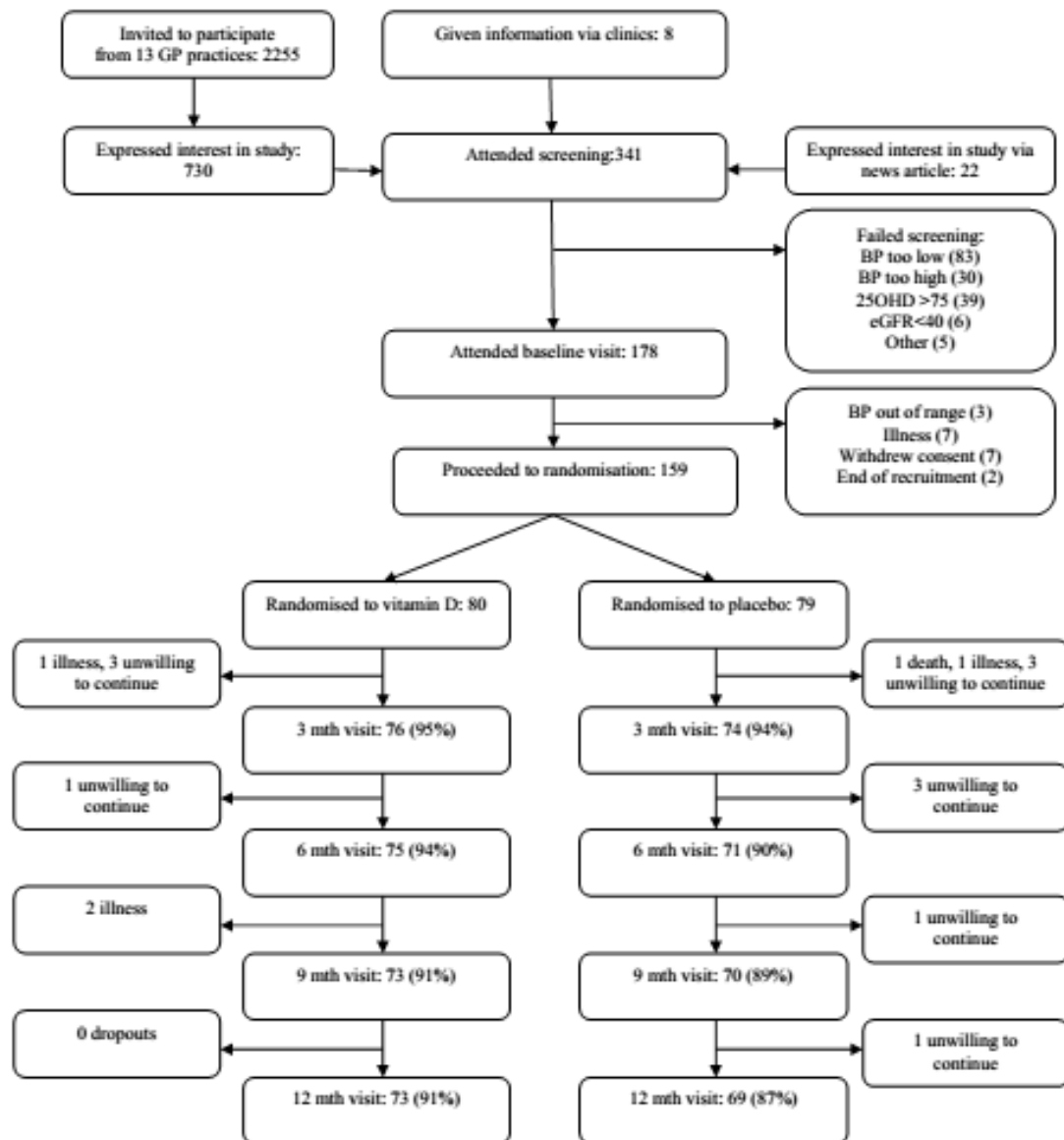


Participant flow



Baseline characteristics

	Vitamin D (n=80)	Placebo (n=79)
Age (yrs) (SD)	76.9 (4.8)	76.7 (4.5)
Male Sex (%)	40 (50)	42 (53)
Body Mass Index (Kg/m ²) (SD)	28.5 (5.0)	27.9 (4.5)
Myocardial infarction (%)	5 (6)	5 (6)
Angina/PTCA/CABG (%)	20 (25)	17 (22)
Peripheral vascular disease (%)	5 (6)	7 (9)
Diabetes mellitus (%)	11 (14)	11 (14)
Stroke/Transient ischaemic attack (%)	10 (12)	8 (10)
Median number of medications (IQR)	4 (3 to 6)	5 (3 to 8)
Median number of antihypertensive medications (IQR)	2 (1 to 2)	2 (1 to 2.5)
Renin-angiotensin-aldosterone system blockers (%)	41 (51)	50 (63)
Beta blockers (%)	23 (29)	26 (33)
Calcium channel blockers (%)	32 (40)	35 (44)
Diuretics (%)	37 (46)	31 (39)
Statins (%)	41 (51)	46 (58)
25-hydroxyvitamin D level (nmol/L) (SD)	44 (16)	45 (15)
Parathyroid hormone (pmol/L) (SD)	5.3 (2.9)	5.3 (1.9)
Serum adjusted calcium (mmol/L) (SD)	2.30 (0.07)	2.31 (0.08)
Creatinine (umol/L) (SD)	82 (20)	81 (22)
Office systolic blood pressure (mmHg) (SD)	163 (11)	162 (10)
Office diastolic blood pressure (mmHg) (SD)	78 (7)	77 (8)
Mean daytime systolic BP (mmHg) (SD)	136 (11)	133 (11)
Mean daytime diastolic BP (mmHg) (SD)	71 (9)	67 (12)
Pulse wave velocity (m/s) (SD)	8.8 (1.2)	8.7 (1.2)
Flow mediated dilatation of brachial artery (%) (SD)	5.1 (2.7)	5.1 (2.7)
Total cholesterol (mg/dL) (SD)	189 (46)	193 (42)
LDL cholesterol (mg/dL) (SD)	108 (39)	108 (39)
HDL cholesterol (mg/dL) (SD)	62 (15)	62 (15)
Triglycerides (mg/dL) (SD)	115 (53)	115 (62)
