Supplemental Materials

Improvements in glycaemic control after acute moderate-intensity continuous or high-intensity interval exercise are greater in South Asians than white Europeans with nondiabetic hyperglycaemia: a randomised crossover study

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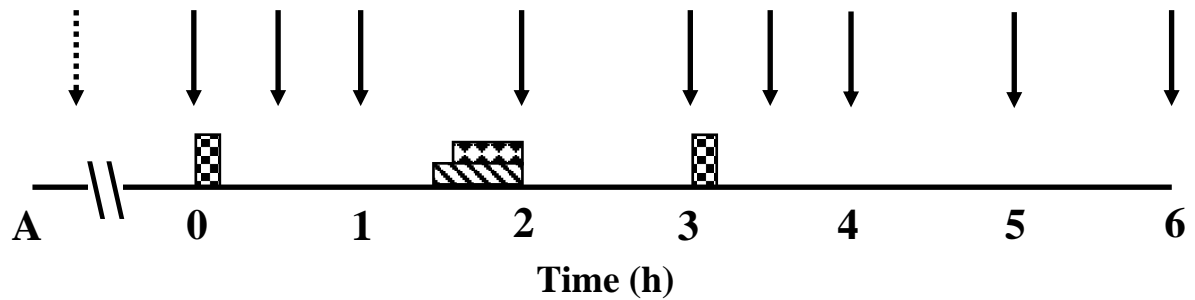**Short running title:** Ethnicity, acute exercise and glycaemic control

Clinical trials registration: ISRCTN12337078

Supplemental Figures: 3

Supplemental Tables: 1

Supplemental Figures

Supplemental Figure S1 – Schematic representation of experimental conditions

☒☒☒☒ 25 min LV-HIIE performed (LV-HIIE condition only)

⧄⧄⧄ 35 min of continuous moderate-intensity aerobic exercise performed (CME condition only)
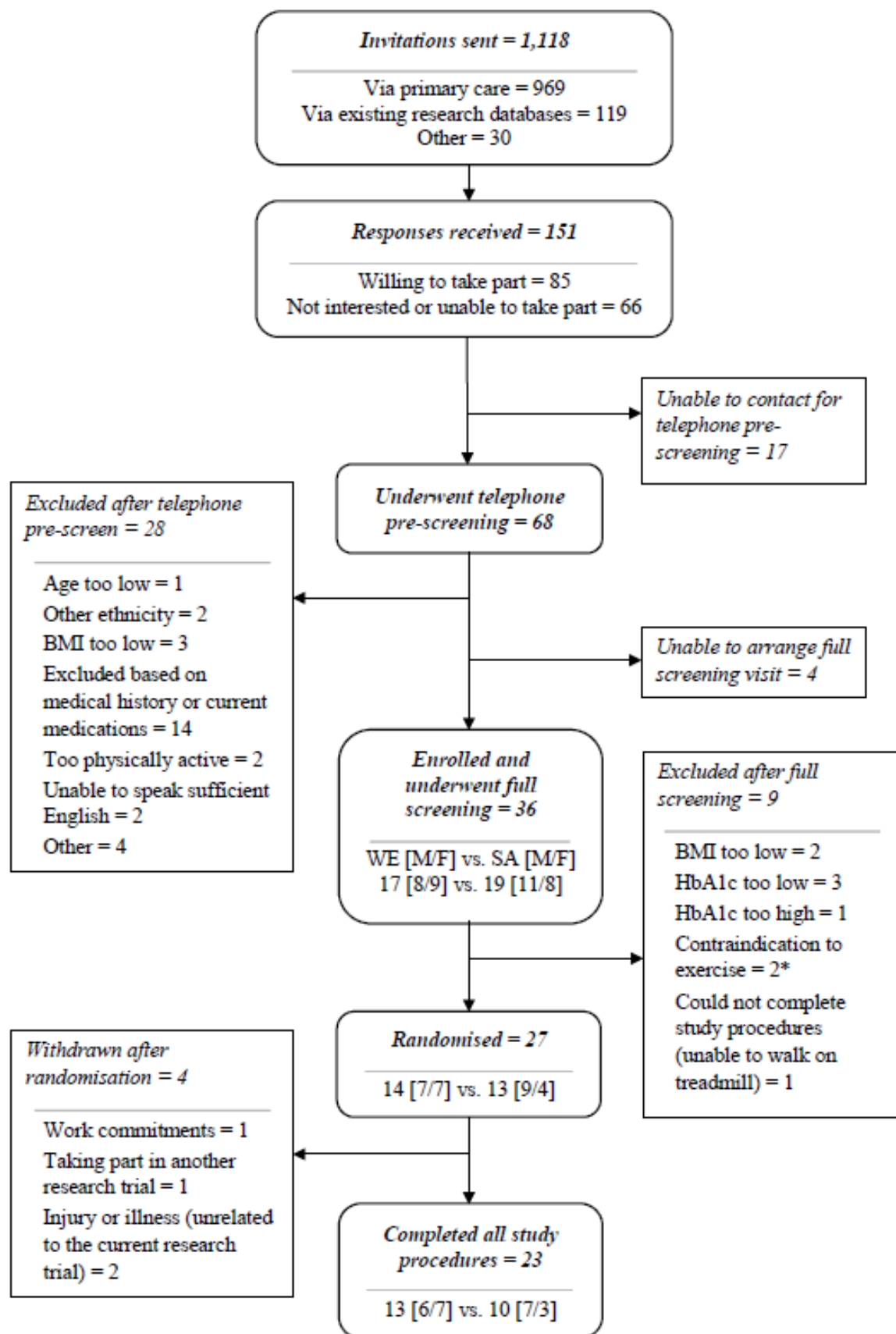
▨ Standardised meal consumed

