 ± 0.99	2.41 ± 0.74; 2.28 ± 0.70; 2.45 ± 0.94	p , Regression coefficient (95% CI). pre-post: p = 0.05, 0.27 (0.00-0.54); pre-follow-up: p = 0.17, 0.23 (-0.10-0.56)

	weeks; 6 weeks)		Ankle plantarflexors (N/Kg)	3.90 ± 1.43; 4.53 ± 2.16; 5.01 ± 2.26	3.11 ± 0.87; 3.54 ± 0.94; 4.38 ± 1.49	p , Regression coefficient (95% CI). pre-post: p = 0.51, 0.23 (-0.47-0.93); pre-follow-up: p = 0.72, -0.16 (-1.01-0.69)
			Total	18.04 ± 3.52; 19.88 ± 4.13; 20.39 ± 4.49	15.94 ± 3.57; 16.65 ± 4.11; 17.80 ± 4.01	p , Regression coefficient (95% CI). pre-post: p = 0.04, 1.30 (0.56-2.54); pre-follow-up: p = 0.58, 0.40 (-1.02-1.83)
			Six-repetition maximum on leg-press (% body weight)	112.78 ± 21.28 ; 135.63 ± 31.87; 129.90 ± 32.15	93.76 ± 20.18; 102.88 ± 26.76 ; 111.99 ± 26.17	p , Regression coefficient (95% CI). Pre-Post: p = 0.02, 14.17 (1.99-26.35); pre-follow-up: p = 0.58, 3.42 (-8.62-15.46)

Verschuren, O., et al,;2007	Functional exercises (8 months)	I: 32 C: 33	Muscle strength left	Δ = 6.9 ± 7.2	Δ = -1.9 ± 8.7	p <0.001
			Muscle strength right	Δ = 7.7 ± 9.0	Δ = -1.9 ± 10.0	p <0.001

Wang et al. (2013)	Motivation: music during PRT (6 weeks; 12 weeks)	I:18 C:18	1-RM sit-to-stand (kg)	12.0 ± 5.3; 17.5 ± 7.0; 16.6 ± 7.1. p<0.05	10.9 ± 6.1; 13.9 ± 6.0; 13.6 ± 4.7. p<0.05	pre-post: p=0.06 ES=0.34. pre-follow up: p=0.15 ES=0.25

<p style="color:red;text-align:center;font-weight:bold">Non-RCT with population with undefined wheelchair use</p>

Blundell, S.W. et al; 2003	Functional exercises (6 weeks)	I: 7	L Hip Extensors (N)	57.1 ± 12.1; 93.1 ± 37.9; 88.2 ± 34.9		Pre-Post: p = 0.018 F(1,7) = 10.4; Post-follow-up: p = 0.113 F(1,7) = 3.43
			R Hip Extensors	51.2 ± 9.4; 89.2 ± 35.6; 90.2 ± 29.2		Pre-Post: p = 0.017 F(1,7) = 10.56; Post-follow-up: p = 0.936 F(1,7) = 0.01
			L Hip Flexors	25.9 ± 5.9; 39.2 ± 11.7; 45.3 ± 14.5		Pre-Post: p = 0.007 F(1,7) = 15.71; Post-follow-up: 0.198 F(1,7) = 2.10
			R Hip Flexors	26.2 ± 6.7; 42.8 ± 14.8; 45.4 ± 13.6		Pre-Post: p = 0.005 F(1,7) = 17.91; Post-follow-up: p = 0.513 F(1,7) = 0.48
			L Knee Extensors	39.7 ± 11.6; 52.2 ± 17.5; 58.9 ± 21.0		Pre-Post: p = 0.016 F(1,7) = 10.06; Post-follow-up: p = 0.121 F(1,7) = 3.11
			R Knee Extensors	40.1 ± 10.8; 55.4 ± 17.3; 60.9 ± 22.9		Pre-Post: p = 0.002 F(1,7) = 23.96; Post-follow-up: p = 0.229 F(1,7) = 1.74
			L Knee Flexors	26.2 ± 9.6; 35.6 ± 14.4; 41.9 ± 17.5		Pre-Post: p = 0.104 F(1,7) = 3.48; Post-follow-up: p = 0.354 F(1,7) = 0.99
			R Knee Flexors	25.2 ± 9.5; 34.5 ± 13.7; 42.1 ± 15.7		Pre-Post: p = 0.055 F(1,7) = 5.30; Post-follow-up: p = 0.169 F(1,7) = 2.35
			L Plantarflexors	45.6 ± 18.8; 57.1 ± 21.9; 61.5 ± 24.2		Pre-Post: p = 0.041 F(1,7) = 6.24; Post-follow-up: p = 0.626 F(1,7) = 0.26
			R Plantarflexors	43.1 ± 24.1; 57.3 ± 22.6; 56.0 ± 17.3		Pre-Post: p = 0.165 F(1,7) = 2.41; Post-follow-up: p = 0.892 F(1,7) = 0.02
			L Dorsiflexors	16.6 ± 8.0; 25.3 ± 13.6; 19.5 ± 9.0		Pre-Post: p = 0.063 F(1,7) = 4.88; Post-follow-up: p = 0.089 F(1,7) = 3.89
			R Dorsiflexors	13.0 ± 7.9; 20.7 ± 11.0; 22.2 ± 12.1		Pre-Post: F(1,7) = 13.19 p = 0.008; Post-follow-up: p = 0.389 F(1,7) = 0.85

