

**Appendix Table 1. Intervention Attendance**

	Tai Chi (N=151)				Aerobic Exercise (N = 75)	Total (N=226)
	1x12 weeks (N=39)	2x12 weeks (N=37)	1x24 weeks (N=39)	2x24 weeks (N=36)	2x24 weeks (N=75)	
Attendance Rate, Mean (SD)*	66.7 (28.7)	65.1 (26.0)	57.2 (27.9)	57.8 (33.3)	40.2 (29.9)	54.9 (30.9)
Participants by Attendance Rate, <i>n</i> (%)						
70% - 100%	21 (53.9)	21 (56.8)	16 (41.0)	17 (47.2)	13 (17.3)	88 (38.9)
50% - 69%	7 (18.0)	3 (8.1)	10 (25.6)	6 (16.7)	12 (16.0)	38 (16.8)
1% - 49%	9 (23.1)	11 (29.7)	11 (28.2)	11 (30.6)	41 (54.7)	83 (36.7)
0%	2 (5.1)	2 (5.4)	2 (5.1)	2 (5.6)	9 (12.0)	17 (7.5)

\*Treated participants only.

**Appendix Table 2: Baseline Characteristics Associated with Missingness at Follow-Up Evaluation Visits \***

Baseline characteristic	Week 12		Week 24		Week 52	
	Missing Data (n= 43)	Data Present (n=183)	Missing Data (n=45)	Data Present (n=181)	Missing Data (n=68)	Data Present (n=158)
Mean age (SD), y	<b>46.5 (13.0)</b>	<b>52.9 (11.6)</b>	49.3 (12.7)	52.3 (12.0)	<b>49.1 (13.2)</b>	<b>52.8 (11.5)</b>
Female, n (%)	41 (95.4)	168 (91.8)	43 (95.6)	166 (91.7)	63 (92.7)	146 (92.4)
Race, n (%)						
White	27 (62.8)	111 (60.7)	28 (62.2)	110 (60.8)	45 (66.2)	93 (58.9)
Black	11 (25.6)	40 (21.9)	12 (26.7)	39 (21.5)	17 (25.0)	34 (21.5)
Other	5 (11.6)	32 (17.5)	5 (11.1)	32 (17.7)	6 (8.8)	31 (19.6)
High-school or higher education, n (%)	40 (95.2)	175 (95.6)	43 (95.6)	172 (95.6)	64 (94.1)	151 (96.2)
Live alone, n (%)	15 (35.7)	92 (50.3)	20 (44.4)	87 (48.3)	33 (48.5)	74 (47.1)
Mean duration of body pain (SD), y	<b>8.2 (5.7)</b>	<b>12.9 (10.0)</b>	10.2 (11.0)	12.4 (9.1)	<b>10.0 (10.4)</b>	<b>12.9 (9.0)</b>
Mean body-mass index (SD), kg/m <sup>2</sup>	28.4 (6.4)	30.4 (6.7)	29.6 (6.6)	30.1 (6.8)	29.1 (6.8)	30.5 (6.7)
Medications, n (%)						
Paracetamol	26 (61.9)	121 (66.1)	26 (57.8)	121 (67.2)	45 (66.2)	102 (65.0)
NSAIDS	34 (81.0)	158 (86.3)	38 (84.4)	154 (85.6)	56 (82.4)	136 (86.6)
Narcotics	22 (52.4)	93 (51.1)	20 (45.5)	95 (52.8)	40 (59.7)	75 (47.8)
