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A comparison of cardiovascular risk factors in smokers and non-smokers

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Cigarette smoking is an independent risk factor for CVD that is estimated to account for 20 and 3% of all cardiovascular mortalities in men and women respectively⁽¹⁾. Studies have shown smokers make poor choices in relation to diet and lifestyle⁽²⁾. As such smokers might be expected to show a less-favourable profile in relation to other CVD risk factors than non-smokers.

The aim of the present study was to compare CVD risk factors in apparently-healthy adult smokers and non-smokers. Male and female smokers and age-matched non-smokers (*n* 197; 112 males and eighty-five females) provided a fasting blood sample. Serum glucose, C-reactive protein (CRP), TAG, total cholesterol and HDL-cholesterol were measured and LDL-cholesterol was calculated. Anthropometric measurements including height, weight and waist circumference (WC) were also measured and BMI was calculated. Data for men and women were analysed separately.

	Males				Females			
	Smokers (<i>n</i> 68)		Non-smokers (<i>n</i> 43)		Smokers (<i>n</i> 44)		Non-smokers (<i>n</i> 41)	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Age (years)	30.2	6.26	31.2	5.92	27.7	8.39	27.7	7.58
BMI (kg/m ²)	25.9	3.16	27.1	3.66	25.4	3.47	24.4	3.60
WC (cm)	93.3	10.6	90.9	9.40	84.9	9.80	78.1*	14.9
Glucose (mmol/l)	5.37	0.54	5.36	0.48	5.14	5.14	5.17	5.17
TAG (mmol/l)	1.69	1.40	1.13*	0.53	1.19	0.68	0.98	0.38
Total cholesterol (mmol/l)	4.90	1.00	4.76	1.1	4.65	1.04	4.48	0.92
HDL-cholesterol (mmol/l)	1.35	0.28	1.31	0.33	1.69	0.30	1.50*	0.30
LDL-cholesterol (mmol/l)	2.78	0.92	2.94	0.95	2.42	0.92	2.60	0.84
LDL:HDL	2.12	0.77	2.37	0.92	1.47	0.59	1.81*	0.71
CRP (mg/l)	1.93	2.58	1.41	1.8	2.41	3.38	2.03	1.96

Values were significantly different from those for smokers (independent *t* test): **P* ≤ 0.05.

In men there was no significant difference in BMI and WC between smokers and non-smokers. Females who smoked had a higher WC than non-smokers; however, BMI did not differ between the two groups. TAG concentration was higher in male smokers compared with non-smokers; an effect not seen in women. Women who smoked had a higher HDL-cholesterol concentration and a lower LDL:HDL than non-smokers, suggestive of a more favourable lipid profile. Overall, it appears that smokers aged 20–44 years do not have an unfavourable risk profile in terms of traditional CVD risk factors, including plasma lipids, CRP and BMI. It is speculated that continued smoking will impact negatively on these markers in the longer term; however, this notion requires further investigation.

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