Chen et al. 2012	Cycling in Virtual Reality (Home) (12 weeks)	I : 13, C: 15	Knee extensor torque 60°/s	1.53 ± 0.64 , 1.63 ± 0.78	1.38 ± 0.50 , 1.35 ± 0.55	ANCOVA, effect size = 0.149, p = 0.045
			Knee extensor torque 120°/s	1.09 ± 0.53 ,1.42 ± 0.60	1.11 ± 0.45 ,1.04 ± 0.59	ANCOVA, effect size = 0.250, p = 0.008
			Knee flexion torque 60°/s	0.50 ± 0.29, 0.47 ± 0.30	0.71 ± 0.40, 0.48 ± 0.33	ANCOVA, effect size = 0.179, p = 0.028
			Knee flexion torque 120°/s	0.47 ± 0.26, 0.64 ± 0.37	0.48 ± 0.21 , 0.39 ± 0.28	ANCOVA, effect size = 0.300, p = 0.003

				Lower Limb	**Upper Limb**	
Crompton, J., et al 2007	PRT with functional exercises (plus upper body dexterity) (6 weeks; 6 weeks)	I: 6 C: 7	Isometric knee extensor strenght with handheld dyno. N/Kg (less impaired side	Median (25th;75th centile): 2.82 (1.80;2.95); 2.15 (1.58;3.05); 3.00 (2.45;3.97). Overall time effect: p = 0.180	Median (25th;75th centile): 1.88 (1.38;2.66); 2.00 (1.42;3.86); 2.65 (1.44;3.23). Overall time effect: p = 0.513	Pre-Post: p=0.48 z = -0.71; Pre-follow-up: p=0.67 z = 0.43

	weeks)		Isometric knee extensor strength with handheld dyno. N/Kg (More impaired side)	Median (25th;75th centile): 2.45 (1.80;3.15); 2.38 (1.88;3.13); 2.83 (2.39;3.09). Overall time effect: p = 0.867	Median (25th;75th centile): 2.02 (1.60;2.45); 2.59 (1.48;3.67); 2.75 (2.24;3.98). Overall time effect: p = 0.006	Pre-Post: p=0.15 z = -1.43; Pre-follow-up: p=0.09 z = -1.71
Damiano, D. L., 1995	PRT (6 weeks)	I: 14	Quadriceps 90 degrees	115.8 ± 26.6; 173.1 ± 51.8		p < 0.001
			Quadriceps 60 degrees	88.2 ±27.1; 162.9 ± 48.2		p < 0.001
			Quadriceps 30 degrees	54.4 ± 23.2; 134.0 ± 44.7		p < 0.001
			Hamstrings	Pre-3 weeks: 56.8 ± 31.8; 67.7 ± 32.1		p = 0.085