Glucose (mg/dL) (SD)	54 (13)	54 (16)
HOMA IR index (SD)	5.5 (4.0)	4.5 (3.7)
Median B-type natriuretic peptide (pg/ml) (IQR)	21 (11 to 68)	44 (21 to 90)
Median C reactive protein (mg/L) (IQR)	2.0 (1.0 to 4.2)	1.5 (0.8 to 3.4)
Six minute walk distance (m) (SD)	398 (94)	402 (105)

Daily mean calcium intake (mg) (SD)	1127 (407)	1123 (372)
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LDL: Low density lipoprotein

HDL: High density lipoprotein

HOMA-IR: Homeostatic measure of Insulin Resistance

PTCA: Percutaneous transluminal coronary angioplasty

CABG: Coronary artery bypass grafting

Outcome measures

a) Office blood pressure

	Office systolic blood pressure (mmHg)				Office diastolic blood pressure (mmHg)			
	Vitamin D (SD)	Placebo (SD)	Unadjusted treatment effect (95% CI)	Adjusted treatment effect (95% CI)*	Vitamin D (SD)	Placebo (SD)	Unadjusted treatment effect (95% CI)	Adjusted treatment effect (95% CI)*
Baseline	163 (11)	162 (10)	-	-	78 (7)	77 (8)	-	-
3 mths	161 (15)	161 (16)	-1 (-6 to 4)	-1 (-6 to 3)	77 (8)	78 (9)	-2 (-4 to 1)	-2 (-4 to 1)
6 mths	161 (16)	159 (16)	1 (-3 to 6)	1 (-3 to 6)	78 (9)	77 (9)	1 (-2 to 3)	1 (-2 to 3)
9 mths	164 (16)	161 (16)	3 (-2 to 7)	3 (-2 to 7)	78 (9)	77 (8)	1 (-2 to 3)	1 (-1 to 3)
12 mths	163 (18)	160 (15)	2 (-3 to 6)	2 (-3 to 7)	78 (9)	76 (8)	1 (-1 to 4)	2 (-1 to 4)
Overall treatment effect (95% CI)			1 (-2 to 4)	1 (-2 to 4)	Overall treatment effect (95% CI)		0 (-2 to 2)	0 (-2 to 2)
P for group x time interaction			0.58	0.54	P for group x time interaction		0.06	0.03