Antidepressants	29 (69.1)	103 (56.6)	28 (62.2)	104 (58.1)	46 (67.7)	86 (55.1)
Anticonvulsants	17 (40.5)	51 (27.9)	17 (37.8)	51 (28.3)	21 (30.9)	47 (29.9)
Muscle relaxers	16 (38.1)	45 (24.6)	11 (24.4)	50 (27.8)	20 (29.4)	41 (26.1)
Benzodiazepines	17 (40.5)	54 (29.5)	14 (31.1)	57 (31.7)	27 (39.7)	44 (28.0)
Self-reported comorbidities, n (%)						
Heart condition	3 (7.1)	18 (9.8)	4 (8.9)	17 (9.4)	3 (4.4)	18 (11.5)
Hypertension	12 (28.6)	56 (30.6)	11 (24.4)	57 (31.7)	17 (25.0)	51 (32.5)
Diabetes	5 (11.9)	13 (7.1)	3 (6.7)	15 (8.3)	4 (5.9)	14 (8.9)
Treatment Assignment						
Aerobic exercise	17 (39.5)	58 (31.7)	18 (40.0)	57 (31.5)	22 (32.4)	53 (33.5)
Tai Chi 1 x 12 weeks	10 (23.3)	29 (15.9)	11 (24.4)	28 (15.5)	14 (20.6)	25 (15.8)
Tai Chi 1 x 24 weeks	3 (7.0)	36 (19.7)	5 (11.1)	34 (18.8)	10 (14.7)	29 (18.4)
Tai Chi 2 x 12 weeks	6 (14.0)	31 (16.9)	7 (15.6)	30 (16.6)	11 (16.2)	26 (16.5)
Tai Chi 2 x 24 weeks	7 (16.3)	29 (15.9)	4 (8.9)	32 (17.7)	11 (16.2)	25 (15.8)
Mean FIQR score (SD) (range, 0-100)†	<b>63.0 (18.5)</b>	<b>54.7 (19.4)</b>	59.2 (17.0)	55.5 (20.0)	57.3 (16.6)	55.7 (20.6)
Mean Patient's Global Assessment score (SD) (range, 0-10),cm†	6.4 (1.7)	6.0 (1.9)	6.3 (1.6)	6.0 (2.0)	6.1 (1.5)	6.0 (2.1)
Mean HADS scores (SD) (subscale range, 0-21)†						
Depression	7.9 (4.2)	7.5 (4.1)	7.8 (3.8)	7.6 (4.2)	7.8 (3.5)	7.5 (4.4)
Anxiety	<b>10.2 (4.7)</b>	<b>8.7 (4.0)</b>	9.8 (4.4)	8.7 (4.1)	9.6 (4.5)	8.7 (4.0)
Mean Arthritis Self-Efficacy Scale score (SD) (range, 1-10)‡	<b>4.3 (1.9)</b>	<b>5.3 (2.1)</b>	4.8 (2.1)	5.2 (2.1)	5.0 (2.0)	5.2 (2.2)
Mean Pittsburgh Sleep Quality Index score (SD) (range, 0-21)†	12.8 (4.5)	11.7 (4.1)	<b>13.0 (4.1)</b>	<b>11.6 (4.1)</b>	12.3 (4.0)	11.7 (4.2)
Mean SF-36 scores (SD) (range, 0-100)‡						
Mental component	37.2 (11.3)	40.7 (10.7)	37.9 (12.4)	40.6 (10.5)	<b>37.4 (10.4)</b>	<b>41.2 (11.0)</b>
Physical component	30.3 (7.3)	30.5 (7.8)	31.0 (7.7)	30.4 (7.7)	31.7 (7.9)	30.0 (7.6)
Mean 6-min walk test score (SD), m	418.7 (83.5)	394.5 (82.9)	<b>422.5 (83.2)</b>	<b>393.5 (82.7)</b>	412.5 (86.4)	393.3 (81.7)

