

Supplementary Table 1. Clinical and demographic characteristics of Parkinson's disease patients categorized by cognitive status: normal cognition, mild cognitive impairment, and dementia

Groups	Parameters	PD-NC	PD-MCI	PD-dementia	p value
Tier 1 (n = 1,202)	Number of PD cases	662	326	214	
	Sex, female	360 (54.4)	157 (48.2)	101 (47.2)	0.072
	Age (yr)	68.8 ± 8.4	71.4 ± 8.2	74.7 ± 8.4	< 0.001
	Years in education (yr)	10.0 ± 4.6	10.4 ± 5.0	8.7 ± 5.2	< 0.001
	MoCA total score	23.8 ± 4.0	20.2 ± 4.4	14.7 ± 4.9	< 0.001
A subset of Tier 1 for machine learning test (n = 416)	Number of PD cases	219	122	75	
	Sex, female	117 (53.4)	53 (43.4)	37 (49.3)	0.209
	Age (yr)	69.7 ± 8.6	72.6 ± 8.0	77.9 ± 6.8	< 0.001
	Years in education (yr)	10.8 ± 4.7	10.9 ± 5.2	8.5 ± 5.3	0.001
	Duration of PD (months)	31.8 ± 40.1	36.1 ± 41.1	46.6 ± 40.0	0.025
	UPDRS Part III, total score	18.5 ± 8.3	22.7 ± 10.1	28.4 ± 10.6	< 0.001
	Hoehn & Yar stage				< 0.001
	1	9 (4.1)	1 (0.8)	1 (1.3)	
	1.5	1 (0.5)	0	0	
	2	171 (78.1)	90 (73.8)	37 (49.3)	
	2.5	8 (3.7)	9 (7.4)	2 (2.7)	
	3	28 (12.8)	19 (15.6)	25 (33.3)	
	4	2 (0.9)	3 (2.5)	10 (13.3)	
	Cognitive complaint	42 (19.2)	41 (33.6)	51 (68.0)	< 0.001
	Depression	62 (28.3)	45 (36.9)	48 (64.0)	< 0.001
	Correct pentagon copying	205 (93.6)	92 (75.4)	36 (48.0)	< 0.001
	MoCA total score	23.7 ± 4.1	19.8 ± 4.5	14.0 ± 4.9	< 0.001
Tier 2 (n = 91)	Number of PD cases	40	39	12	
	Sex, female	21 (52.5)	23 (59.0)	8 (66.7)	0.654
	Age (yr)	70.7 ± 10.7	74.0 ± 7.7	77.3 ± 7.8	0.070
	Years in education (yr)	11.6 ± 4.4	10.1 ± 4.5	10.2 ± 4.1	0.280
	Duration of PD (months)	31.7 ± 32.0	34.2 ± 47.6	55.4 ± 63.9	0.270
	UPDRS Part III, total score	17.6 ± 6.9	20.3 ± 8.5	24.7 ± 5.8	0.017
	Hoehn & Yar stage				0.007
	1	1 (2.5)	0	0	
	1.5	0	2 (5.1)	0	
	2	10 (25.0)	6 (15.4)	1 (8.3)	
	2.5	21 (52.5)	12 (30.8)	2 (16.7)	
	3	6 (15.0)	18 (46.2)	6 (50.0)	
	4	2 (5.0)	1 (2.6)	3 (25.0)	
	Cognitive complaint	7 (17.5)	19 (48.7)	11 (91.7)	< 0.001
	Depression	12 (30.0)	12 (30.8)	5 (41.7)	0.735
	Correct pentagon copying	35 (87.5)	29 (74.4)	9 (75.0)	0.303
	MoCA total score	23.4 ± 3.8	18.3 ± 4.2	13.7 ± 3.3	< 0.001

Values are presented as mean ± standard deviation, n, or n (%).

PD, Parkinson's disease; NC, normal cognition; MCI, mild cognitive impairment; MoCA, Montreal Cognitive Assessment; UPDRS, Unified Parkinson's Disease Rating Scale by the Movement Disorders Society.