

Additional File 1: Detailed description of outcomes

Table 10: Primary and secondary outcome measures using intention-to-treat approach (Imputing Missing Data)

Outcome	Intervention (n=18)		Control (n=19)		Mean difference or Odds ratio (95% CI)	Mean difference or Odds ratio (95% CI)	Hypothesis support
	Baseline	6-Month	Baseline	6-Month	ITT (n=37)	Per-protocol (n=32)	
Number of medications (prescribed and prescribable); Mean (SD) <i>Range</i>	7.39 (1.75) (4, 10)	9.00 (2.28) (6, 14)	8.26 (3.63) (5, 18)	9.53 (3.28) (5, 19)	RR=0.97 (0.76, 1.23) p=0.781	RR=0.97 (0.77, 1.21) p=0.761	✓
Number of medications (prescribed); Mean (SD) <i>Range</i>	7.33 (1.78) (4.00, 10.00)	7.00 (1.75) (4.00, 10.00)	8.26 (3.63) (5.00, 18.00)	7.65 (2.83) (5.00, 16.00)	RR=0.90 (0.69, 1.16) p=0.415	RR=0.94 (0.72, 1.21) p=0.644	✓
Quality of life (EQ5D-5L; M (SD)) <i>Range</i>	0.82 (0.08) (0.63, 0.95)	0.83 (0.08) (0.69, 0.95)	0.75 (0.16) (0.32, 0.95)	0.75 (0.17) (0.33, 0.95)	0.06 (-0.05, 0.17) p=0.245	0.09 (-0.02, 0.19) p=0.098	✓
Quality of life (SF36; M (SD))							
Physical functioning <i>Range</i>	62.13 (18.32) (33.30, 95.00)	56.67 (23.35) (20.00, 100.00)	57.11 (26.99) (15.00, 95.00)	49.33 (31.56) (5.00, 100.00)	2.39 (-22.25, 27.03) p=0.840	7.81 (-13.72, 29.34) p=0.463	✓
Role-Physical <i>Range</i>	4.21 (0.66) (3.00, 5.00)	3.84 (0.99) (1.00, 5.00)	3.35 (1.11) (1.80, 5.00)	3.49 (1.17) (1.50, 5.00)	0.30 (-0.54, 1.14) p=0.471	0.32 (-0.52, 1.16) p=0.439	✓
Vitality <i>Range</i>	59.44 (23.19) (15.00, 90.00)	57.33 (16.68) (20.00, 85.00)	48.95 (19.76) (15.00, 85.00)	51.88 (24.62) (0.00, 90.00)	4.36 (-20.15, 28.87) p=0.695	4.91 (-11.19, 21.02) p=0.537	✓
Mental health <i>Range</i>	84.67 (12.89) (56.00, 96.00)	83.20 (14.45) (48.00, 100.00)	82.74 (11.55) (60.00, 96.00)	85.50 (10.32) (56.00, 100.00)	-3.20 (-18.43, 12.03) p=0.639	-1.21 (-10.47, 8.04) p=0.790	✗
Social functioning <i>Range</i>	92.36 (12.96) (62.50, 100.00)	94.17 (14.07) (50.00, 100.00)	78.95 (26.70) (12.50, 100.00)	85.16 (20.52) (25.00, 100.00)	8.20 (-7.63, 24.03) P=0.294	8.59 (-4.89, 22.07) p=0.202	✓
General health <i>Range</i>	68.61 (15.70) (35.00, 90.00)		64.21 (20.16)		5.20 (-11.86, 22.26) p=0.514	7.84 (-4.77, 20.44) p=0.214	✓

