

Supplementary Data

Metabolic Syndrome, Diabetes, Poor Cognition, and Dementia in the Caerphilly Prospective Study

Samuel T. Creavin^a, John Gallacher^b, Antony Bayer^c, Mark Fish^d, Shah Ebrahim^e and Yoav Ben-Shlomo^{a,*}

^a*University of Bristol, School of Social and Community Medicine, Canynge Hall, Bristol, UK*

^b*Department of Primary Care and Public Health, Neuadd Meirionnydd, Heath Park, Cardiff, UK*

^c*Section of Geriatric Medicine, Cardiff University School of Medicine, Academic Centre, University Hospital Llandough, Cardiff, UK*

^d*Department of Neurology, Musgrove Park Hospital, Taunton, Somerset, UK*

^e*London School of Hygiene and Tropical Medicine, London, UK*

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*Correspondence to: Yoav Ben-Shlomo, University of Bristol, School of Social and Community Medicine, Canynge Hall, 39 Whatley Road, Bristol, BS8 2PS, United Kingdom. Tel.: +44 (0)117 928 7279; Fax: +44 (0)117 928 7325; E-mail: Y.Ben-Shlomo@bristol.ac.uk.

Table 1
Regression coefficients * (and 95% CI) for metabolic syndrome (NCEP ATP3 definition) † not diabetes, diabetes ‡ and cognitive outcomes at phase 5

Exposure	Model	Clinical outcomes: odds ratio (95% confidence interval)		Neuropsychological tests: beta coefficients (95% confidence interval)	
		CIND	Dementia	AH4	CAMCOG
Phase 1 (n = 995)					
Metabolic syndrome† (not diabetes‡)	1	0.94 (0.53, 1.67)	0.62 (0.26, 1.53)	-0.78 (-2.86, 1.30)	0.73 (-1.74, 3.21)
	2	0.87 (0.43, 1.77)	0.74 (0.29, 1.89)	0.02 (-1.60, 1.64)	0.32 (-1.75, 2.39)
Diabetes‡ (±metabolic syndrome †)	1	5.14 (2.21, 11.95)	1.19 (0.24, 5.75)	-5.61 (-10.08, -1.14)	-2.69 (-7.82, 2.44)
	2	4.04 (1.40, 11.63)	0.59 (0.07, 5.22)	-4.26 (-7.83, -0.69)	0.04 (-4.49, 4.57)
Phase 2 (n = 1131)					
Metabolic syndrome† (not diabetes‡)	1	1.18 (0.81, 1.73)	1.59 (0.97, 2.60)	-1.98 (-3.36, -0.59)	-0.39 (-2.04, 1.27)
	2	1.05 (0.69, 1.61)	1.54 (0.89, 2.66)	-0.75 (-1.80, 0.31)	0.05 (-1.41, 1.51)
Diabetes‡ (±metabolic syndrome †)	1	2.18 (1.17, 4.06)	1.10 (0.40, 3.05)	-5.85 (-8.75, -2.95)	-1.77 (-5.11, 1.58)
	2	1.63 (0.80, 3.35)	0.74 (0.23, 2.39)	-2.76 (-5.00, -0.51)	-0.05 (-3.06, 2.95)
Phase 3 (n = 1109)					
Metabolic syndrome† (not diabetes‡)	1	0.97 (0.67, 1.41)	1.24 (0.76, 2.02)	-0.26 (-1.59, 1.07)	-0.59 (-2.14, 0.96)
	2	0.86 (0.57, 1.30)	1.15 (0.67, 1.99)	0.73 (-0.29, 1.74)	0.34 (-1.05, 1.74)
Diabetes‡ (±metabolic syndrome †)	1	1.19 (0.65, 2.19)	1.03 (0.44, 2.39)	-3.86 (-6.29, -1.43)	-2.51 (-5.26, 0.24)
	2	0.84 (0.41, 1.69)	0.86 (0.34, 2.20)	-2.02 (-3.85, -0.19)	-0.62 (-3.08, 1.85)

*Model 1 adjusted for age at exposure used continuously. Model 2 additionally adjusted for confounders (social class, smoking, alcohol, C3 NART). Max n given. In both models reference group is normal (neither metabolic syndrome nor diabetes); †according to [2]; ‡According to self report or [24].

