

Physiotherapy and occupational therapy vs no therapy in mild to moderate Parkinson disease

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eTable 1 Patient-rated activities of daily living and quality of life scores over time by treatment

	Baseline		3 months		9 months		15 months	
	PT/OT	No therapy						
NEADL								
Total score	N=381 50.5 (12.9)	N=381 50.9 (13.3)	N=294 49.6 (14.0)	N=304 50.3 (14.5)	N=289 47.9 (15.2)	N=303 48.9 (14.7)	N=268 48.5 (14.8)	N=283 46.8 (15.5)
Mobility	N=376 13.9 (4.0)	N=372 13.8 (4.2)	N=338 13.6 (4.2)	N=338 13.6 (4.4)	N=317 13.1 (4.5)	N=324 13.4 (4.3)	N=297 13.0 (4.4)	N=308 12.8 (4.6)
Kitchen activities	N=379 13.0 (2.7)	N=373 13.0 (2.9)	N=337 13.0 (3.0)	N=337 12.9 (3.2)	N=322 12.7 (3.2)	N=327 12.6 (3.4)	N=307 12.7 (3.0)	N=318 12.2 (3.7)
Domestic tasks	N=374 10.9 (4.2)	N=370 11.1 (4.3)	N=330 10.4 (4.5)	N=332 10.8 (4.4)	N=313 10.3 (4.7)	N=322 10.4 (4.6)	N=297 10.3 (4.5)	N=310 9.9 (4.5)
Leisure activities	N=376 12.9 (4.1)	N=365 13.0 (4.0)	N=318 13.0 (4.1)	N=329 13.1 (4.0)	N=304 12.3 (4.4)	N=319 12.6 (4.2)	N=294 12.3 (4.4)	N=305 12.1 (4.5)
PDQ-39								
	N=380	N=377	N=349	N=351	N=326	N=331	N=311	N=323
Mobility	32.7 (26.1)	31.3 (25.8)	33.2 (27.3)	33.3 (28.0)	36.0 (28.4)	35.2 (27.6)	37.4 (28.4)	38.6 (29.1)
Activities of daily living	31.3 (23.1)	30.6 (21.8)	32.1 (23.8)	31.5 (23.8)	32.8 (24.1)	34.1 (24.5)	33.3 (24.1)	36.7 (25.7)
Emotional well-being	23.9 (18.5)	23.0 (18.1)	25.9 (19.8)	25.5 (20.3)	26.0 (21.0)	28.3 (21.0)	27.1 (21.2)	29.8 (22.3)
Stigma	18.3 (22.9)	17.1 (21.0)	19.8 (23.1)	17.6 (21.3)	20.3 (23.4)	20.1 (21.6)	20.5 (24.2)	21.4 (23.4)
Social support	6.6 (14.0)	5.7 (11.0)	10.3 (17.4)	9.3 (15.1)	9.8 (17.7)	11.2 (16.8)	10.1 (17.7)	11.7 (16.8)
Cognition	26.6 (20.1)	27.3 (21.1)	28.8 (20.6)	29.6 (21.6)	29.1 (20.5)	31.7 (21.3)	30.1 (21.9)	32.9 (21.9)
Communication	16.5 (18.2)	18.5 (19.8)	20.8 (20.1)	21.8 (21.1)	20.6 (20.2)	23.5 (22.8)	22.0 (21.9)	24.2 (21.9)
Bodily discomfort	34.8 (23.4)	35.9 (24.0)	36.5 (24.4)	38.6 (24.1)	36.7 (23.7)	38.1 (24.9)	36.9 (24.4)	41.6 (24.5)
Summary index	23.8 (14.5)	23.7 (14.4)	25.9 (16.5)	25.9 (16.5)	26.4 (16.5)	27.8 (17.0)	27.2 (17.4)	29.6 (17.0)
EQ-5D								
Quotient score	N=378 0.64 (0.27)	N=374 0.66 (0.25)	N=345 0.65 (0.25)	N=345 0.63 (0.26)	N=321 0.63 (0.26)	N=331 0.60 (0.27)	N=307 0.61 (0.27)	N=319 0.58 (0.27)
Visual analogue score	N=376 68.5 (17.5)	N=376 68.6 (17.0)	N=346 67.4 (18.2)	N=347 66.8 (17.8)	N=322 65.8 (18.3)	N=328 64.5 (18.6)	N=309 64.7 (19.2)	N=314 63.0 (18.9)

