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A pilot study to examine the nutrient intake among people living within Portsmouth and surrounding areas

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Cardiovascular disease (CVD) is a leading health issue in UK. Portsmouth city shows higher CVD mortality than the average values reported for England.[1] Risk factors of CVD such as smoking is estimated to be ~27% of the population which is significantly higher than the estimated proportion of ~22% for England. Adult obesity, another risk factor for CVD is however lower in Portsmouth i.e. 22.6% *vs* an average of 24.2% for England. Age and gender are well known risk factors for CVD risk with male gender and age >40 years increasing the risk further.

The present study was conducted to examine whether individuals living within the Portsmouth and surrounding areas were following the Department of Health guidelines for nutrient intake. Ethical approval for the study was obtained from the School of Pharmacy and Biomedical Sciences Ethics committee and all participants provided an informed consent for the study. Diet records of 60 participants (30 male:30 female) age range 19 to 68 years were examined for their nutrient intake. Participants were divided in the age groups <25 years, 26–44 and >45 years and were asked to complete their diet record for 4–7 days. Most participants provided data for 7 days, however few completed the diet sheets for 4 days which included atleast one day in the weekend. Nutrient intake was analysed with the CompEat programme.

	All age groups				Age < 25 yrs				Age 26–44 yrs				Age > 45 yrs			
	F (30)		M (30)		F (9)		M (11)		F (12)		M (8)		F (9)		M (11)	
	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
BMI	20	0.5	[a]23	0.5	21	1.0	22	0.8	18.6	0.5	[a]23	0.7	28	1	24	0.9
Energy [Kcal/d]	1303	82	[a]1829	94	1324	140	1680	122	1499	131	1789	189	1021	115	[a]2008	176
%Fat	39	1	42	1	38	1	40	2	39	2	43	2	40	2	43	2
%Carbs	43	1	40	1	46	1	43	2	43	2	39	3	40	3	38	1
%Protein	17	1	17	1	15	0.5	16	1	16	1	17	1	19	2	17	1
Chol (mg/d)	180	20	[b]277	27	168	38	204	27	211	30	317	69	148	39	[b]319	42
Protein [g/d]	53	3.6	[a]77	5	50	5	[c]66	4	58	6	77	11	49	8	[b]87	9
Total Fat [g/d]	58	3.6	[b]86	5	59	8	76	7	68	8	86	11	44	5	[a]97	10
Sat. Fat [g/d]	18	1.7	[a]28	2	18	3	25	3	22	3	29	4	11	2	[a]31	4
PUFA [g/d]	12	1.0	[b]16	1	12	1	16	2	13	2	17	3	11	1	[c]16	2
MUFA [g/d]	17	1.4	[a] 27	2	18	3	23	2	20	2	26	4	13	2	[a]30	3
Carbs [g/d}	145	8	[a]191	8	155	13	191	14	165	11	181	17	110	15	[a]198	15
Fibre [g/d]	7.5	0.4	8.7	0.4	8.1	1.1	8.7	0.8	8.1	0.5	8.5	0.5	6.1	0.7	[b]8.8	0.5

Values shown are Mean nutrient intake for F, female and M, male in different age groups. Within each group male and female were compared using the Independent t-test with significance set at $p<0.05$ where superscript [a] refers to $P<0.001$, [b] refers to $P<0.01$ and [c]is for $P<0.05$.

Present study has highlighted that % energy from fat is high in both gender i.e ~40% energy from fat. This is higher than the Department of Health recommendations which states that including alcohol fat should contribute only 33% of the total energy intake and excluding alcohol it should not exceed 35%. It is however noteworthy that both gender consumed saturated fat close to the maximum recommendations made by the British Dietetic Association, i.e 30 g/d for men and 20 g/d for women. Results also show that protein intake is significantly higher than the recommended 55.5 g/d for men and 45 g for women. Further investigations with a larger cohort are warranted to confirm the findings of this pilot study.

1. South East Public Health Observatory, 2011, www. Sepho.org.uk.