

**Supplementary Table 1.** Correlations between the change from V0 to V2 in the PDQ-39SI score and the change in other variables.

	PDQ-39SI All cohort N=500	p	PDQ-39SI Early PD group N=277	p
Age at baseline	-0.025	0.573	-0.071	0.241
Disease duration (at V0)	0.036	0.435	0.030	0.614
Number of non-antipark. drugs (at V0)	-0.030	0.499	-0.026	0.670
<b>Change at V2 (from V0 to V2)</b>				
LEDD	0.040	0.382	0.113	0.068
Number of non-antipark. drugs	0.004	0.936	0.016	0.800
UPDRS-III (OFF)	0.289	<b>&lt;0.0001</b>	0.288	<b>&lt;0.0001</b>
UPDRS-IV	0.196	<b>&lt;0.0001</b>	0.219	<b>&lt;0.0001</b>
FOGQ	0.343	<b>&lt;0.0001</b>	0.396	<b>&lt;0.0001</b>
PD-CRS	0.040	0.377	0.080	0.192
NMSS	0.417	<b>&lt;0.0001</b>	0.414	<b>&lt;0.0001</b>
- Cardiovascular	0.092	<b>0.042</b>	0.124	<b>0.040</b>
- Sleep / fatigue	0.340	<b>&lt;0.0001</b>	0.306	<b>&lt;0.0001</b>
- Mood / apathy	0.358	<b>&lt;0.0001</b>	0.367	<b>&lt;0.0001</b>
- Perceptual symptoms	0.150	<b>0.001</b>	0.100	0.069
- Attention / memory	0.233	<b>&lt;0.0001</b>	0.217	<b>&lt;0.0001</b>
- Gastrointestinal symptoms	0.203	<b>&lt;0.0001</b>	0.212	<b>&lt;0.0001</b>
- Urinary symptoms	0.189	<b>&lt;0.0001</b>	0.162	<b>0.007</b>
- Sexual dysfunction	0.123	<b>0.006</b>	0.173	<b>0.004</b>
- Miscellaneous	0.170	<b>&lt;0.0001</b>	0.242	<b>&lt;0.0001</b>
BDI-II	0.331	<b>&lt;0.0001</b>	0.299	<b>&lt;0.0001</b>
PDSS	-0.247	<b>&lt;0.0001</b>	-0.295	<b>&lt;0.0001</b>
QUIP-RS	0.117	<b>0.014</b>	0.096	0.139
NPI	0.290	<b>&lt;0.0001</b>	0.358	<b>&lt;0.0001</b>
VAS-PAIN	0.207	<b>&lt;0.0001</b>	0.262	<b>&lt;0.0001</b>
VASF – physical	0.226	<b>&lt;0.0001</b>	0.227	<b>&lt;0.0001</b>
VASF – mental	0.248	<b>&lt;0.0001</b>	0.293	<b>&lt;0.0001</b>
ADLS	-0.407	<b>&lt;0.0001</b>	-0.411	<b>&lt;0.0001</b>

Spearman's rank correlation coefficient was applied.

ADLS, Schwab & England Activities of Daily Living Scale; BDI-II, Beck Depression Inventory-II; FOGQ, Freezing Of Gait Questionnaire; LEDD, levodopa equivalent daily dose (mg); NMSS, Non-Motor Symptoms Scale; NPI, Neuropsychiatric Inventory; PD-CRS, Parkinson's Disease Cognitive Rating Scale; PDSS, Parkinson's Disease Sleep Scale; QUIP-RS, Questionnaire for Impulsive-Compulsive Disorders in Parkinson's Disease-Rating Scale; UPDRS, Unified Parkinson's Disease Rating Scale; VASF, Visual Analog Fatigue Scale; VAS-Pain, Visual Analog Scale-Pain.

**Supplementary Table 2.** Multiple linear regression model for PDQ-39SI change from V0 to V2 as dependent variables.

	Adjusted R-squared	$\beta$ standardized coefficient	CI 95%	P value
<b>All cohort (N=500)</b>	<b>0.450</b>			
Gender (female)		0.171	2.069, 6.716	<0.0001
Change in UPDRS-III (OFF)		0.236	0.148, 0.413	<0.0001
Change in FOGQ		0.204	0.308, 0.989	<0.0001
Change in NMSS		0.372	0.096, 0.176	<0.0001
<b>Early PD patients (N=277)</b>	<b>0.408</b>			
Gender		0.156	0.739, 6.088	0.013
Change in UPDRS-III (OFF)		0.207	0.034, 0.383	0.019
Change in FOGQ		0.293	0.366, 1.196	<0.0001
Change in NMSS		0.312	0.046, 0.147	<0.0001

Dependent variable: HRQoL change from V0 to V2.  $\beta$  standardized coefficient and 95% IC are shown. The model was adjusted to variables at baseline (LEDD, number of non-antiparkinsonian drugs, UPDRS-III, UPDRS-IV, FOGQ, NMSS, PD-CRS, BDI-II, NPI, PDQ-39SI) and changes from V0 to V2 (LEDD, UPDRS-III, UPDRS-IV, FOGQ, NMSS, PD-CRS, BDI-II, NPI). The results includes those variables analysing the change from V0 to V2 with significant impact ( $p < 0.05$ ) on dependent variable.

FOGQ, Freezing Of Gait Questionnaire; NMSS, Non-Motor Symptoms Scale; UPDRS, Unified Parkinson's Disease Rating Scale.