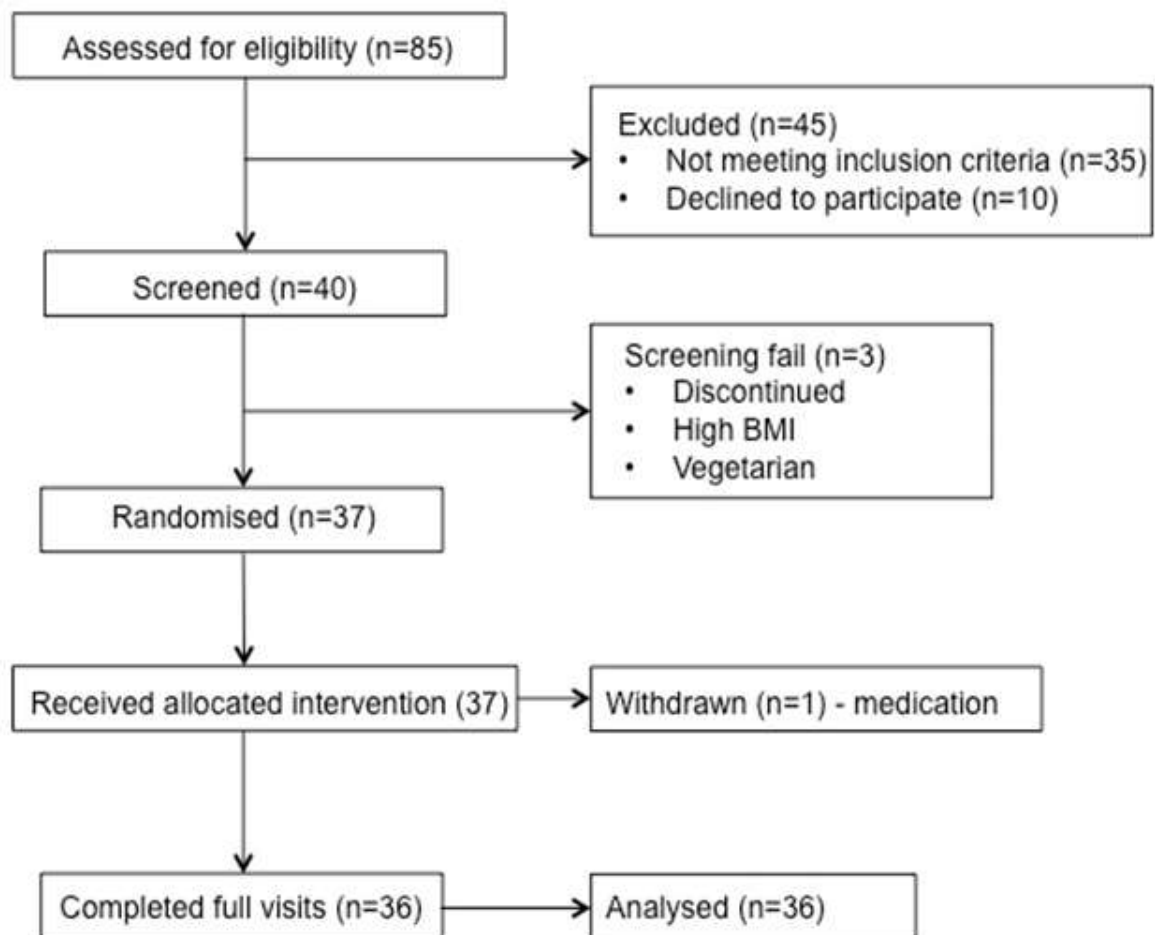


Investigating the effects of an eight-week intervention on cognitive function and gut health

Reference: ISRCTN37389799

Participant flow:



Baseline characteristics:

Table 1: Mean (\pm SD) baseline characteristics

	Control	Intervention
Number	17	19
Age (years)	65 (± 4)	70 (± 6)
Gender (M/F)	8/9	6/13
BMI (kg/m^2)	25 (± 3)	26 (± 2)
Weight (kg)	71 (± 9)	69 (± 11)
Body fat (%)	27 (± 9)	29 (± 9)
SBP (mmHg)	140 (± 15)	136 (± 18)
DBP (mmHg)	86 (± 7)	86 (± 9)
Left grip (kg)	26 (± 9)	26 (± 8)
Right grip (kg)	27 (± 9)	29 (± 9)
Timed-up-and-go (s)	6.8 (± 1.5)	6.2 (± 0.9)
FEV ₁ (%)	82 (± 9)	83 (± 12)
FVC (ml)	25 (± 9)	29 (± 9)
Total SCFA (mmol/l)	30 (± 18)	17 (± 6)

<i>Attentional intensity (ms)</i>	1376 (±136)	1373 (±139)
<i>Sustained attention (%)</i>	93 (±3)	96 (±4)
<i>Working memory capacity (%)</i>	86 (±17)	93 (±9)
<i>Cognitive reaction time (ms)</i>	171 (±77)	186 (±51)
<i>Attentional fluctuation</i>	57 (±13)	62 (±18)
<i>Memory retrieval speed</i>	4158 (±591)	4202 (±905)

Abbreviations: BMI = body mass index, SBP = systolic blood pressure, DBP = diastolic blood pressure, FEV1 = forced expiratory volume, FVC = forced vital capacity, SCFA = short chain fatty acid

Primary outcome measures (changes in cognitive test scores assessed by CogTrack online cognition programme):

	<i>Control</i>	<i>Intervention</i>
<i>Attentional intensity (ms)</i>	1369 (±112)	1391 (±173)
<i>Sustained attention (%)</i>	96 (±3)	96 (±3)
<i>Working memory capacity (%)</i>	91 (±11)	91 (±12)
<i>Cognitive reaction time (ms)</i>	187 (±39)	154 (±45)
<i>Attentional fluctuation</i>	56 (±15)	51 (±13)
<i>Memory retrieval speed</i>	3856 (±376)	3873 (±599)

Table 2: Mean (±SD) cognitive test scores at week 9, following 8-week intervention

Secondary outcome measures (functional capacity measured by timed-up-and-go, grip strength and spirometry, gut microbiome measured by short-chain fatty acid production, and blood pressure):

	<i>Control</i>	<i>Intervention</i>
<i>Left grip (kg)</i>	25 (±9)	26 (±9)
<i>Right grip (kg)</i>	25 (±9)	28 (±10)
<i>Timed-up-and-go (s)</i>	6.8 (±1.3)	6.2 (±1.1)
<i>FEV¹ (%)</i>	83 (±10)	83 (±9)
<i>FVC (ml)</i>	29 (±8)	30 (±8)
<i>Total SCFA (mmol/l)</i>	31 (±20)	24 (±4)
<i>SBP (mmHg)</i>	135 (±20)	128 (±14)
<i>DBP (mmHg)</i>	84 (±8)	84 (±10)

Table 3: Mean (±SD) functional capacity, gut microbiome and blood pressure values at week 9, following 8-week intervention

Adverse events:

There were no adverse events associated with this trial.