

Supplementary table 1: Changes in secondary outcomes of physical activity for 4 valid days of wearing accelerometer at follow up between participants randomised to usual practice (control) or to the structured education intervention sessions.

	Number of participants		Mean change from baseline		Adjusted difference at follow-up ^a	
	Control (n =146)	Intervention (n = 145)	Control	Intervention	Coefficient (95% CI)	P-value
Overall physical activity (mg/day)						
6 months	117	108	0.59	0.16	-0.51 (-1.76 to 0.74)	0.424
Intensity of the most active 30 (mg/day)						
6 months	117	108	-1.91	0.98	-0.30 (-9.36 to 8.75)	0.948
12 months	131	115	-0.63	-1.99	-3.18 (-9.70 to 3.35)	0.338
MVPA (1 min bouts) (mins/day)						
6 months	117	108	4.28	1.55	-1.94 (-7.69 to 3.81)	0.507
12 months	131	115	-0.77	-2.12	-1.40 (-5.52 to 2.71)	0.503
Sedentary/inactive time per day (mins)						
6 months	115	106	-2.67	-3.94	-1.69 (-20.93 to 17.56)	0.863
12 months	128	114	3.17	6.73	4.75 (-14.81 to 24.31)	0.633
Sleep duration per night (mins)						
6 months	115	106	-0.50	1.25	3.02 (-9.56 to 15.60)	0.637
12 months	128	114	3.87	-6.27	-9.72 (-21.73 to 2.28)	0.112

CI=confidence interval. MVPA=moderate to vigorous physical activity;

^a Adjusted for stratification factors: sex and ethnicity; change from baseline in accelerometer wear time and baseline value. Participants with missing outcome data or missing variables required for the model adjustment were excluded

Supplementary table 2: Changes in Recent Physical Activity Questionnaire (RPAQ) at follow up between participants randomised to usual practice (control) or to the structured education intervention sessions.

	N participants		Mean change from baseline		Adjusted difference at follow-up	
	Control N=146	Intervention N= 145	Control	Intervention	Coefficient (95% CI)	p-value
Recent Physical Activity Questionnaire (RPAQ) ^e						
PAEE (kj/kg/d)						
6 months	128	116	-5.15	-7.62	-0.77 (-8.47 to 6.93)	0.844
12 months	140	123	-3.01	-1.15	2.80 (-4.59 to 10.19)	0.456
PAEE at home (kj/kg/d)						
6 months	128	116	-0.12	-0.31	-0.23 (-0.80 to 0.34)	0.430
12 months	140	123	0.12	0.04	-0.21 (-0.82 to 0.39)	0.489
PAEE at work (kj/kg/d)						
6 months	38	35	3.04	2.43	1.02 (-6.25 to 8.29)	0.780
12 months	44	40	4.24	-1.84	-2.03 (-8.95 to 4.89)	0.561
PAEE for transport (kj/kg/d)						
6 months	39	35	0.25	0.93	0.65 (-0.55 to 1.84)	0.282
12 months	44	41	-0.22	0.11	0.35 (-0.42 to 1.11)	0.369
PAEE for leisure (kj/kg/d)						
6 months	128	116	-5.39	-6.58	-3.02 (-9.58 to 3.55)	0.367
12 months	140	123	-3.39	0.47	2.23 (-4.78 to 9.23)	0.532
Sedentary , <=1.5 METs (h/d)						
6 months	146	145	-1.14	-1.59	-1.07 (-2.00 to -0.15)	0.023
12 months	146	145	-0.48	-1.27	-1.22 (-2.04 to -0.40)	0.004
Light PA, 1.5-2.99 METs (h/d)						
6 months	146	145	-0.44	-0.46	0.21 (-0.30 to 0.71)	0.415
12 months	146	145	0.17	-0.27	-0.19 (-0.86 to 0.49)	0.591
Moderate PA, 3.0-5.99 METs (h/d)						
6 months	146	145	-1.81	-4.03	-1.62 (-3.59 to 0.35)	0.106
12 months	146	145	-1.05	-2.12	-0.60 (-2.49 to 1.29)	0.530
Vigorous PA, >=6 METs (h/d)						
6 months	146	145	-0.32	-0.18	0.17 (-0.62 to 0.97)	0.668
12 months	146	145	-0.19	0.0004	0.24 (-0.67 to 1.15)	0.606

^a Adjusted for stratification factors: sex and ethnicity; and baseline value. Participants with missing outcome data or missing variables required for the model adjustment were excluded

^e RPAQ: PAEE=Physical Activity Energy Expenditure, PA=Physical Activity, METs = Metabolic Equivalent tasks. MVPA = mod to vigorous physical activity

Supplementary table 3: Changes in clinical measures at 12 months between participants randomised to usual practice (control) or to the structured education intervention sessions.