Data is Mean (SD). NEADL total score: ranges from 0 to 66 where higher scores are better. PDQ-39: ranges from 0 to 100 where lower scores are better. EQ-5D quotient: ranges from 0-0.59 to 1 where higher scores are better. EQ-5D VAS: ranges from 0 to 100 where higher scores are better.

eTable 2 Mean change from baseline in patient-rated activities of daily living and quality of life scores by treatment

	Baseline vs. 3 months		Mean difference (95% CI) [†]	Baseline vs. 9 months		Mean difference (95% CI) [†]	Baseline vs. 15 months		Mean difference (95% CI) [†]
	PT/OT	No therapy		PT/OT	No therapy		PT/OT	No therapy	
NEADL									
Total score	N=294	N=304	0.5 (-0.7 to 1.7) p=0.4	N=289	N=303	0.6 (-0.7 to 1.9) p=0.4	N=268	N=283	-1.2 (-2.8 to 0.3) p=0.1
	-1.5 (7.8)	-1.0 (7.4)		-3.6 (8.1)	-3.0 (8.4)		-3.8 (8.6)	-5.0 (9.8)	
Mobility	N=334	N=330	0.1 (-0.3 to 0.5) p=0.6	N=314	N=315	0.3 (-0.1 to 0.7) p=0.1	N=294	N=301	-0.2 (-0.6 to 0.3) p=0.4
	-0.4 (2.6)	-0.2 (2.4)		-1.0 (2.6)	-0.7 (2.7)		-1.1 (2.7)	-1.3 (3.1)	
Kitchen activities	N=335	N=329	0.005 (-0.3 to 0.3) p=1.0	N=321	N=319	-0.04 (-0.4 to 0.3) p=0.8	N=306	N=312	-0.3 (-0.7 to 0.05) p=0.4
	-0.2 (2.2)	-0.2 (1.9)		-0.5 (2.5)	-0.6 (2.2)		-0.6 (2.5)	-0.9 (2.5)	
Domestic tasks	N=325	N=323	0.5 (-0.06 to 1.0) p=0.08	N=307	N=314	0.1 (-0.4 to 0.6) p=0.7	N=292	N=302	-0.3 (-0.9 to 0.2) p=0.2
	-0.8 (3.4)	-0.3 (3.2)		-1.0 (3.3)	-0.8 (3.5)		-1.1 (3.6)	-1.4 (3.7)	
Leisure activities	N=316	N=318	0.01 (-0.4 to 0.4) p=0.9	N=302	N=307	0.04 (-0.3 to 0.4) p=0.8	N=292	N=291	-0.3 (-0.7 to 0.2) p=0.2
	-0.2 (2.4)	-0.1 (2.4)		-0.9 (2.4)	-0.8 (2.5)		-1.1 (2.7)	-1.3 (2.9)	