Outcome	Intervention (n=18)		Control (n=19)		Mean difference or Odds ratio (95% CI)	Mean difference or Odds ratio (95% CI)	Hypothesis support
	Baseline	6-Month	Baseline	6-Month	ITT (n=37)	Per-protocol (n=32)	
		71.67 (13.18) (55.00, 95.00)	(15.00, 90.00)	63.59 (19.15) (30.00, 100.00)			
Quality of life (WHODAS; M (SD)) <i>Range</i>	29.03 (7.77) (18.00, 45.56)	27.86 (7.09) (18.33, 41.67)	33.16 (9.48) (20.00, 56.67)	29.97 (12.44) (13.89, 60.00)	0.01 (-8.71, 8.72) p=0.993	-2.36 (-10.39, 5.67) p=0.552	No difference
Psychological distress; M (SD) <i>Range</i>	12.56 (2.96) (9.00, 20.00)	12.20 (2.83) (9.00, 19.00)	13.42 (2.73) (9.00, 19.00)	14.75 (3.64) (9.00, 21.00)	-2.05 (-4.86, 0.77) p=0.146	-2.46 (-4.96, 0.03) p=0.053	✓
Cognition; M (SD) <i>Range</i>	28.17 (1.89) (24.00, 30.00)	28.73 (1.67) (25.00, 30.00)	27.63 (2.83) (18.00, 30.00)	28.69 (2.47) (21.00, 30.00)	-0.24 (-1.89, 1.42) p=0.774	0.10 (-1.52, 1.71) p=0.902	✗
Severe impairment (0-9)	-	-	-	-			
Moderate impairment (10-19)	-	-	1 (5.3)	-			
Mild impairment (20-25)	2 (11.1)	1 (5.6)	1 (5.3)	2 (10.5)			
Potentially normal (26-30)	16 (88.9)	14 (77.8)	17 (89.5)	14 (73.7)			
Mobility-related fatigue; M (SD) <i>Range</i>	1.50 (1.15) (0.00, 4.00)	1.40 (1.24) (0.00, 4.00)	1.74 (1.66) (0.00, 6.00)	1.75 (1.73) (0.00, 5.00)	-0.36 (-1.62, 0.95) p=0.589	-0.46 (-1.60, 0.67) p=0.408	✓
Nutritional status; M (SD) <i>Range</i>	10.67 (1.28) (7.00, 13.00)	10.13 (2.31) (5.00, 13.00)	9.89 (1.94) (6.00, 13.00)	10.00 (1.21) (7.00, 11.00)	0.34 (-1.17, 1.85) p=0.641	-0.07 (-1.36, 1.22) p=0.911	✓
Mobility functioning; n (%)					N/A	N/A	N/A
Walking 2.0km							
Able to manage without difficulty	4 (22.2)	5 (27.8)	7 (36.8)	3 (15.8)			
Able to manage with some difficulty	8 (44.4)	6 (33.3)	3 (15.8)	5 (26.3)			
Able to manage with a great deal of difficulty	2 (11.1)	1 (5.6)	2 (10.5)	2 (10.5)			
Able to manage with the help of another person	1 (5.6)	-	1 (5.3)	2 (10.5)			

Outcome	Intervention (n=18)		Control (n=19)		Mean difference or Odds ratio (95% CI)	Mean difference or Odds ratio (95% CI)	Hypothesis support
	Baseline	6-Month	Baseline	6-Month	ITT (n=37)	Per-protocol (n=32)	
Unable to manage	3 (16.7)	3 (16.7)	5 (26.3)	5 (26.3)			
Walking 0.5km							
Able to manage without difficulty	12 (66.7)	7 (38.9)	10(52.6)	10(52.6)			
Able to manage with some difficulty	2 (11.1)	6 (33.3)	2 (10.5)	2 (10.5)			
Able to manage with a great deal of difficulty	1 (5.6)	-	1 (5.3)	2 (10.5)			
Able to manage with the help of another person	-	-	2 (10.5)	-			
Unable to manage	3 (16.7)	2 (11.1)	3 (15.8)	3 (15.8)			
Climbing one flight of stairs							
Able to manage without difficulty	11(61.1)	9 (50.0)	9 (47.4)	8 (42.1)			
Able to manage with some difficulty	6 (33.3)	5 (27.8)	8 (42.1)	3 (15.8)			
Able to manage with a great deal of difficulty	-	-	-	5(26.3)			
Able to manage with the help of another person	-	-	-	-			
Unable to manage	1 (5.6)	1 (5.6)	1 (5.3)	1(5.3)			
Sleep quality (15D item); n (%)	No baseline data		No baseline data				N/A
I am able to sleep normally		2 (11.1)		2 (10.5)			
I have slight problems with sleeping		3 (16.7)		5 (26.3)			
I have moderate problems with sleeping		-		1 (5.3)			
		2 (11.1)		-			

