Study flow chart

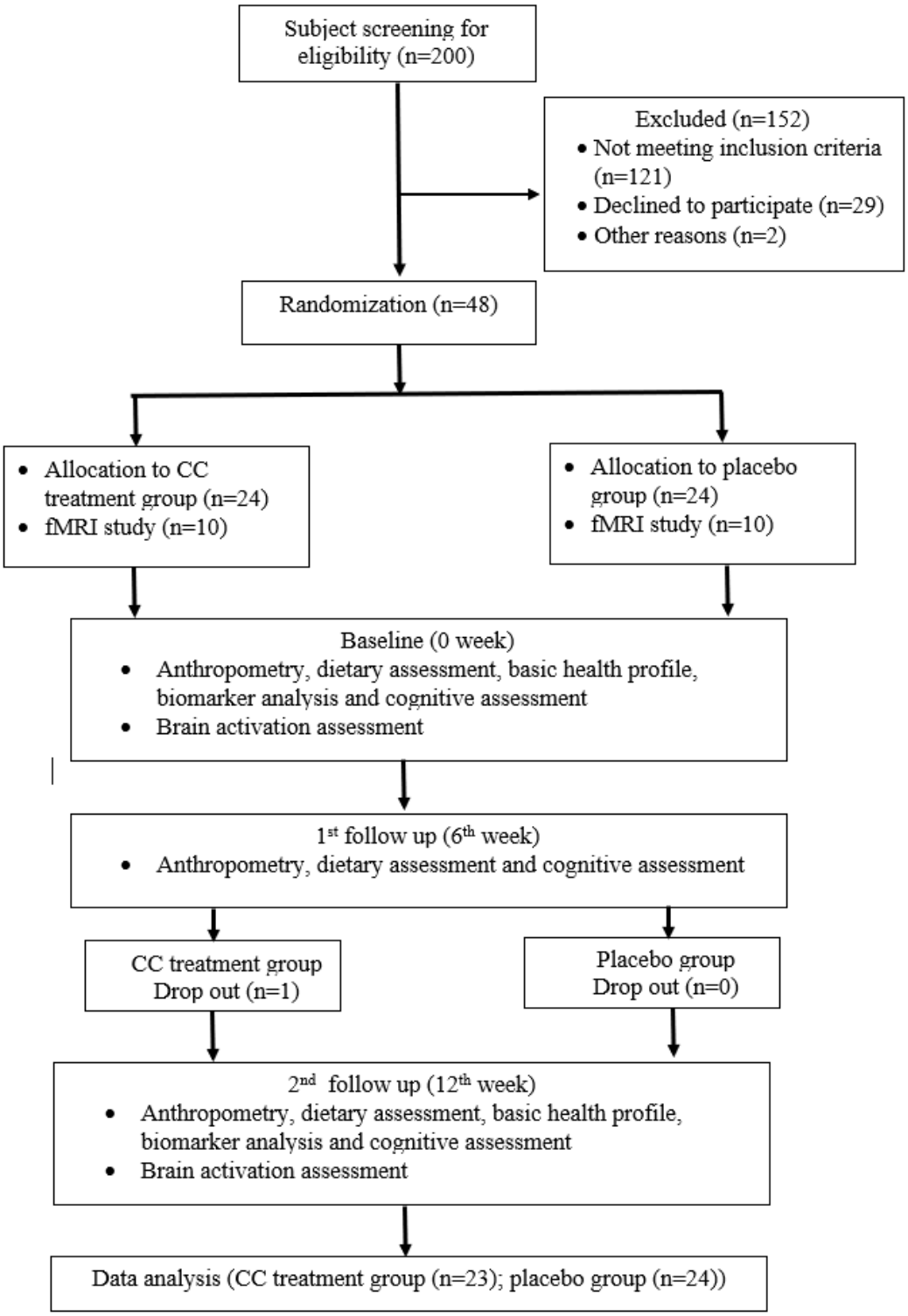

Table 1 Baseline socio demography information and self-reported medical condition between CC treatment group and placebo group subjects [presented as mean ± standard deviation or n(%)]

