Antidepressant usage is associated with alterations in gut microbiota diversity and abundance in Parkinson's Disease patients.

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SUPPLEMENTARY MATERIAL

Supplementary Table 1. Alpha- and beta-diversity analysis results within control subjects.

Neuropsychiatric symptoms (sleep problems, apathy, antidepressant use, and fatigue) and diversity metrics within control subjects. The alpha diversity metrics (Pielou's evenness and Faith's Phylogenetic Diversity) were assessed for significance using pairwise Kruskal-Wallis test and the beta diversity metrics (Bray-Curtis, Jaccard, Unweighted UniFrac, and Weighted UniFrac) were assessed for significance using PERMANOVA through QIIME2 pipeline. P-values for each diversity analysis have been displayed comparing presence of neuropsychiatric symptoms. Double asterisks (**) indicate significant results (p-value <0.05)

	Alpha Diversity		Beta Diversity			
	Pielou's Evenness	**Faith's PD**	**Bray Curtis**	**Jaccard**	**Unweighted Unifrac**	**Weighted Unifrac**
Sleep Problems	0.925	0.479	0.421	0.759	0.913	0.172
Apathy	0.571	0.491	0.482	0.834	0.141	0.184
Antidepressant Use	0.174	0.995	0.172	0.795	0.263	0.441
Fatigue	0.637	0.784	0.769	0.236	0.319	0.989

Supplementary Table 2. Pseudo-F values for beta-diversity metrics generated through PERMANOVA within control subjects. Neuropsychiatric symptoms (sleep problems, apathy, antidepressant use, and fatigue) within control subjects and their respective diversity indices when comparing presence or absence of neuropsychiatric disorder (Pseudo F-values reported). The PERMANOVA test was conducted through the QIIME2 pipeline.

	Bray Curtis	Jaccard	Unweighted UniFrac	Weighted UniFrac
Sleep Problems	1.014315	0.950549	0.709037	1.512073
Apathy	0.974166	0.912421	1.243703	1.446159
Antidepressant Use	1.130459	0.945219	1.086734	0.922433
Fatigue	0.827902	1.055844	1.049262	0.167537

Supplementary Table 3. Pseudo-F values for beta-diversity metrics generated through PERMANOVA within PD subjects. Neuropsychiatric symptoms (sleep problems, apathy, antidepressant use, and fatigue) within PD subjects and their respective diversity indices when comparing presence or absence of neuropsychiatric disorder (Pseudo F-values reported). The PERMANOVA test was conducted through the QIIME2 pipeline.

	Bray Curtis	Jaccard	Unweighted UniFrac	Weighted UniFrac
Sleep Problems	1.145202	0.949802	1.278034	1.327455
Apathy	0.955041	0.915454	0.639944	0.602881

Antidepressant Use	1.465984	1.23861	1.222218	2.698652
Fatigue	0.837158	0.89804	0.938716	0.595595