Outcome	Intervention (n=18)		Control (n=19)		Mean difference or Odds ratio (95% CI)	Mean difference or Odds ratio (95% CI)	Hypothesis support
	Baseline	6-Month	Baseline	6-Month	ITT (n=37)	Per-protocol (n=32)	
I have great problems with sleeping I suffer severe sleeplessness		-		-			
Sleep (Pittsburgh sleep quality) <i>Range</i>	6.72 (3.44) (2.00, 14.00)	7.17 (3.55) (2.00, 12.00)	6.16 (3.82) (2.00, 15.00)	8.37 (3.67) (1.00, 15.00)	-1.20 (-3.62, 1.22) p=0.319	-1.14 (-3.65, 1.37) p=0.361	✓
Patient enablement; M (SD) <i>Range</i>	5.53 (3.37) (0.00, 12.00)	4.21 (3.68) (0.00, 12.00)	5.33 (4.27) (0.00, 12.00)	4.75 (3.30) (0.00, 12.00)	-1.02 (-3.91, 1.86) p=0.472	-0.83 (-3.48, 1.83) p=0.528	✗
Grip strength average† (in kg); M (SD) Right hand <i>Range</i> Left hand <i>Range</i>	No baseline data	22.78 (7.11) (14.00, 33.67) 21.33 (8.98) (10.67, 34.67)	No baseline data	24.50 (8.45) (14.00, 38.67) 24.17 (9.17) (12.67, 38.67)	-1.42 (-10.17, 7.32) p=0.714 -0.79 (-15.68, 14.10) p=0.891	-4.27 (-15.36, 6.83) p=0.401 -5.80 (-18.51, 6.91) p=0.323	N/A

M=mean, SD=standard deviation, RR=relative risk; SF36=The Short Form-36 Health Survey, WHODAS=World Health Organization Disability Assessment Schedule; Range included as scientific feasibility outcome to assess variance; EQ5D-5L range -0.148 to 0.949, higher scores represent higher quality of life; SF36 scores range 0-100 (except Role-Physical, range 1-5), higher scores represent higher quality of life for the domain; WHODAS range 0-144, higher scores represent higher disability; psychological distress range 9-45, higher scores represent higher psychological distress; cognition range 0-30, with lower scores representing higher impairment; mobility-related fatigue scores range 0-6, with higher scores representing higher fatigue; nutrition range 0-14, higher scores represent better nutritional status; sleep quality range 0-21, higher scores represent poorer sleep quality; patient enablement range 0-12, higher scores represent higher patient enablement; grip strength higher scores represent higher strength. Mobility functioning and sleep (15D) had sufficient missing data to preclude calculation of effect.

† An outlier was excluded from analysis of grip strength.

✓ Supports hypothesized difference

✗ Does not support hypothesized difference

N/A Where new scales of items were introduced part way through the trial for testing (for example where it was apparent other measures were unwieldy) they are not recorded in the hypothesis testing assessment

Table 11: Number (%) of participants experiencing falls and healthcare utilization

