

Supplementary Table 1 Logistic regression analysis of different types of sleep disorders

	OR	95% CI	P Value
Insomnia			
UPDRS part IV (32-39)	1.186	1.118, 1.259	<0.001
NMSS score	1.030	1.024, 1.035	<0.001
EDS			
UPDRS part IV (32-39)	1.090	1.035, 1.147	0.001
NMSS score	1.018	1.014, 1.022	<0.001
Hallucination	1.595	1.016, 2.504	0.043
RBD			
Age	0.983	0.968, 0.999	0.038
NMSS score	1.014	1.010, 1.018	<0.001
Hallucination	2.367	1.513, 3.703	<0.001
RLS			
Age	0.979	0.963, 0.997	0.019
Disease duration	1.045	1.010, 1.081	0.012
Modified HY stage	0.723	0.571, 0.914	0.007
UPDRS part IV (32-39)	1.182	1.115, 1.252	<0.001
UPDRS part II	1.062	1.036, 1.088	<0.001
DAs medication	0.571	0.429, 0.761	<0.001

Dependent variables: Insomnia, EDS, RBD, RLS; Independent variables: Sex, Age, Disease duration, Modified HY stage, UPDRS parts II, III and IV, NMSS score, MMSE score, L-dopa medication, DAs medication, Levodopa equivalent daily dose, Hallucination. Using a likelihood ratio forward selection.

Abbreviations: EDS, excessive daytime sleepiness; RBD, Rapid eye movement sleep behavior disorder; RLS, Restless legs syndrome; Modified HY stage, Modified Hoehn and Yahr stage; UPDRS, Unified Parkinson's Disease Rating Scale; NMSS, Non-Motor Symptom Scale; MMSE, Mini-Mental State Examination; DA, Dopamine agonist

Supplementary Table 2. Shanghai Parkinson's disease Study Group(SHAP) Members

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