	Number of participants		Mean change from baseline		Adjusted difference at follow-up ^a	
	Control (n = 146)	Intervention (n = 145)	Control	Intervention	Coefficient (95% CI)	P-value
BMI (kg/m ²)	134	113	-0.12	-0.03	0.09 (-0.17 to 0.35)	0.491
Body weight (kg)	134	113	-0.12	0.02	0.14 (-0.50 to 0.78)	0.657
Waist circumference (cm)	132	112	1.73	0.56	-1.17 (-2.44 to 0.09)	0.069
Hip circumference (cm)	134	112	1.37	0.46	-1.00 (-2.29 to 0.28)	0.124
Waist to hip ratio	134	112	0.01	0.01	-0.001(-0.02 to 0.01)	0.871
Systolic BP (mm HG)	134	113	-2.78	-2.82	0.08 (-3.09 to 3.25)	0.960
Diastolic BP (mm HG)	134	113	-1.37	-2.07	-0.93 (-3.02 to 1.15)	0.379
Resting heart rate (bpm)	134	113	1.74	1.55	-0.66 (-2.62 to 1.30)	0.505
Total cholesterol (mmol/l)	135	124	-0.32	-0.28	0.06 (-0.07 to 0.19)	0.363
HDL cholesterol (mmol/l)	135	124	-0.06	-0.03	0.03 (-0.02 to 0.07)	0.238
LDL cholesterol (mmol/l)	134	122	-0.26	-0.23	0.03 (-0.08 to 0.15)	0.604
Triglycerides (mmol/l)	135	124	-0.001	0.02	0.03 (-0.12 to 0.17)	0.717
TC:HDL ratio	135	124	-0.12	-0.13	-0.004(-0.13 to 0.13)	0.953
HbA1c (%)	132	121	-0.06	-0.07	0.03 (-0.07 to 0.13)	0.539
HbA1c (mmol/mol)	132	121	-0.74	-0.60	0.46 (-0.67 to 1.59)	0.426

CI=confidence interval.

^a Adjusted for stratification factors: sex and ethnicity; and baseline value. Participants with missing outcome data or missing variables required for the model adjustment were excluded

Supplementary table 4: Changes in questionnaire outcomes at follow up between participants randomised to usual practice (control) or to the structured education intervention sessions.

	Number of participants		Mean change from baseline		Adjusted difference at follow-up ^a	
	Control n (146)	Intervention n (145)	Control	Intervention	Coefficient (95% CI)	P-value
Self-efficacy for exercise (SEE)^b						
6 months	127	110	-0.54	-0.46	0.09 (-0.41 to 0.59)	0.725
12 months	139	121	-0.04	-0.45	-0.36 (-0.79 to 0.08)	0.110
Hospital Anxiety and Depression (HADS)^c						
Anxiety						
6 months	123	105	0.57	0.50	0.10 (-0.64 to 0.83)	0.797
12 months	137	118	0.60	0.20	-0.27 (-0.99 to 0.45)	0.457
Depression						
6 months	123	111	0.69	0.66	0.05 (-0.54 to 0.64)	0.873
12 months	138	121	0.54	0.15	-0.32 (-0.94 to 0.30)	0.317
Overall						
6 months	121	105	1.23	1.14	0.05 (-1.10 to 1.20)	0.930
12 months	136	118	1.12	0.45	-0.60 (-1.79 to 0.58)	0.318
MacNew Heart Disease^d						
Emotional						
6 months	128	114	-0.22	-0.22	-0.05 (-0.23 to 0.12)	0.555
12 months	139	121	-0.17	-0.06	0.07 (-0.10 to 0.25)	0.401
Physical						
6 months	128	114	-0.29	-0.23	0.03 (-0.14 to 0.19)	0.736
12 months	139	121	-0.17	-0.16	-0.03 (-0.20 to 0.14)	0.732
Social						
6 months	128	114	-0.23	-0.18	0.01 (-0.17 to 0.19)	0.918
12 months	139	121	-0.16	-0.14	-0.01 (-0.19 to 0.17)	0.921
Overall						
6 months	128	114	-0.24	-0.21	-0.01(-0.17 to 0.15)	0.890
12 months	139	121	-0.17	-0.11	0.03 (-0.13 to 0.19)	0.702
EuroQoL EQ-5D-5L^e						
Score						
6 months	128	114	-0.05	-0.05	-0.01 (-0.04 to 0.03)	0.730
12 months	139	120	0.004	0.04	0.02 (-0.01 to 0.05)	0.200

VAS Scale						
6 months	127	114	-5.13	-3.59	0.16 (-4.29 to 4.61)	0.945
12 months	139	119	-1.58	0.35	0.53 (-2.64 to 3.70)	0.742

CI=confidence interval.