Bold: Primary outcome

*Adjusted for baseline value of variable, age, 25-hydroxyvitamin D level, diabetes, systolic blood pressure, thiazide and statin use

b) Ambulatory blood pressure

	Daytime ambulatory systolic blood pressure (mmHg)				Daytime ambulatory diastolic blood pressure (mmHg)			
	Vitamin D (SD)	Placebo (SD)	Unadjusted treatment effect (95% CI)	Adjusted treatment effect (95% CI)*	Vitamin D (SD)	Placebo (SD)	Unadjusted treatment effect (95% CI)	Adjusted treatment effect (95% CI)*
Baseline	136 (11)	133 (11)	-	-	69 (8)	68 (9)	-	-
3 mths	135 (11)	134 (9)	-1 (-4 to 2)	-1 (-4 to 2)	68 (8)	69 (8)	-1 (-3 to 1)	-1 (-2 to 1)
6 mths	134 (10)	132 (12)	-1 (-4 to 3)	0 (-4 to 3)	68 (8)	68 (9)	0 (-2 to 2)	1 (-1 to 2)
9 mths	136 (12)	132 (10)	1 (-2 to 4)	1 (-2 to 5)	68 (8)	68 (9)	0 (-2 to 2)	0 (-2 to 2)
12 mths	135 (12)	133 (12)	1 (-2 to 4)	1 (-2 to 5)	69 (9)	68 (9)	1 (-1 to 3)	1 (-1 to 3)
Overall treatment effect (95% CI)			0 (-3 to 2)	0 (-2 to 2)	Overall treatment effect (95% CI)		0 (-2 to 1)	0 (-1 to 2)
P for group x time interaction			0.46	0.36	P for group x time interaction		0.58	0.45

*Adjusted for baseline value of variable, age, 25-hydroxyvitamin D level, diabetes, systolic blood pressure, thiazide and statin use

c) Secondary outcomes – treatment effects at each timepoint

Outcome	3 mths (95% CI)	6 mths (95% CI)	9 mths (95% CI)	12 mths (95% CI)	Overall treatment effect (95% CI)*
25OHD (nmol/L)	11.9 (6.0 to 17.9)	18.2 (12.2 to 24.3)	22.5 (16.3 to 28.6)	19.6 (13.5 to 25.7)	17.4 (12.3 to 22.6)
PTH (pmol/L)	-0.2 (-0.7 to 0.3)	-0.5 (-1.1 to 0.0)	-0.3 (-0.8 to 0.2)	-0.4 (-0.8 to 0.1)	-0.4 (-0.7 to 0.0)
FMD (%)	0.0 (-0.9 to 0.9)	ND	ND	-0.7 (-1.7 to 0.2)	-0.4 (-1.1 to 0.4)
Pulse wave velocity (m/s)	-0.1 (-0.5 to 0.3)	ND	ND	-0.2 (-0.6 to 0.2)	-0.2 (-0.5 to 0.2)
Total cholesterol (mmol/L)	-0.1 (-0.2 to 0.1)	0.0 (-0.2 to 0.2)	-0.1 (-0.3 to 0.1)	-0.1 (-0.3 to 0.1)	-0.1 (-0.2 to 0.1)
LDL cholesterol (mmol/L)	0.0 (-0.2 to 0.1)	0.0 (-0.2 to 0.2)	0.0 (-0.2 to 0.1)	-0.1 (-0.3 to 0.0)	-0.1 (-0.2 to 0.1)
HDL cholesterol (mmol/L)	0.0 (0.0 to 0.1)	0.0 (-0.1 to 0.1)	0.0 (-0.1 to 0.1)	0.0 (-0.1 to 0.0)	0.0 (-0.1 to 0.0)
Triglycerides (mmol/L)	-0.1 (-0.2 to 0.1)	0.0 (-0.1 to 0.1)	0.0 (-0.2 to 0.1)	0.0 (-0.2 to 0.1)	0.0 (-0.1 to 0.1)
Fasting glucose (mmol/L)	0.0 (-0.2 to 0.2)	ND	ND	0.0 (-0.2 to 0.2)	0.0 (-0.2 to 0.1)
BNP (pg/ml)	3 (-27 to 32)	ND	ND	35 (5 to 65)	18 (-5 to 41)
HOMA-IR	-0.4 (-1.3 to 0.4)	ND	ND	0.0 (-1.1 to 1.1)	-0.2 (-1.0 to 0.6)
CRP (mg/L)	-0.5 (-3.0 to 2.0)	ND	ND	1.3 (-1.2 to 3.8)	0.4 (-1.7 to 2.5)

*Adjusted for baseline value of variable, age, 25-hydroxyvitamin D level, diabetes, systolic blood pressure, thiazide and statin use

ND: Not done. FMD: Flow mediated dilatation. HOMA: C-reactive protein LDL: Low density lipoprotein. HDL: High density lipoprotein

Adverse events

Event category	Vitamin D (n=80)	Placebo (n=79)
Nausea/vomiting	35	26
Constipation	13	13
Diarrhoea	16	22
Dyspepsia	7	8
Loin pain / dysuria	4	3
Coronary vascular event*	2	2
Infection	17	25
New malignancy	2	4
Stroke / transient ischaemic attack	3	1
All adverse events	220	235
Deaths	0	1

*Myocardial infarction, acute coronary syndrome or coronary revascularisation