Outcome	Intervention (n=18)		Control (n=19)	
	Baseline	6-Month	Baseline	6-Month
Falls, n (%)				
No fall	13 (72.2)	14 (77.8)	14 (73.7)	16 (84.2)
1 fall	3 (16.7)	3 (16.7)	4 (21.1)	2 (10.5)
Multiple falls (2+)	2 (11.1)	1 (5.6)	1 (5.3)	1 (5.3)
Falls requiring healthcare, n (%)	(n=5)	(n=4)	(n=5)	(n=3)
None required	2 (40.0)	3 (75.0)	1 (20.0)	1 (33.3)
Some required	3 (60.0)	1 (25.0)	4 (80.0)	2 (66.7)
Healthcare utilization, n (%)				
ED visits	1 (5.6)	6 (33.3)	2 (10.5)	2 (10.5)
Urgent care visits	1 (5.6)	2 (11.1)	-	2 (10.5)
Total ED/Urgent care visits	2 (11.1)	8 (44.4)	2 (10.5)	4 (21.1)
Hospital admissions	-	2 (11.1)	1 (5.3)	2 (10.5)
Primary care visits	11 (61.1)	17 (94.4)	13 (68.4)	16 (84.2)
Long-term care admissions	-	-	-	-
Specialist visits	8 (44.4)	14 (77.8)	9 (47.4)	9 (47.4)
Homecare services	-	-	1 (5.3)	1 (5.3)
Homecare visits	-	-	-	-
Professional care services	6 (33.3)	10 (55.6)	5 (26.3)	9 (47.4)
Supporting equipment use	1 (5.6)	1 (5.6)	1 (5.3)	1 (5.3)
Caregiver support	3 (16.7)	3 (16.7)	2 (10.5)	1 (5.3)
ED visits; Mean (SD) <i>Range</i>	-	1.00 (0.00) (1.00, 1.00)	1.00 (0.00) (1.00, 1.00)	1.00 (0.00) (1.00, 1.00)
Urgent care visit; Mean (SD) <i>Range</i>	1 (0) (1,1)	1 (0) (1,1)	-	1 (0) (1,1)
Total ED/Urgent care visits <i>Range</i>	1 (0) (1,1)	1 (0.41) (1,2)	1 (0) (1,1)	1 (0.58) (1,2)
Hospital admissions <i>Range</i>	-	1 (0.71) (1, 2)	1 (0) (1,1)	1 (0) (1,1)
Primary care visits <i>Range</i>	1.46 (2.16) (1.00, 2.00)	3.18 (3.15) (1.00,10.00)	2.77 (2.64) (1.00, 8.00)	3.13 (2.22) (1.00, 8.00)

Specialist visits <i>Range</i>	1.25 (0.46) (1.00, 2.00)	2.21 (0.97) (1.00, 4.00)	1.67 (0.71) (1.00, 3.00)	1.67 (0.50) (1.00, 2.00)
Professional care services <i>Range</i>	2.00 (1.27) (1.00, 4.00)	1.80 (1.40) (1.00, 5.00)	2.2 (1.79) (1.00, 5.00)	1.22 (0.44) (1.00, 2.00)

Baseline healthcare utilization items are within past 3 months, 6-month healthcare utilization is ‘since baseline data collection’. ED = emergency department. SD = standard deviation.

Table 12: Number (%) of participants experiencing a serious adverse event

Event	Time point	Intervention (n=18)	Control (n=19)
Serious adverse event, n (%)	Week 1	0 (0)	0 (0)
	Month 3	1 (5.6)	0 (0)
	Month 6	0 (0)	2 (10.5)
Serious adverse event determined to be related to TAPER ¹ , n (%)	Week 1	0 (0)	0 (0)
	Month 3	0 (0)	0 (0)
	Month 6	0 (0)	N/A

¹For each serious adverse event reported, the Principal Investigator (a physician) determined whether the incident was related to the TAPER intervention. N/A=not applicable as the control group did not receive TAPER

Table 13: Serious adverse events description

Group	Week 1	Month 3	Month 6
TAPER	None	1. Painful calf and foot, operated on two blood clots; pain in foot gone now [ED visit for right leg ischemia resulting in hospitalization, operation to remove two blood clots]	None
Control	None	None	1. Thought I had a kidney stone, turned out to be an aneurism [ED visit for flank pain, diagnosed with renal artery aneurism] 2. Stroke in April [ED visit and subsequent hospitalization for ischemic stroke]

ED=emergency department

Table 14: Number (%) of participants experiencing changes in side-effects

Variable	Intervention (n=18)	Control (n=19)
Any symptoms or side effects stopped; n (%)	4 (22.2)	2 (10.5)
Any symptoms or side effects improved; n (%)	7 (38.9)	10 (52.6)
Any symptoms or side effects started; n (%)	5 (27.8)	4 (21.1)
Any symptoms or side effects increased; n (%)	4 (22.2)	7 (36.8)
Experienced any other health improvements from changing your medications; n (%)	2 (11.1)	8 (42.1)
Experienced any other problems since changing your medications; n (%)	5 (27.8)	9 (47.4)