Parameter	CC treatment (n=24)	Placebo (n=24)	Total (n=48)	p-value
Age [a]	65.83 ± 4.35	64.42 ± 3.71	65.11 ± 4.05	0.237
Gender [b]				0.917
Male	8 (33.33)	8 (33.3)	16 (33.3)	
Female	16 (66.7)	16 (66.7)	32 (66.7)	
Ethnicity				0.483
Malay	16 (66.7)	13 (54.2)	29 (60.4)	
Chinese	6 (25.0)	10 (41.7)	16 (33.3)	
Indian	2 (8.3)	1 (4.2)	3 (6.3)	
Formal education (years) [a]	11.39 ± 2.39	10.17 ± 3.20	10.77 ± 2.87	0.145
Education level [b]				0.184
Primary school	1 (4.2)	3 (12.5)	4 (8.3)	
Secondary school	13 (54.2)	17 (70.8)	30 (62.5)	
Diploma/Certificate	9 (37.5)	3 (12.5)	12 (25.0)	
Degree	1 (4.2)	1 (4.2)	2 (4.2)	
Marital status [b]				0.123
Single	1 (4.2)	3 (12.5)	4 (8.3)	
Married	22 (91.7)	15 (62.5)	37 (77.1)	
Divorce	0 (0)	2 (8.3)	2 (4.2)	
Widow/widower	1 (4.2)	4 (16.7)	5 (10.4)	
Working status [b]				NA
Yes	0 (0)	0 (0)	0 (0)	
No	24 (100)	24 (100)	48 (100)	
Household income (RM) [a]	2021.83 ± 904.81	1962.58 ± 801.86	1991.57 ± 844.94	0.813
Hypertension [b]				0.159
Yes	6 (25.0)	11 (45.8)	17 (35.4)	
No	18 (75.0)	13 (54.2)	31 (64.6)	
Diabetes [b]				0.671
Yes	6 (25.0)	5 (20.8)	11 (22.9)	
No	18 (75.0)	19 (79.2)	37 (77.1)	
Hyperlipidemia [b]				0.587
Yes	7 (29.2)	8 (33.3)	15 (31.3)	
No	17 (70.8)	16 (66.7)	33 (68.7)	
Others [b]				0.975
Yes	1 (4.2)	1 (4.2)	2 (4.2)	
No	23 (95.8)	23 (95.8)	46 (95.8)	

Physical activity [b]				0.591
Everyday	1 (4.2)	0 (0)	1 (2.1)	
3-5 times per week	7 (29.2)	4 (16.7)	11 (22.9)	
1-2 times per week	8 (33.3)	11 (45.8)	19 (39.6)	
None	8 (33.3)	9 (37.5)	17 (35.4)	
Compliance [a]	92.44 ± 3.70	90.40 ± 3.70	91.40 ± 3.80	0.065

[a] Independent-t test, not significant at p>0.05
[b] Cross tabs Chi-square test, not significant at p>0.05
N/A: Not applicable

Table 2 Baseline blood biochemical profiles between CC treatment group and placebo group subjects [presented as mean ± standard deviation]