PHYSICAL ACTIVITY LEVELS

Study	Intervention type (duration pre-post; post-follow up [when available])	Subject number	Outcomes	Intervention group	Control group	Intervention effectiveness s
<td colspan="6" align="center">**RCTs with wheelchair users**</td>						
Van Den Berg-Emons, R. J., et al 1998	Sport/games-based aerobic.(4 times per week participation in the training programme) (9 months; 3 months)	I : 10, C: 10	Level of daily physical activity (calculated as the ratio of TEE to SMR or RMR)	1.34 ± 0.25; 1.55 ± 0.18; NA. p = 0.07	1.24 ± 0.21; 1.34 ± 0.20; NA. NS	NS
	Sport/games-based aerobic. (2 times per week participation in the training programme) (9 months)	I: 9, C: 9	Level of daily physical activity (calculated as the ratio of TEE to SMR or RMR)	1.18 ± 0.2; 1.29 ± 0.2; NA. p<0.05	1.24 ± 0.21; 1.34 ± 0.20. NS	NS
Van Wely, et al. (2014) b	Complex: Life-style counselling and fitness training (6 months; 6 months)	I: 23 C: 23	Strides (n/day)	347 ± 98; 369 ± 97; 393 ± 92	354 ± 95; 347 ± 77; 381 ± 81	Δ (95%CI) pre-post: 26 (−10 to 61). pre-follow up: 22 (−19 - 62)
			Objective Inactive time (minutes/day)	347 ± 98; 369 ± 97; 393 ± 92	354 ± 95; 347 ± 77; 381 ± 81	Δ (95%CI). pre-post: 26 (−10 - 61). pre-follow up: 22 (−19 - 62)
			Parent reported: Moderate to vigorous activity (min/wk)	Median (IQR): 365 (110–490); 780 (303–1093); 378 (179–623)	Median (IQR): 400 (160–635); 317 (71–668); 360 (215–590)	Δ (95%CI). pre-post: 2.2 (1.1 - 4.4). pre-follow up: 1.1 (0.7 - 1.8)
			Parent reported: Inactive (min/wk)	2653 ± 1065; 2199 ± 996; 2223 ± 944	2659 ± 812; 2170 ± 1320; 2783 ± 1058	Δ (95%CI). pre-post: 140 (−550 - 831). pre-follow up: −494 (−1099 - 111)
			Children's attitude disadvantages	Median (IQR): 4.0 (3.7–4.4); 4.0 (3.6–4.5); 4.1 (3.6–4.4)	Median (IQR): 4.0 (3.7–4.6); 4.0 (3.4–4.3); 3.9 (3.5–4.5)	pre-post: p = 0.08. pre-follow up: p = 0.04
			Children's attitude advantages	Median (IQR): 3.5 (3.0–3.8); 3.7 (3.1–4.2); 4.0 (3.6–4.3)	Median (IQR): 3.8 (3.5–4.2); 3.7 (3.1–4.2); 3.7 (3.3–4.1)	pre-post: p = 0.02. pre-follow up: p = 0.56
			Parents' attitude disadvantages	Median (IQR): 4.13 (0.60); NA; 4.07 (0.56)	Median (IQR): 4.22 (0.58); NA; 4.19 (0.46)	Δ (95%CI). pre-follow up: −0.08 (−0.36 - 0.21)
			Parents' attitude advantages	Median (IQR): 3.40 (0.48); NA; 3.34 (0.67)	Median (IQR): 3.47 (0.50); NA; 3.48 (0.67)	Δ (95%CI). pre-follow up: −0.11 (−0.53 - 0.31)
<td colspan="6" align="center">**non-RCTs with wheelchair users**</td>						
Gordon, et al. (2013)	Nintendo Wii (6weeks; -)	I:7 C: -	Percentage attendance	100% amongst 6 completers		NA
<td colspan="6" align="center">**RCT with population with undefined wheelchair use**</td>						
DeGroot, J.F., 2011	Walking (treadmill with body weight support) (12 weeks)	I:18 ,C:14	Self-reported physical activity (min/wk)	415.4 ± 171 , Δ = −8.3 ± 273.1. NS	335.2 ± 176.2, Δ = −22.4 ± 145.3. NS	p = 0.66 d = NA
Maher, C.A., 2010	Internet-based education (10 weeks; 10 weeks)	I:41, C:41	Weekly Step counts	59329 ± 28102; 61749 ± 20972; 68803 ± 30085	60558 ± 22203; 48369 ± 21390; 57202 ± 28340	Pre-post: p = 0.06 F = 3.9; pre-follow-up: p = 0.14 F = 2.1
			Weekly MVPA minutes	140.8 ± 89.7,210.4 ± 76.2,241.1 ± 119.1	139 ± 83.0,146.5 ± 78.4,196.6 ± 122.0	Pre-post: p = 0.06 F = 3.7; pre-follow-up: p = 0.27, F = 1.3
			Weekly Distance	42.3 ± 23.4, 45.3 ± 17.5 ,49.3 ± 22.8	44.6 ± 18.8,35.5 ± 16.0,40.5 ± 21.4	Pre-post: p = 0.05 F = 4.1; pre-follow-up: p = 0.09 F = 2.5
			Average daily physical activity level (MARCA)	1.46 ± 0.18,1.43 ± 0.14 ,1.47 ± 0.16	1.46 ± 0.14,1.45 ± 0.14,1.48 ± 0.15	Pre-post: p= 0.56 F = 0.4; pre-follow-up: p = 0.83 F = 0.2
			Average daily MVPA (minutes MARCA)	76.7 ± 69.3,66.6 ± 55.7,77.2 ± 60.2	86.7 ± 59.6, 64.2 ± 36.6, 85.7 ± 71.0	Pre-post: p= 0.88 F = 0.9; pre-follow-up: p = 0.78 F = 0.3

