Supplementary Online Content

This supplementary material has been provided by the authors to give readers additional information about their work.

eTable 1. Medians (IQR) of Diabetes Medication, Patient Self-reported Dietary Calories, and Physical Activity of 3 Groups by ITT

	Median(IQR)		
ITT	**Tai Chi Chuan (n=107)**	**Fitness Walking (n=110)**	**Control (n=111)**
Diabetes medication			
baseline	2(1)	2(1)	2(1)
24weeks	2(1)	2(1)	2(1)
36weeks	2(1)	2(1)	2(1)
Dietary[a] (calorie)			
baseline	1163(549)	1086(677)	1186(758)
24weeks	1038(521)	1049(534)	1135(744)
36weeks	1214(435)	1215(366)	1274(596)
Total METs[b] (min.wk^{-1})			
baseline	1188(1287)	1270(1346)	1095(1487)
24weeks	2011(1416)	2187(1678)	2290(2038)
36weeks	1540(1000)	1350(864)	1379(969)
Vigorous METs[c] (min.wk^{-1})			
baseline	33(116)	43(139)	110(191)
24weeks	147(208)	125(191)	193(237)
36weeks	56(82)	53(121)	104(336)
Moderate METs[d] (min.wk^{-1})			
baseline	514(542)	439(521)	296(537)
24weeks	968(745)	1005(877)	1033(645)
36weeks	894(735)	738(522)	625(568)
Walking METs[e] (min.wk^{-1})			
baseline	641(964)	788(1088)	689(1079)
24weeks	1383(641)	1505(809)	1471(744)
36weeks	610(610)	573(469)	691(583)
Sedentary time (min)			
baseline	305(138)	304(146)	280(150)
24weeks	309(142)	299(139)	301(119)
36weeks	355(135)	340(109)	327(125)

[a] Dietary assessment using Self-Reported 24-Hour Recalls.

[b] METs=Amount of metabolic equivalent minutes per week （METs min.wk^{-1}） in the IPAQ-S categories.

[c] Vigorous intensity =8.0 METs

[d] Moderate intensity =4.0 METs

[e] Walking intensity =3.3 METs

eTable 2. Mean Difference (SD) of MoCA in 3 Groups by MITT

| | Tai Chi Chuan | Fitness Walking | Control | *P* value | Between-group change, mean (95% CI) | | |
					Tai Chi Chuan vs Fitness Walking	Tai Chi Chuan vs control	Fitness Walking vs Control
MITT, n	101	103	99				
MoCA, mean(SD), (range 0-30)							
baseline	21.38(2.76)	21.51(2.51)	21.29(2.8)	.84	-0.14(-0.88 to 0.6)	0.08(-0.67 to 0.83)	0.22(-0.52 to 0.97)
24 weeks	24.08(3.12)	23.6(3.43)	22.48(3.45)	.003	0.48(-0.44 to 1.40)	1.59(0.67 to 2.52)*	1.12(0.19 to 2.04)*
36 weeks	24.81(2.65)	23.92(3.24)	22.69(3.34)	< .001	0.89(0.04 to 1.74)*	2.13(1.27 to 2.98)*	1.24(0.38 to 2.09)*

eTable 3. Generalized Linear Model of MoCA and Physical Activity by ITT

ITT		β	SE	*P*
24weeks_MoCA	Tai Chi Chuan	0.000		
	Fitness Walking	-0.559	0.3654	.126
	Control	-1.618	0.3722	<.001
36weeks_MoCA	Tai Chi Chuan	0.000		
	Fitness Walking	-0.935	0.355	.009
	Control	-2.031	0.362	<.001

Note: Adjusted after T0_MoCA and T0_vigorous METs

eTable 4. Safety Outcomes: Adverse Events

	Tai Chi Chuan (n=107)	Fitness Walking (n=110)	Control (n=111)	*P*
Adverse events	Participants with events, No.			
Total adverse events	8	13	16	.263
Hypoglycemia	1	2	0	
Fall	5	10	15	.077
Fracture	1	1	0	
Hospitalizations	0	0	1	
Emergency department visits	1	0	0	

eFigure. Subgroup Analysis of MoCA in 24 Weeks by ITT

Subgroup	TCC vs Walking	TCC vs Control	Walking vs Control
Total	0.45(-0.42 to 1.31)	1.45*(0.59 to 2.32)	1.01*(0.15 to 1.86)
Gender			
Male	0.17(-0.94 to 1.28)	1.24*(0.08 to 2.4)	1.08(-0.02 to 2.17)
Female	0.87(-0.48 to 2.21)	1.63*(0.35 to 2.9)	0.76(-0.57 to 2.09)
Age, ys			
≤67	0.04(-1.05 to 1.13)	1.01(-0.08 to 2.09)	0.96(-0.11 to 2.04)
>67	0.92(-0.48 to 2.33)	1.98*(0.58 to 3.39)	1.06(-0.33 to 2.45)
Education, ys			
≤10	0.51(-0.76 to 1.79)	2.33*(1.03 to 3.64)	1.82*(0.54 to 3.1)
>10	0.33(-0.77 to 1.44)	0.62(-0.46 to 1.69)	0.28(-0.8 to 1.36)
BMI, Kg/m2			
≤24	1.56*(0.35 to 2.78)	1.30*(0.15 to 2.44)	-0.26(-1.44 to 0.92)
>24	-0.53(-1.75 to 0.7)	1.70*(0.39 to 3)	2.22*(0.97 to 3.48)
Disease duration, ys			
≤10	0.49(-0.62 to 1.61)	1.56*(0.42 to 2.69)	1.07(-0.08 to 2.22)
>10	0.38(-1.03 to 1.79)	1.32(-0.06 to 2.7)	0.94(-0.38 to 2.26)
HbA1C, %			
≤7.5	0.45(-0.52 to 1.42)	1.45*(0.47 to 2.43)	.99*(0.02 to 1.97)
>7.5	0.46(-1.39 to 2.32)	1.28(-0.5 to 3.06)	0.82(-0.96 to 2.6)
Comorbitity NO.			
≤1	0.90(-0.06 to 1.86)	1.70*(0.73 to 2.67)	0.80(-0.16 to 1.77)
>1	-1.24(-3.25 to 0.78)	0.51(-1.45 to 2.47)	1.75(-0.17 to 3.66)
Site			
Beijing	-1.00(-4.36 to 2.36)	2.11(-1.33 to 5.56)	3.11(-0.25 to 6.47)
Fuzhou	1.04(-0.24 to 2.31)	1.96*(0.7 to 3.22)	0.92(-0.33 to 2.18)
Harbin	-0.56(-2.95 to 1.83)	0.95(-1.47 to 3.38)	1.51(-0.84 to 3.86)
Shenzhen	0.43(-1.08 to 1.94)	0.6(-0.91 to 2.11)	0.17(-1.34 to 1.68)