PDQ-39									
	N=348	N=347		N=325	N=327		N=310	N=319	
Mobility	1.1 (17.1)	2.6 (15.8)	-1.5 (-3.9 to 1.0) p=0.2	4.5 (17.5)	5.9 (16.7)	-1.3 (-4.0 to 1.3) p=0.3	6.4 (19.4)	9.3 (20.5)	-2.9 (-6.0 to 0.2) p=0.0
Activities of daily living	1.6 (14.3)	1.0 (16.7)	0.7 (-1.7 to 3.0) p=0.6	3.1 (15.5)	4.1 (16.7)	-1.0 (3.5 to 1.5) p=0.4	4.1 (17.1)	7.0 (18.9)	-2.8 (-5.7 to 0.02) p=0.05
Emotional well-being	2.6 (13.1)	3.0 (16.8)	-0.5 (-2.7 to 1.8) p=0.7	3.5 (15.0)	6.0 (15.3)	-2.5 (-4.9 to -0.2) p=0.03	4.6 (16.1)	7.7 (17.5)	-3.1 (-5.7 to -0.5) p=0.02
Stigma	1.6 (17.7)	0.9 (17.5)	0.7 (-2.0 to 3.3) p=0.6	2.5 (16.1)	3.3 (17.8)	-0.8 (-3.4 to 1.8) p=0.5	2.8 (18.0)	4.5 (18.0)	-1.6 (-4.5 to 1.2) p=0.3
Social support	3.6 (15.6)	3.8 (14.9)	-0.2 (-2.5 to 2.0) p=0.8	3.9 (14.7)	5.6 (15.3)	-1.8 (-4.1 to 0.5) p=0.1	4.3 (14.7)	6.3 (15.8)	-2.0 (-4.4 to 0.4) p=0.09
Cognition	2.2 (16.5)	2.2 (17.0)	-0.05 (-2.5 to 2.4) p=1.0	3.0 (16.7)	4.4 (17.7)	-1.4 (-4.1 to 1.2) p=0.3	4.2 (17.7)	6.0 (18.5)	-1.8 (-4.7 to 1.0) p=0.2
Communication	4.8 (15.7)	3.0 (17.4)	1.8 (-0.7 to 4.2) p=0.2	5.1 (15.9)	5.0 (17.2)	0.1 (-2.4 to 2.7) p=0.9	6.0 (16.2)	5.9 (17.1)	0.1 (-2.5 to 2.7) p=0.9
Bodily discomfort	2.0 (20.7)	2.8 (21.1)	-0.8 (-3.9 to 2.3) p=0.6	2.2 (20.6)	2.3 (22.1)	-0.07 (-3.3 to 3.2) p=1.0	2.3 (20.9)	5.6 (22.9)	-3.3 (-6.7 to 0.2) p=0.06
Summary index	2.4 (9.5)	2.4 (10.8)	0.007 (-1.5 to 1.5) p=1.0	3.5 (9.7)	4.6 (10.7)	-1.1 (-2.7 to 0.5) p=0.2	4.3 (10.6)	6.5 (11.4)	-2.2 (-3.9 to -0.5) p=0.01
EQ-5D									
Quotient	N=342	N=338	-0.03 (-0.07 to -0.002)	N=321	N=322	-0.03 (-0.07 to 0.008)	N=304	N=313	-0.04 (-0.08 to

