

Online supplement

**ETHNIC DIFFERENCES IN ASSOCIATIONS BETWEEN BLOOD PRESSURE AND
STROKE IN SOUTH ASIAN AND EUROPEAN MEN**

Running title: BP and stroke in South Asians and Europeans

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Table S1. Hypertension control at follow-up clinic (2008-2011) in European and South Asian men. SBP=systolic blood pressure, DBP= diastolic blood pressure. Data are n(%) or mean±SD. *Diabetes vs. no diabetes p<0.05, †p value for ethnic difference in all participants, ‡p value for ethnic difference in those without diabetes, §p value for ethnic difference in those with diabetes.

BP treatment/ measure	Europeans			South Asians			p†	p‡	p§
	All	No diabetes	Diabetes	All	No diabetes	Diabetes			
On anti-hypertensive medication	299(56)	212(50)	87(84)*	347(78)	174(70)	173(89)*	<0.001	<0.001	0.30
+ BP≤140/90 mmHg	156(52)	113(53)	43(49)	161(47)	77(45)	84(49)	0.15	0.09	0.90
SBP, mmHg	140 ±17	140±17	140±17	143±18	142±17	144±20	0.05	0.30	0.11
DBP, mmHg	76 ±10	77±10	76±10	75 ±10	75±10	74±10	0.04	0.18	0.20

Table S2. Associations between blood pressure measures and incident stroke in men

without baseline diabetes. Participants are men not in receipt of baseline anti-hypertensive medication. Data are odds ratios (OR) for a 1SD increase in BP measure unless otherwise stated, *p<0.05, †p<0.01, ‡p<0.001, §p for ethnicity x BP interaction. ||Cardiovascular disease (CVD) risk factors comprise: smoking, WHR, total/ HDL- cholesterol ratio, diabetes, fasting glucose, physical activity and heart rate. SBP=systolic blood pressure, DBP=diastolic blood pressure, MAP= mean arterial blood pressure PP=pulse pressure.

BP measure	Model factors	Europeans		South Asians		
		OR	95% CI	OR	95% CI	p§
SBP	Age	1.25	1.01,1.53*	1.72	1.34,2.20‡	0.08
	Age + CVD risk factors	1.28	1.03,1.61*	1.66	1.25,2.19‡	0.13
DBP	Age	0.91	0.73,1.13	1.95	1.50,2.54‡	<0.001
	Age + CVD risk factors	0.90	0.71,1.15	1.85	1.37,2.50‡	<0.001
MAP	Age	1.05	0.85,1.30	1.89	1.47,2.43‡	0.001
	Age + CVD risk factors	1.07	0.84,1.35	1.81	1.36,2.42‡	0.001
PP	Age	1.47	1.20,1.81‡	1.28	0.97,1.70	0.35
	Age + CVD risk factors	1.49	1.20,1.85‡	1.27	0.94,1.73	0.28

Table S3. Associations between blood pressure and incident stroke, accounting for time-varying effects of diabetes diagnosis, by ethnicity. Participants are men not in receipt of baseline anti-hypertensive medication. Data are odds ratios (OR) for a 1SD increase in BP measure, *p<0.05, †p<0.01, ‡p<0.001, §p for ethnicity x BP interaction. The time-varying covariate for diabetes diagnosis was categorised as follows: no diabetes ever, diabetes diagnosed after 2009, diabetes diagnosed between 1999 and 2008, diabetes diagnosed between 1988 and 1998, baseline diabetes. SBP=systolic blood pressure, DBP=diastolic blood pressure, MAP= mean arterial blood pressure PP=pulse pressure.

BP measure	Model factors	Europeans		South Asians		p§
		OR	95% CI	OR	95% CI	
SBP	Age	1.21	1.00,1.47*	1.63	1.34,1.97‡	0.04
	Age + diabetes (time-varying)	1.22	0.98,1.52	1.46	1.16,1.85†	0.10
DBP	Age	0.91	0.74, 1.13	1.64	1.33,2.03‡	<0.001
	Age + diabetes (time-varying)	0.95	0.76, 1.19	1.57	1.21,2.03‡	0.004
MAP	Age	1.04	0.85, 1.28	1.69	1.38, 2.08‡	0.001
	Age + diabetes (time-varying)	1.07	0.86,1.34	1.59	1.38,2.03‡	0.009
PP	Age	1.39	1.15, 1.68†	1.35	1.10, 1.64†	0.73
	Age + diabetes (time-varying)	1.37	1.11,1.68†	1.18	0.94,1.48	0.92

Table S4. Associations between blood pressure and incident stroke, by age group.