NSAID = Nonsteroidal anti-inflammatory drugs; FIQR = Revised Fibromyalgia Impact Questionnaire; HADS = Hospital Anxiety and Depression Scale; SF-36 = 36-Item Short Form Health Survey.

\* Boldface indicates statistically significant differences between groups.

† Higher scores reflect more severe symptoms.

‡ Higher scores indicate better status.

**Appendix Table 3: Mean Change from Baseline for Sensitivity Analyses\***

Variable	Tai Chi 1x12 weeks (N = 39)	Tai Chi 2x12 weeks (N = 37)	Tai Chi 1x24 weeks (N = 39)	Tai Chi 2x24 weeks (N = 36)	Aerobic Exercise 2x24 weeks (N = 75)
Main results from Table 2 for comparison					
Week 12	-16.5 (-23.4, -9.6)	-12.3 (-19.0, -5.6)	-6.6 (-12.8, -0.3)	-17.2 (-24.0, -10.3)	-6.2 (-11.0, -1.4)
Week 24	-11.4 (-18.7, -4.1)	-11.4 (-18.4, -4.4)	-16.7 (-23.4, -10.1)	-25.4 (-32.3, -18.4)	-9.2 (-14.3, -4.1)
Week 52	-14.3 (-21.7, -7.0)	-10.2 (-17.3, -3.1)	-13.6 (-20.4, -6.8)	-22.7 (-30.0, -15.4)	-11.7 (-16.7, -6.6)
Adjusted for baseline age, duration of body pain, HADS Anxiety score (subscale range, 0-21)†, Arthritis Self-Efficacy Scale score (range, 1-10)‡, Pittsburgh Sleep Quality Index score (range, 0-21)†, SF-36 Mental Component score‡, 6-minute walk test score, and attendance rate					
Week 12	-14.4 (-21.6, -7.1)	-11.3 (-18.4, -4.2)	-6.2 (-12.9, 0.4)	-16.5 (-23.8, -9.1)	-7.5 (-12.6, -2.3)
Week 24	-11.7 (-19.1, -4.3)	-10.3 (-17.6, -3.0)	-16.2 (-23.3, -9.2)	-24.4 (-31.7, -17.0)	-9.9 (-15.3, -4.5)
Week 52	-13.6 (-21.2, -6.0)	-10.8 (-18.2, -3.4)	-12.8 (-19.9, -5.6)	-22.2 (-29.6, -14.8)	-12.0 (-17.3, -6.7)
Multiple Imputation					
Week 12	-14.6 (-21.6, -7.6)	-11.3 (-18.3, -4.3)	-6.5 (-13.1, 0)	-16.4 (-23.6, -9.2)	-7.5 (-12.5, -2.5)
Week 24	-12.2 (-19.4, -5.1)	-10.6 (-17.9, -3.4)	-15.7 (-22.6, -8.9)	-24.3 (-31.5, -17.2)	-10.1 (-15.3, -4.9)
Week 52	-14.1 (-21.5, -6.7)	-11.8 (-19.1, -4.5)	-13.6 (-20.6, -6.6)	-21.8 (-29.1, -14.5)	-12.4 (-17.6, -7.3)

FIQR = Revised Fibromyalgia Impact Questionnaire; HADS = Hospital Anxiety and Depression Scale; SF-36 = 36-Item Short Form Health Survey.

\* All values are estimated means, with 95% confidence intervals.

† Higher scores reflect more severe symptoms.

‡ Higher scores indicate better status.

**Appendix Table 4: Sensitivity Analyses for Between Group Differences in Primary Outcome (FIQR)\***

Variable	Aerobic Exercise vs Tai Chi Groups Combined		Tai Chi 12-week vs 24-week		Tai Chi 1x/week vs 2x/week		Aerobic Exercise 2x24 week vs Tai Chi 2x24 week	
	Mean (95% CI)	P-value	Mean (95% CI)	P-value	Mean (95% CI)	P-value	Mean (95% CI)	P-value
Main results from Table 2 for comparison								
Week 12	5.4 (0.6, 10.1)	<b>0.03</b>	-2.7 (-9.4, 4.1)	0.44	3.4 (-3.3, 10.1)	0.32	10.9 (3.4, 18.5)	<b>0.005</b>
Week 24	5.5 (0.6, 10.4)	<b>0.03</b>	9.6 (2.6, 16.6)	<b>0.007</b>	4.5 (-2.5, 11.4)	0.21	16.2 (8.7, 23.6)	<b>&lt;0.0001</b>
Week 52	2.7 (-2.3, 7.7)	0.29	5.8 (-1.4, 13.0)	0.11	2.7 (-4.5, 9.9)	0.46	11.1 (2.7, 19.6)	<b>0.01</b>
Adjusted for baseline age, duration of body pain, HADS Anxiety score (subscale range, 0-21)†, Arthritis Self-Efficacy Scale score (range, 1-10)‡, Pittsburgh Sleep Quality Index score (range, 0-21) †, SF-36 Mental Component score‡, 6-minute walk test score, and attendance rate								
Week 12	5.3 (0.4, 10.2)	<b>0.03</b>	-2.9 (-9.9, 4.0)	0.40	3.7 (-3.3, 10.6)	0.30	5.7 (-1.7, 13.1)	0.13
Week 24	5.4 (0.3, 10.4)	<b>0.04</b>	10.5 (3.3, 17.7)	<b>0.005</b>	4.3 (-2.9, 11.5)	0.24	11.0 (4.3, 17.6)	<b>0.002</b>
Week 52	2.0 (-3.0, 7.1)	0.43	6.3 (-1.1, 13.6)	0.09	3.4 (-3.9, 10.7)	0.36	3.4 (-4.7, 11.5)	0.40
Multiple Imputation								
Week 12	3.7 (-1.1, 8.5)	0.13	-1.7 (-8.7, 5.3)	0.63	3.2 (-3.7, 10.2)	0.36	8.8 (0.7, 17.1)	<b>0.03</b>
Week 24	4.5 (-0.6, 9.5)	0.08	8.4 (1.2, 15.7)	<b>0.02</b>	3.5 (-3.6, 10.6)	0.34	14.3 (6.2, 22.2)	<b>0.0005</b>
Week 52	2.3 (-2.7, 7.3)	0.36	4.6 (-2.7, 11.8)	0.22	2.9 (-4.3, 10.1)	0.43	9.4 (0.8, 18.0)	<b>0.03</b>
Subgroup analysis of participants with ≥50% attendance								
Week 12	5.1 (-1.5, 11.8)	0.13	-3.6 (-11.1, 3.8)	0.34	6.3 (-1.6, 13.8)	0.10	9.9 (-0.2, 19.9)	0.055
Week 24	6.4 (-0.6, 13.4)	0.07	13.8 (6.0, 21.6)	<b>0.0007</b>	3.1 (-4.8, 10.9)	0.44	18.0 (8.7, 27.5)	<b>0.0004</b>
Week 52	1.6 (-5.6, 8.7)	0.67	8.5 (0.3, 16.7)	<b>0.04</b>	0.93 (-7.3, 9.1)	0.82	10.1 (-0.9, 21.1)	0.07