score	0.002 (0.23)	-0.03 (0.21)	p=0.04	-0.02 (0.26)	-0.05 (0.22)	p=0.1	-0.05 (0.27)	-0.09 (0.23)	0.004) p=0.08
Visual analogue score	N=341	N=342	-0.2 (-2.6 to 2.2) p=0.9	N=319	N=323	-1.0 (-3.5 to 1.6) p=0.4	N=305	N=309	-1.1 (-3.7 to 1.6) p=0.4
	-1.8 (17.1)	-1.9 (14.3)		-3.5 (16.6)	-4.5 (16.1)		-4.7 (7.3)	-5.8 (16.3)	

Data is mean (SD). NEADL total score: a positive change is an improvement in score. PDQ-39: a negative change is an improvement in score. EQ-5D quotient: a positive change is an improvement in score. EQ-5D VAS: a positive change is an improvement in score.

† To aid interpretation, regardless of scale, a positive mean difference favours no therapy group and a negative mean difference favours PT/OT group.

eTable 3 Carer-rated quality of life scores over time by treatment

	Baseline		3 months		9 months		15 months	
	PT/OT	No therapy						
SF-12								
Physical functioning	N=171	N=181	N=169	N=181	N=162	N=169	N=156	N=166
	70.3 (35.4)	76.0 (30.5)	68.6 (35.8)	70.3 (30.0)	68.5 (35.6)	70.3 (30.9)	65.4 (36.2)	68.2 (32.3)
Role physical	N=173	N=183	N=169	N=185	N=166	N=174	N=157	N=169
	75.4 (28.5)	76.7 (26.8)	69.8 (28.8)	71.0 (27.1)	68.5 (35.6)	71.6 (25.4)	64.9 (29.4)	68.8 (25.7)
Role emotional	N=172	N=182	N=170	N=183	N=166	N=174	N=159	N=167
	83.6 (23.1)	81.9 (22.9)	80.4 (24.2)	76.4 (24.9)	76.4 (26.1)	75.6 (26.0)	73.9 (26.7)	75.3 (25.2)
Social functioning	N=175	N=186	N=171	N=189	N=167	N=175	N=159	N=172
	84.9 (22.9)	83.3 (23.6)	81.0 (24.5)	78.3 (26.9)	77.5 (27.5)	80.0 (26.5)	77.0 (28.3)	75.4 (27.8)
Mental health	N=174	N=183	N=170	N=188	N=165	N=174	N=157	N=169
	68.8 (21.1)	68.6 (18.5)	67.6 (20.2)	64.6 (21.9)	65.4 (21.4)	63.4 (21.3)	64.7 (22.5)	61.8 (21.5)
Vitality	N=175	N=184	N=170	N=188	N=165	N=174	N=158	N=171
	57.4 (25.6)	61.8 (22.6)	53.8 (25.9)	53.2 (24.5)	53.5 (27.3)	51.4 (25.5)	48.9 (27.1)	51.6 (22.9)
Bodily pain	N=173	N=184	N=170	N=189	N=166	N=174	N=159	N=172
	77.7 (29.3)	76.4 (28.7)	74.1 (28.8)	74.2 (28.5)	73.2 (28.3)	72.0 (27.8)	73.3 (29.4)	69.8 (28.5)
General health	N=174	N=186	N=170	N=190	N=167	N=175	N=159	N=172
	64.2 (25.3)	65.6 (26.1)	58.9 (26.0)	61.0 (25.3)	57.8 (25.9)	59.7 (26.0)	57.0 (26.0)	58.1 (25.7)
Physical component score	N=166	N=171	N=165	N=174	N=158	N=166	N=152	N=160
	47.1 (12.5)	48.2 (11.4)	45.1 (13.3)	46.4 (11.6)	45.4 (12.5)	46.2 (11.2)	44.2 (12.8)	45.4 (11.5)
Mental component score	N=166	N=171	N=165	N=174	N=158	N=166	N=152	N=160
	51.1 (10.2)	50.1 (8.9)	49.7 (10.2)	48.0 (10.5)	48.2 (10.8)	47.5 (10.8)	47.5 (11.0)	46.7 (10.6)

Data is Mean (SD). SF-12: ranges from 0 – 100 where higher scores are better.

eTable 4 Mean change from baseline in carer-rated quality of life scores by treatment