Parameter	CC treatment (n=24)	Placebo (n=24)	Total (n=48)	Normal range	p-value
Red blood cell ($x10^{12}$/L)	4.60 ± 0.66	4.96 ± 0.51	4.78 ± 0.61	4.5-6.5	0.069
Haemoglobin (g/dl)	13.53 ± 1.39	13.50 ± 1.48	13.51 ± 1.42	13.0-18.0	0.958
Haematocrit (%)	41.13 ± 3.76	40.83 ± 3.90	40.98 ± 3.79	40-54	0.792
MCV (fL)	90.04 ± 7.11	82.79 ± 9.51	86.34 ± 9.10	76-96	0.005*
MCH (pg)	29.70 ± 2.44	27.46 ± 3.39	28.55 ± 3.14	27-32	0.013*
MCHC (g/dl)	33.09 ± 1.00	33.25 ± 0.99	33.17 ± 0.99	32-36	0.576
Platelets ($x10^9$/L)	258.26 ± 49.40	262.04 ± 69.70	260.19 ± 60.00	150-400	0.832
White blood cell ($x10^9$/L)	6.51 ± 1.11	6.72 ± 1.66	6.62 ± 1.40	4.0-11.0	0.624
Neutrophil (%)	50.48 ± 11.17	56.21 ± 10.04	53.40 ± 10.88	40-75	0.071
Lymphocyte (%)	41.30 ± 11.44	34.67 ± 9.67	37.91 ± 10.98	20-45	0.059
Monocyte (%)	3.30 ± 1.55	4.33 ± 2.33	3.83 ± 2.04	2-10	0.083
Eosinophil (%)	4.52 ± 5.04	3.96 ± 3.20	4.23 ± 4.17	0-6	0.648
Basophil (%)	0.30 ± 0.07	0.38 ± 0.06	0.34 ± 0.06	0-2	0.721
Fasting blood sugar (mmol/L)	5.77 ± 2.05	5.67 ± 1.63	5.72 ± 1.83	3.9-5.6	0.856
Urea (mmol/L)	5.15 ± 1.36	4.62 ± 1.08	4.88 ± 1.24	1.7-8.4	0.144
Creatinine (µmol/L)	69.30 ± 14.91	66.17 ± 18.32	67.70 ± 16.63	62-115	0.524
Calcium (mmol/L)	2.28 ± 0.10	2.27 ± 0.08	2.27 ± 0.09	2.12-2.52	0.742
Inorganic phosphate (mmol/L)	1.21 ± 0.13	1.25 ± 0.14	1.23 ± 0.13	0.78-1.65	0.295
Uric acid (mmol/L)	0.32 ± 0.07	0.36 ± 0.09	0.34 ± 0.08	0.20-0.42	0.112
Sodium (mmol/L)	139.61 ± 4.44	139.83 ± 2.35	139.72 ± 3.49	137-150	0.828
Potassium (mmol/L)	4.80 ± 0.47	4.66 ± 0.28	4.73 ± 0.39	3.5-5.3	0.234
Chloride (mmol/L)	102.04 ± 4.51	103.13 v 2.82	102.60 ± 3.75	96-108	0.328
Total cholesterol (mmol/L)	5.42 ± 1.01	5.25 ± 1.03	5.33 ± 1.01	<5.2	0.566
HDL(mmol/L)	1.52 ± 0.35	1.61 ± 0.37	1.57 ± 0.36	>1.04	0.387
LDL (mmol/L)	3.30 ± 0.84	2.98 ± 0.96	3.13 ± 0.91	<2.6	0.230
Triglyceride (mmol/L)	1.34 ± 0.79	1.45 ± 0.62	1.40 ± 0.71	<1.7	0.624
Total cholesterol to HDL ratio	3.68 ± 0.78	3.36 ± 0.81	3.51 ± 0.80	<5.0	0.173
Total protein (g/L)	70.91 ± 7.84	69.17 ± 2.82	70.02 ± 5.85	57-82	0.311

Albumin (g/L)	42.96 ± 2.88	43.29 ± 2.40	43.13 ± 2.63	32-48	0.667
Globulin (g/L)	28.00 ± 8.03	25.88 ± 3.57	26.91 ± 6.20	20-50	0.244
Albumin to globulin ratio	1.61 ± 0.33	1.71 ± 0.28	1.66 ± 0.31	1.2-2.5	0.273
Total bilirubin (µmol/L)	12.61 ± 5.81	11.83 ± 4.27	12.21 ± 5.04	3-19	0.603
AST (IU/L)	27.13 ± 12.22	23.21 ± 5.43	25.13 ± 9.49	0-40	0.159
ALP (IU/L)	75.91 ± 22.00	70.58 ± 13.76	73.19 ± 18.26	39-117	0.323
ALT (IU/L)	25.35 ± 4.10	23.13 ± 4.89	24.21 ± 19.75	0-40	0.704
GGT (IU/L)	28.35 ± 8.6	24.00 ± 5.22	26.13 ± 2.62	<73	0.516

*Independent-t test, significant at $p<0.05$

MCV: mean Corpuscular volume; MCH: mean corpuscular haemoglobin; MCHC: mean corpuscular hemoglobin concentration; HDL: high density lipoprotein; LDL: low-density lipoprotein; AST: aspartate aminotransferase; ALP: alkaline phosphatase; ALT: alanine transferase; GGT: gamma-glutamyl transferase