A Participant arrival (approximately 60 min prior to first blood sample)

⋮ Venous cannula inserted (approximately 30 - 45 min prior to first blood sample)

↓ Venous blood sample collected

Supplemental Figure S2 – Participant flow

Abbreviations: BMI: body mass index; F: female; M; male; HbA1c: glycated haemoglobin; SA: South Asian; WE: white European. *one white European female developed chest pain and breathlessness during the exercise test and was referred to her family doctor, and one South Asian female reported severe ankle pain when undertaking treadmill walking and was not able to continue.

Supplemental Figure S3 – Circulating triglyceride (A-B) and non-esterified fatty acid (C-D) responses across experimental conditions for white European and South Asian groups
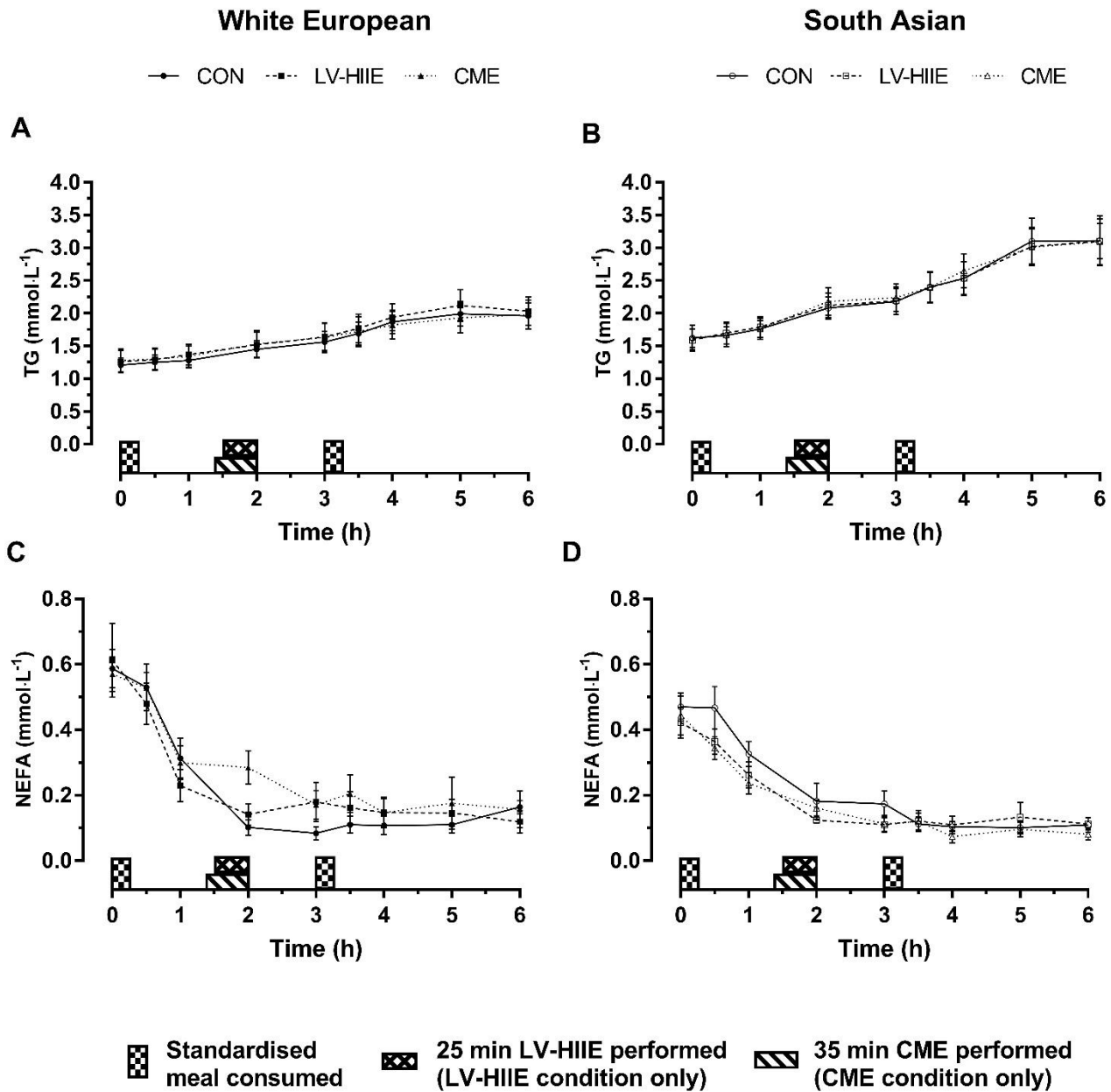
Data are presented as mean and standard error of the mean.

Abbreviations: CME: continuous moderate-intensity aerobic exercise; CON: control condition; NEFA: non-esterified fatty acids; LV-HIIE: low-volume high-intensity interval exercise; TG: triglyceride.