FIQR = Revised Fibromyalgia Impact Questionnaire, (range, 0-100) †; HADS = Hospital Anxiety and Depression Scale; SF-36 = 36-Item Short Form Health Survey. P values were calculated with repeated measures analysis.

\* All values are estimated means, with 95% confidence intervals. Positive scores indicate improved outcome in second listed group. Boldface indicates statistically significant differences between groups. All variables in Table 1 were included in the multiple imputation.

† Higher scores reflect more severe symptoms.

‡ Higher scores indicate better status.

**Appendix Table 5: Adverse Events Summary (Revised with Rates Included\*)**

	<b>Adverse Event</b>	<b>Rate</b>	<b>Serious Adverse Event (Rate)</b>	<b>Unanticipated Problem</b>
<b>Tai Chi (Total)</b>	117	117/151 = 77.5%	7 (4.6%)	0
Related	8	8/151 = 5.3%	0	0
Unrelated	109	109/151 = 72.2%	7 (4.6%)	0
Mild	71	71/151 = 47.0%	-	0
Moderate	39	39/151 = 25.8%	-	0
Severe	7	7/151 = 4.6%	7 (4.6%)	0
<b>Aerobic Exercise (Total)</b>	37	37/75 = 49.3%	5	0
Related	4	4/75 = 5.3%	0	0
Unrelated	33	33/75 = 44.0%	5 (6.8%)	0
Mild	18	18/75 = 24.0%	0	0
Moderate	16	16/75 = 21.3%	0	0
Severe	3	3/75 = 4.01%	5 (6.8%)	0
<b>Total</b>	154	154/226 = 68.1%	12 (5.3%)	0

\*Adverse events designated as “Not Related,” “Remote,” and “Possible” were categorized in this table as “Unrelated”; those designated as “Probable” and “Highly Probably” were categorized as “Related.”

**Appendix Table 6: Data on Analgesic Drugs**

Analgesic drugs	Weeks	Aerobic Exercise vs. Tai Chi groups combined		Tai Chi: 12-week vs. 24-week		Tai Chi: 1x/week vs. 2x/week	
		OR (95% CI)	P-value	OR (95% CI)	P-value	OR (95% CI)	P-value
Paracetamol	12	1.33 (0.48, 3.67)	0.58	1.64 (0.41, 6.67)	0.49	0.96 (0.24, 3.88)	0.95
	24	1.93 (0.69, 5.43)	0.21	1.86 (0.44, 7.88)	0.40	0.93 (0.22, 3.96)	0.93
	52	2.07 (0.72, 5.99)	0.18	0.77 (0.17, 3.53)	0.73	3.10 (0.67, 14.33)	0.15
Narcotics	12	0.99 (0.32, 3.03)	0.99	1.63 (0.36, 7.26)	0.52	2.03 (0.45, 9.06)	0.36
	24	0.89 (0.28, 2.80)	0.84	0.75 (0.16, 3.46)	0.72	2.59 (0.56, 11.94)	0.22
	52	1.08 (0.33, 3.51)	0.90	1.81 (0.34, 9.63)	0.49	0.94 (0.18, 5.01)	0.95
NSAIDs	12	0.34 (0.05, 2.45)	0.29	1.43 (0.13, 16.15)	0.77	1.54 (0.15, 15.69)	0.72
	24	0.56 (0.08, 3.80)	0.56	0.23 (0.02, 2.69)	0.24	1.79 (0.17, 18.47)	0.63
	52	0.73 (0.10, 5.12)	0.75	0.19 (0.01, 2.64)	0.22	2.47 (0.2, 30.86)	0.48

NSAIDs = Nonsteroidal anti-inflammatory drugs; OR = Odds ratio.