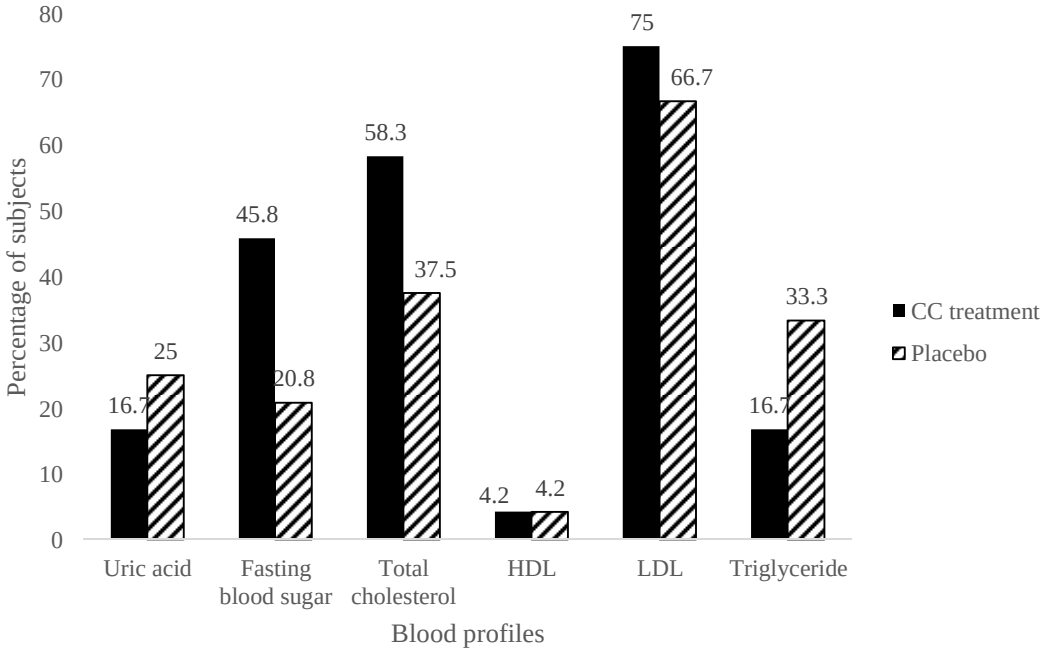

Figure 1 Percentage of subjects who did not meet the biochemical reference values

Table 3 Baseline cognitive assessments between CC treatment group and placebo group subjects [presented as mean ± standard deviation]

Parameter	CC treatment (n=24)	Placebo (n=24)	Total (n=48)	p-value
MMSE	27.09 ± 1.38	26.58 ± 1.35	26.83 ± 1.37	0.212
Digit Span	8.39 ± 1.23	7.92 ± 1.28	8.15 ± 1.27	0.203
RAVLT (Immediate recall)	6.30 ± 1.02	6.29 ± 1.12	6.30 ± 1.06	0.968
RAVLT (Delayed recall)	5.74 ± 0.92	5.63 ± 1.24	5.68 ± 1.09	0.723
Digit symbol	8.87 ± 1.71	8.00 ± 2.63	8.43 ± 2.25	0.186
VR (Immediate recall)	32.22 ± 4.62	29.50 ± 6.45	30.83 ± 5.74	0.105
VR (delayed recall)	31.61 ± 6.06	27.83 ± 7.98	29.68 ± 7.28	0.075

Not significant at $p>0.05$ using Independent-t test

Adverse events

At 6th week follow up, majority of the subjects from CC treatment group (69.6%) reported feeling normal after CC suplementation followed by 26.1% of them reported having heatiness. A total of 4.3% of subjects complained about loss of appetite, sorethroat and fever and 8.7% of them complained about dizziness and constipation. In placebo group, majority of them (70.8%) reported feeling normal and 16.7% of them complained about heatiness. A total of 8.3% of them complained about loss of appetite, 12.5% of them complained about sorethroat, 16.7% of them complained about dizziness and 4.2% of them complained about fever and constipation.

At 12th week follow up, majority if subjects from CC treatment group reported feeling normal (82.7%) and only 8.7% of subjects complained about sorethroat and 4.3% of them complained about dizziness and stmachache after eating it. In placebo group, majority of subjects (83.3%) reported feeling normal and only 8.3% of subjects complained about heatiness and dizziness and 4.2% of them complained about sorethroat after 12 weeks of placebo consumption.

