

**Supplementary Table 4.** Effect of treatments on secondary outcomes with multiply imputed missing week 8 data

Outcome	Treatment	Mean difference at week 8 (95% CI; <i>p</i> )*
<i>PSS total</i>	Placebo	Reference
	Prebiotic diet	-3.27 (-5.83, -0.712; <i>p</i> = 0.013)
	Probiotic	-1.77 (-4.35, 0.797; <i>p</i> = 0.17)
	Synbiotic	-1.98 (-4.64, 0.686; <i>p</i> = 0.14)
<i>WHO-5 total</i> <sup>2</sup>	Placebo	Reference
	Prebiotic diet	1.05 (-1.09, 3.18; <i>p</i> = 0.33)
	Probiotic	0.150 (-2.00, 2.30; <i>p</i> = 0.89)
	Synbiotic	-0.500 (-2.62, 1.62; <i>p</i> = 0.64)
<i>LSEQ average</i> <sup>2</sup>	Placebo	Reference
	Prebiotic diet	0.771 (0.133, 1.41; <i>p</i> = 0.018)
	Probiotic	0.215 (-0.429, 0.859; <i>p</i> = 0.51)
	Synbiotic	0.144 (-0.464, 0.752; <i>p</i> = 0.64)
<i>Outcome</i> <sup>1</sup>	Treatment	OR (95% CI; <i>p</i> )*
<i>BAI total</i>	Placebo	Reference
	Prebiotic diet	0.273 (0.098, 0.763; <i>p</i> = 0.014)
	Probiotic	0.387 (0.141, 1.07; <i>p</i> = 0.066)
	Synbiotic	0.538 (0.191, 1.51; <i>p</i> = 0.24)
<i>BDI total</i>	Placebo	Reference
	Prebiotic diet	0.525 (0.174, 1.59; <i>p</i> = 0.25)
	Probiotic	0.899 (0.310, 2.61; <i>p</i> = 0.84)
	Synbiotic	1.20 (0.405, 3.56; <i>p</i> = 0.74)
<i>SF-36 fatigue</i> <sup>2</sup>	Placebo	Reference
	Prebiotic diet	1.91 (0.699, 5.73; <i>p</i> = 0.19)
	Probiotic	1.53 (0.572, 4.11; <i>p</i> = 0.39)
	Synbiotic	1.20 (0.442, 3.29; <i>p</i> = 0.71)
<i>SF-36 wellbeing</i> <sup>2</sup>	Placebo	Reference
	Prebiotic diet	1.79 (0.645, 4.99; <i>p</i> = 0.26)
	Probiotic	3.27 (1.22, 8.79; <i>p</i> = 0.019)
	Synbiotic	1.25 (0.438, 3.55; <i>p</i> = 0.68)

\* Model estimates adjusted for baseline outcome score;

<sup>1</sup> Outcomes modelled as ordinal – odds ratios represent fold-change in odds of poorer outcomes (e.g., more severe anxiety) for BAI and BDI scales, and odds of better outcomes for SF-36 fatigue and wellbeing subscales; <sup>2</sup> Higher values indicate better outcomes.

OR = odds ratio; POMS 2-SF = Profile of Mood States 2 – Short Form; BAI = Beck Anxiety Inventory; BDI = Beck Depression Inventory-II; PSS = Perceived Stress Scale; SF-36 = Short Form 36.