Excludes participants with baseline stroke or receipt of anti-hypertensive medication.

Data are odds ratios (OR) for a 1SD increase in BP measure unless stated, *p<0.05, †p<0.01,

‡p<0.001, §p for age group x BP interaction, ||p for ethnicity x BP interaction. ¶CVD risk

factors comprise: smoking, WHR, total/ HDL- cholesterol ratio, diabetes, fasting glucose,

physical activity, heart rate. SBP=systolic blood pressure, DBP=diastolic blood pressure,

MAP= mean arterial blood pressure PP=pulse pressure.

BP measure	Model factors	Europeans			South Asians			
		OR	95% CI	p§	OR	95% CI	p	p§
<i>a) <55 year, events/N: Europeans 46/823, South Asians 59/768</i>								
SBP	Age	1.02	0.72,1.43	0.25	1.74	1.34,2.27‡	0.02	0.36
	+ CVD risk factors¶	1.04	0.71,1.53	0.54	1.58	1.16,2.16†	0.03	0.49
DBP	Age	0.99	0.73,1.34	0.42	1.74	1.33,2.28‡	0.006	0.43
	+ CVD risk factors¶	1.05	0.75,1.47	0.19	1.60	1.16,2.21†	0.02	0.80
MAP	Age	1.00	0.73,1.36	0.80	1.79	1.38,2.33‡	0.005	0.44
	+ CVD risk factors¶	1.05	0.74,1.49	0.73	1.65	1.21,2.27†	0.01	0.66
PP	Age	1.04	0.71,1.52	0.10	1.37	1.04,1.80*	0.27	0.74
	+ CVD risk factors¶	1.00	0.66, 1.52	0.12	1.27	0.93,1.73	0.21	0.68
SBP	Age	1.07	0.63,1.78	0.08	1.40	0.94,2.08	0.44	0.59
DBP	Age	0.95	0.61,1.51	0.008	1.35	0.91,2.01	0.24	0.84
SBP	+ CVD risk factors¶	1.00	0.56,1.77	0.15	1.32	0.86,2.03	0.34	0.69
DBP	+ CVD risk factors¶	1.05	0.63,1.73	0.09	1.31	0.84,2.04	0.42	0.90
MAP	Age	0.99	0.71,1.37	0.65	1.76	1.31,2.36*	0.01	0.47
PP	Age	1.05	0.71,1.37	0.49	1.05	0.76,1.45	0.96	0.73
MAP	+ CVD risk factors¶	1.05	0.73,1.53	0.34	1.63	1.15,2.31†	0.03	0.85
PP	+ CVD risk factors¶	0.98	0.64,1.52	0.47	1.03	0.73,1.46	0.83	0.51
<i>b) ≥55 years, events /N: Europeans 58/553, South Asians 43/306</i>								
SBP	Age	1.34	1.05,1.70*	-	1.48	1.10,1.98†	0.62	-
	+ CVD risk factors¶	1.33	1.02,1.74*	-	1.56	1.11,2.21†	0.40	-
DBP	Age	0.84	0.63,1.12	-	1.44	1.02,2.04*	0.02	-
	+ CVD risk factors¶	0.78	0.56,1.08	-	1.87	1.22,2.87†	0.004	-
MAP	Age	1.07	0.82,1.40	-	1.52	1.10,2.10*	0.10	-
	+ CVD risk factors¶	1.13	0.58,2.23	-	1.81	1.22,2.68†	0.03	-

PP	Age	1.58	1.26,1.99‡	-	1.33	1.00,1.77*	0.36	-
	+ CVD risk factors¶	1.63	1.27,2.11‡	-	1.24	0.89,1.73	0.42	-
SBP	Age	1.94	1.41,2.67‡	-	1.39	0.94,2.07	0.23	-
DBP	Age	0.51	0.36,0.75†	-	1.11	0.69,1.77	0.01	-
SBP	+ CVD risk factors¶	2.03	1.42,2.93‡	-	1.21	0.77,1.92	0.24	-
DBP	+ CVD risk factors¶	0.47	0.31,0.72‡	-	1.61	0.92,2.81	0.005	-
MAP	Age	0.77	0.56,1.80	-	1.41	0.96,2.07	0.02	-
PP	Age	1.76	1.35,2.31‡	-	1.13	0.81,1.58	0.05	-
MAP	+ CVD risk factors¶	0.75	0.51,1.03	-	1.92	1.20,3.07†	0.005	-
PP	+ CVD risk factors¶	1.87	1.39,2.54‡	-	0.92	0.62,1.36	0.03	-