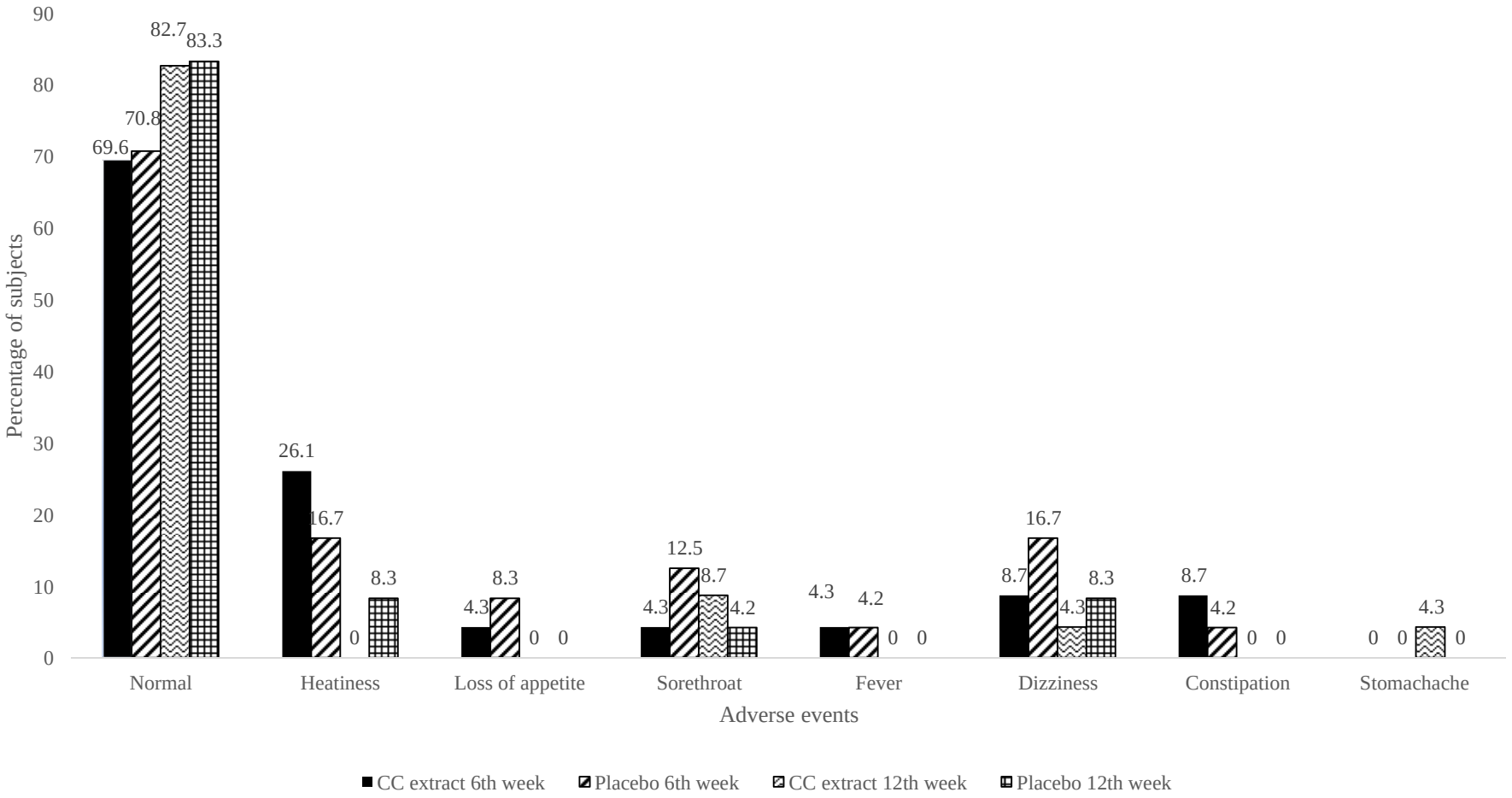

Figure 2 Adverse events reported in CC treatment and placebo groups at 6th and 12th week follow up