			Average daily screen time (minutes; MARCA)	280.1 ± 104.5,292.3 ± 136.7,283.1 ± 120.6	220.1 ± 83.1,272.9 ± 109.1,248.5 ± 119.3	Pre-post: p= 0.17 F = 1.9 ; pre-follow-up: p = 0.39 F = 1.0

Verschuren, O., et al,;2007	Functional exercises (8 months)	I: 32 C: 33	Participation (CAPE) - Physical activities	Δ = 0.3 ± 0.8	Δ = -0.3 ± 0.7	p = 0.005

Non-RCT with population with undefined wheelchair use

				Lower Limb	Upper Limb	
Crompton, J., et al 2007	PRT with functional exercises (plus upper body dexterity) (6 weeks; 6 weeks)	I: 6 C: 7	Time spent upright (standing/walking) by positional activity	Median (25th;75th centile): 5.60 (4.64;6.77); 5.18 (4.29;6.28); 4.38 (3.84;6.65). Overall time effect: p = 0.066	Median (25th;75th centile): 4.66 (3.78;5.50); 3.93 (3.01;4.63); 3.77 (3.47;5.94). Overall time effect: p=0.311	pre-post: p=0.19 z=-1.29; pre-follow-up: p=1.0 z=0.0

Lancioni, G.E., 2004	Emotional stimulation (~7 months)	I:2, C:-	Frequency of half pedalling cycles	Participnat 1: 309; 900. Participant 2: 381; 610	NA	p<0.05
			Frequency of step contact	Participant 1: 43; 144. Participant 2: 107; 173	NA	p<0.05

Slaman, et al. (2014)	Complex: Life-style counselling and cardio-pulmonary fitness (6 months; 6 months)	I:17 C:19	Objective sedentary time (% wakening day)	41.09 ± 16.77; 43.91 ± 4.90; 38.69 ± 6.67	46.16 ± 12.67; 46.05 ± 13.07; 46.76 ± 12.52	NS
			Objective dynamic activities (% 24h)	8.80 ± 3.12; 8.53 ± 4.30; 9.13 ± 3.35	8.26 ± 2.94; 7.88 ± 3.77; 7.92 ± 4.63	NS
			Physical Activity Scale for Individuals with Physical Disabilities	12.75 ± 8.09; 20.29 ± 14.07; 17.09 ± 10.86	12.56 ± 8.69; 14.12 ± 10.38; 15.78 ± 11.48	pre-post: p=0.05. pre-follow up: NS