	Baseline vs. 3 months		Mean Difference (95% CI) [†]	Baseline vs. 9 months		Mean Difference (95% CI) [†]	Baseline vs. 15 months		Mean Difference (95% CI) [†]
	PT/OT	No Therapy		PT/OT	No Therapy		PT/OT	No Therapy	
SF-12									
Physical Functioning	N=151	N=156	-5.6 (-11.0 to -0.2) p=0.04	N=141	N=145	-5.3 (-11.2 to 0.6) p=0.08	N=139	N=143	-4.2 (-11.0 to 2.3) p=0.2
	-0.7 (24.8)	-6.3 (23.0)		-1.4 (25.0)	-6.7 (25.9)		-5.8 (26.3)	-10.0 (31.0)	
Role Physical	N=155	N=163	-0.5 (-5.3 to 4.3) p=0.8	N=146	N=151	0.6 (-4.9 to 6.1) p=0.8	N=139	N=147	2.5 (-3.3 to 8.3) p=0.4
	-5.4 (19.6)	-5.9 (23.8)		-6.1 (22.7)	-5.5 (25.6)		11.5 (24.2)	-9.0 (25.4)	
Role Emotional	N=155	N=162	-4.4 (-9.0 to 0.2) p=0.06	N=145	N=151	1.0 (-4.2 to 6.1) p=0.7	N=140	N=144	1.9 (-3.3 to 7.1) p=0.5
	-1.7 (20.0)	-6.1 (21.5)		-7.6 (20.5)	-6.6 (24.1)		-10.4 (21.0)	-8.6 (23.4)	
Social Functioning	N=157	N=169	-3.8 (-8.9 to 1.3) p=0.1	N=149	N=154	1.1 (-4.9 to 7.1) p=0.7	N=143	N=153	-0.5 (-6.6 to 5.6) p=0.9
	-2.9 (21.9)	-6.7 (24.5)		-7.7 (26.0)	-6.7 (27.0)		-9.6 (27.5)	-10.1 (27.3)	
Mental Health	N=156	N=167	-4.3 (-8.2 to -0.4) p=0.03	N=147	N=151	-1.9 (-6.1 to 2.3) p=0.4	N=142	N=149	-2.6 (-7.2 to 2.0) p=0.3
	-0.2 (16.7)	-4.5 (18.9)		-3.7 (19.5)	-5.6 (17.5)		-4.9 (21.1)	-7.6 (18.8)	
Vitality	N=156	N=167	-4.6 (-9.2 to 0.05) p=0.05	N=147	N=151	-7.3 (-12.6 to -2.1) p=0.007	N=142	N=150	-2.7 (-8.1 to 2.8) p=0.3
	-3.5 (21.0)	-8.1 (21.1)		-4.3 (21.8)	-11.6 (24.5)		-9.7 (23.8)	-12.3 (23.5)	
Bodily Pain	N=156	N=168	2.9 (-2.2 to 7.9) p=0.3	N=146	N=152	-0.3 (-6.0 to 5.4) p=0.9	N=141	N=151	-2.5 (-8.5 to 3.6) p=0.4
	-4.6 (25.0)	-1.8 (21.1)		-4.8 (25.6)	-5.1 (24.1)		-5.1 (25.6)	-7.6 (26.8)	
General Health	N=155	N=170	-0.9 (-5.0 to 3.3) p=0.7	N=148	N=154	-0.7 (-5.7 to 4.5) p=0.8	N=143	N=153	-0.08 (-5.3 to 5.2) p=1.0
	-4.4 (18.6)	-5.3 (19.5)		-7.2 (20.9)	-7.9 (23.0)		-8.9 (22.3)	-9.0 (23.5)	
Physical Component Score	N=146	N=144	-0.6 (-2.3 to 1.2) p=0.5	N=133	N=135	-1.4 (-3.5 to 0.7) p=0.2	N=132	N=129	-1.0 (-3.3 to 1.3) p=0.4
	-1.6 (7.5)	-2.1 (7.5)		-1.2 (8.8)	-2.6 (8.7)		-2.4 (9.5)	-3.4 (9.3)	
Mental Component Score	N=146	N=144	-2.1 (-3.9 to -0.3) p=0.02	N=133	N=135	-0.05 (-2.2 to 2.1) p=1.0	N=132	N=129	0.3 (-2.0 to 2.5) p=0.8
	-0.5 (7.6)	-2.6 (7.9)		-2.8 (8.6)	-2.8 (9.1)		-4.2 (9.9)	-4.0 (8.7)	

SF-12: a positive change is an improvement in score.

† To aid interpretation, regardless of scale, a positive mean difference favours no therapy group and a negative mean difference favours PT/OT group.

eTable 5 Targeted adverse event reports*

Time	Targeted adverse event	PT/OT					No therapy				
		Number of patients	GP visit	Ambulance visit	Hospital visit	Overnight hospital stay or prolongation of hospitalisation	Number of patients	GP visit	Ambulance visit	Hospital visit	Overnight hospital stay or prolongation of hospitalisation
3 months	Falls	10	17	1	3	4	9	11	2	8	2
	Injuries using equipment	1	0	0	0	0	1	0	0	0	0
15 months	Falls	43	68	17	34	13	49	69	21	37	14
	Injuries using equipment	1	0	0	0	0	1	0	0	0	0

* Following a risk assessment, only therapy-related adverse events and serious adverse events were recorded. These were defined as falls or equipment failure leading to injury requiring a hospital, general practitioner (GP), ambulance visit, or death.

Figure legends

Figure 1 CONSORT diagram for PD REHAB. Patient recruitment and follow-up

Figure 2 Long-term scores in activities of daily living and quality of life

eFigure 1 Subgroup analyses for NEADL total score at 3 months