Table 2
Regression coefficients (and 95% CI) for individual components of metabolic syndrome and cognitive outcomes at phase 5 in men without diabetes*

Exposure	Clinical outcomes: odds ratio (95% confidence interval)		Neuropsychological tests: beta coefficients (95% confidence interval)	
	CIND	Dementia	AH4	CAMCOG
Phase 1 (n = 779)†				
Systolic blood pressure (10 mmHg)‡	0.82 (0.67, 1.00)	1.06 (0.85, 1.31)	-0.42 (-0.86, 0.02)	-0.20 (-0.76, 0.36)
Diastolic blood pressure (10 mmHg)‡	1.17 (0.86, 1.58)	1.03 (0.73, 1.45)	-0.29 (-0.95, 0.38)	-0.01 (-0.87, 0.85)
Fasting plasma glucose (mmol/L)	1.99 (0.23, 16.92)	0.68 (0.05, 9.06)	-0.95 (-5.97, 4.07)	-0.06 (-6.63, 6.51)
Fasting triglycerides (mmol/L)	1.18 (0.74, 1.87)	0.75 (0.42, 1.33)	0.29 (-0.80, 1.37)	-0.52 (-1.95, 0.90)
Fasting HDL cholesterol (mmol/L)	0.55 (0.27, 1.12)	0.79 (0.33, 1.88)	1.48 (-0.08, 3.04)	0.95 (-1.1, 3.01)
Body Mass Index (kg/m ²)	0.97 (0.9, 1.05)	0.96 (0.86, 1.07)	0.02 (-0.17, 0.21)	0.03 (-0.21, 0.28)
Phase 2 (n = 965)†				
Systolic blood pressure (10 mmHg)‡	1.02 (0.89, 1.16)	1.09 (0.92, 1.29)	-0.18 (-0.5, 0.15)	-0.53 (-0.96, -0.10)
Diastolic blood pressure (10 mmHg)‡	1.12 (0.87, 1.43)	0.97 (0.70, 1.34)	-0.17 (-0.77, 0.44)	0.44 (-0.37, 1.24)
Fasting plasma glucose (mmol/L)	1.60 (0.18, 14.21)	1.23 (0.08, 19.46)	-0.82 (-6.23, 4.59)	3.17 (-3.94, 10.28)
Fasting triglycerides (mmol/L)	0.88 (0.56, 1.39)	1.08 (0.60, 1.94)	-0.01 (-1.13, 1.11)	0.60 (-0.87, 2.08)
Fasting HDL cholesterol (mmol/L)	0.37 (0.15, 0.97)	0.68 (0.21, 2.25)	0.65 (-1.61, 2.92)	0.61 (-2.42, 3.64)
Body Mass Index (kg/m ²)	0.97 (0.91, 1.04)	0.96 (0.87, 1.05)	0.03 (-0.14, 0.20)	0.00 (-0.23, 0.22)
Phase 3 (n = 924)†				
Systolic blood pressure (10 mmHg)‡	1.05 (0.92, 1.19)	1.20 (1.01, 1.42)	-0.40 (-0.72, -0.08)	-0.55 (-0.98, -0.13)
Diastolic blood pressure (10 mmHg)‡	0.92 (0.72, 1.16)	0.86 (0.63, 1.19)	0.36 (-0.22, 0.94)	0.74 (-0.04, 1.53)
Fasting plasma glucose (mmol/L)	4.98 (0.58, 42.84)	2.39 (0.15, 39.07)	-1.98 (-7.21, 3.24)	-0.98 (-7.98, 6.02)
Fasting triglycerides (mmol/L)	1.22 (0.81, 1.83)	0.98 (0.56, 1.71)	0.11 (-0.92, 1.15)	-0.02 (-1.40, 1.36)
Body Mass Index (kg/m ²)	0.98 (0.91, 1.05)	0.95 (0.87, 1.05)	0.01 (-0.15, 0.18)	0.14 (-0.08, 0.37)
Average values (n = 1031)				
Systolic blood pressure (10 mmHg)‡	1.00 (0.85, 1.17)	1.20 (0.97, 1.48)	-0.37 (-0.77, 0.02)	-0.88 (-1.42, -0.34)
Diastolic blood pressure (10 mmHg)‡	1.05 (0.77, 1.42)	0.88 (0.60, 1.30)	-0.18 (-0.91, 0.54)	0.82 (-0.19, 1.82)
Fasting plasma glucose (mmol/L)	0.94 (0.75, 1.18)	0.84 (0.61, 1.15)	-0.28 (-0.88, 0.32)	0.00 (-0.79, 0.79)
Fasting triglycerides (mmol/L)	1.08 (0.89, 1.31)	1.00 (0.74, 1.36)	0.00 (-0.5, 0.51)	0.05 (-0.65, 0.74)
Fasting HDL cholesterol (mmol/L)	0.47 (0.18, 1.24)	0.90 (0.26, 3.13)	-0.16 (-2.46, 2.14)	-0.14 (-3.35, 3.06)
Body Mass Index (kg/m ²)	0.98 (0.92, 1.04)	0.98 (0.89, 1.07)	0.01 (-0.15, 0.18)	0.06 (-0.17, 0.28)

*components according to WHO definition [3]. Adjusted for age at exposure used continuously, all other components and confounders (social class, smoking, alcohol, C3 NART). Max n given. Men with diabetes self report or [24] excluded; †max n, size for each regression varies; ‡for blood pressure the coefficient is for a 10 unit increase.