^a Adjusted for stratification factors: sex and ethnicity; and baseline value. Participants with missing outcome data or missing variables required for the model adjustment were excluded

^b SEE; SEE; Scale for all responses ranges from 0 = not confident to 10 = very confident; with higher scores indicating higher self-efficacy for exercise.

^c HADS; responses were for over the last week; scale for anxiety and depression responses range from 0 to 3; total raw scores for both anxiety and depression range from 0 to 21, 0 representing feeling normal and 21 representing anxiety or depression.

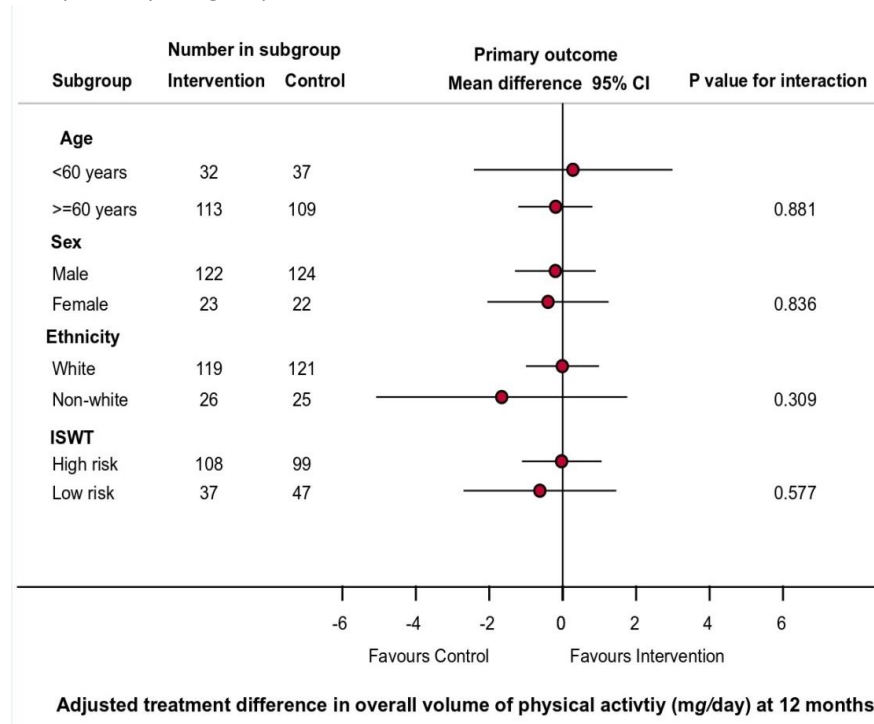
^d MacNew; responses were for over the last 2 weeks; scale for all responses in any domain ranges from 1 to 7. Item27 was not included in the physical domain. A lower score reflects a more threatening/ poor cardiac condition.

^e Higher scores indicating good health status

Supplementary table 5: All adverse events and serious adverse events reported in the PACES study by intervention group.

Category	SAEs Control (n=4)	SAEs Intervention (n=3)	Total SAEs (n=7)	AEs Control (n=88)	AEs Intervention (n=88)	Total AEs (n=176)	Related to intervention	Details
Anaemia				1	1	2		
Anxiety/ depression				2	1	3		
Bacterial infection				2	1	3		
Cardiac	2	1	3	16	19	35		
Diabetes				2	1	3		
DVT		1	1	0	0	0		
Eye				4	3	7		
Falls				2	1	3		
Flu				1	1	2		
Gastro intestinal				7	2	9		
Gout				1	0	1		
Hernia				2	1	3		
Infection				0	2	2		
Kidney				0	1	1		
Planned/ Minor operation				1	2	3		
Musculoskeletal				13	20	33	1*Possible	Ankle pain
Oedema				1	1	2		
Prostate				1	2	3		
Respiratory				4	7	11		
Routine operation/ investigation	1		1	3	7	10		
Skin infection/ irritation				5	3	8	1*Possible	Reaction to GENEActiv watch strap
Thyroid				1	1	2		
Urinary tract				5	2	7		
Passed away	1	1	2	0	0	0		
other				14	9	23		
Total	4	3	7	88	88	165		

Supplementary Figure 1: Forest plot of the effect of the intervention at 12 months on the primary end point by subgroups



CI Confidence Interval ; ISWT Incremental Shuttle Walk Test ISWT (< 140 High Risk ISWT ≥ 140 Low Risk)
 Based on a complete case analysis, including participants who have worn the accelerometer for minimum of four valid days. Adjusted for overall level of physical activity (mg), stratification categories (sex and ethnicity) and change from baseline in accelerometer in wear time