UNCONVENTIAL REPORTING STATS

Study	Intervention type (duration pre-post; post-follow up [when available])	Subject number	Outcomes
Buffart, L.M; et al (2010)	Complex programme personalised activities (10 weeks)	Sample: 2 disabled participants - one ambulatory and other non-ambulatory)	
			Ambulatory status
			Attendance rate of the fitness training
			Self-reported physical activity scale - Rating of perceived exertion
			PASIPD (Physical Activity Scale for Individuals with Physical Disabilities) total (kJ/kg/day)
			Distance 6MWD (m)
			Peak V_ O2 (L/min)
			PeakW (W)
			PeakHR (bpm)
			PeakRER
			Satisfaction with the intervention. Numeric scale (0-10)
			Energy expenditure index (EEI)
			EEI - walking speed
			Hip abductor strength
			14-26

Fragala-Pinkham, M., (2005)	PRT vs Complex programme: PRT and aerobic exercise. With follow up at home (14 weeks supervised group; 12 weeks home)	group = 9; home = 7	Ankle plantar-flexor strength
			Self-perception profile (SPP)
			Functional and Gross Motor Abilities (GMFM - 66 or below)
			The Mobility domain of the Functional Skills part of the Pediatric Evaluation of Disability Inventory (PEDI)
			Bruininks-Oseretsky Test of Motor Proficiency (BOTMP)
			Shuttle run (s)
			1-mile run (min)
			curl ups (count)
			modified push-ups (count)
			sit and reach (cm)
Kelly, M & Legg, D. (2009).	Complex programme: PRT, aerobic exercise and sports	n = 5 Measures per individual child in relation to "defined level of chance". No combined results. See Pages 12-15.	Plantar flexion
			Knee extension
			Hip extension
			overall interpretation of strength

Energy efficiency index (EEI)	
Canadian Occupational Performance Measure (COPM)	
Satisfaction ratings	

Intervention group	Control group	Intervention effectiveness
Boy	**Girl**	**Change**
Nonfunctional ambulator	Ambulated without limitations	
67%	83%	
8; 10	5; 9	
43; 65.0	33.9; 59.4	Boy; 51% increase.Girl: 76% increase.
698; 810	507; 550	Boy: 16% increase . Girl: 9% increase.
1.94; 2.70	2.2; 2.13	Boy: 39% increase. Girl: No improvement.
120; 160	180; 180	
184; 184	179; 181	
1.17; 1.14	1.14; 1.22	
NA; 10	NA; 7	

Minimal detectable change: See Table 2 p.1188.		
± 0.18bpm		0-14 weeks: 6/9 decreased; 14-26 weeks 3/7 increased, 0/7 decreased
± 11.7m/min		0-14 weeks: 6/9 increased. 0-26 weeks: not different
± 3.0 kg		0-14 weeks: 3/9 increased. 14-26 weeks: 1/7 decreased 0/7 increased.
± 2.05 kg		0-14: 7/9 increased. 14-12: 2 that improved decreased

± 2.98 kg		0-14: 7/9 increased, 1/9 decreased. 14-26: 4/6 that improved no change, 2/6 decreased
± 1.21		no changes
± 2.11		
± 7.0		0-14: 6/9 improved GMFM-66 or BOTMP; 14-26: 4/6-that improved decreased to baseline
± 8.5		
2 sec		0-14: 5/8. 14-26: all maintained
30 sec		0-14 weeks: 4/4improved. 14-26: 4/4 declined
	5	0-14: 4/9 improved; 14-26: 2/4 that improved imroved, 1 declined
	5	0-14: 4/5 improved; no further changes
	3	0-14 weeks: 5/8 improved. 14-26: 2/6 decreased - both had improved

		4/6 children demonstrated increased strength beyond defined level of chance.
		Muscle strength outcomes were variable within and across children.
		Muscle strength outcomes were variable within and across children.
		4/6 increased some strength parameter. All increased in at least 3/6 strength measures.

		6/6 demonstreated some improvements. 4/6 change beyond chance
		Improvemetns noted for all (5) children.
		Satisfaction scores ranged from 2-8 out of 10 at baseline and from 8-10 post-intervention.