Supplemental Tables

Supplemental Table S1 – Post-exercise responses for glucose, insulin, insulin resistance index, triglycerides and non-esterified fatty acids during each condition in the combined study population.

	CON	LV-HIIE	CME
Primary outcome			
Glucose (mmol·L^{-1})	6.99 (6.55, 7.42)	6.82 (6.52, 7.12)	6.79 (6.46, 7.12)
Secondary outcomes			
Insulin (mU·L^{-1})	139.7 (114.5, 164.9)	95.3 (81.6, 109.0)	105.9 (90.0, 121.7)
Insulin resistance index (AU)	995 (789, 1200)	650 (542, 759)	722 (602, 842)
Triglycerides (mmol·L^{-1})	2.09 (1.93, 2.24)	2.10 (1.98, 2.23)	2.10 (1.93, 2.27)
Non-esterified fatty acids (mmol·L^{-1})	0.13 (0.11, 0.16)	0.16 (0.13, 0.18)	0.17 (0.13, 0.21)

Data presented as mean (95% confidence interval) time-averaged area under the curve; models were adjusted for age, sex and pre-exercise AUC.

Abbreviations: AU: arbitrary units; CME: continuous moderate-intensity aerobic exercise condition; CON: seated, rested control condition; LV-HIIE: low-volume high-intensity interval exercise condition.