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Impact of dietary practices on metabolic health in Omani adults

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The Sultanate of Oman, like many Arab Gulf countries, has experienced rapid changes in diet and lifestyle as a result of globalization, urbanization and economic growth. In 2014, the World Health Organization (WHO) estimated that non-communicable diseases (NCDs) accounted for 68 % of deaths in Oman¹. Cardiovascular disease, diabetes and other NCDs accounted for 33 %, 10 % and 13 % of deaths respectively. Obesity, a risk factor many NCDs, has been estimated to affect 19.4 % of male and 25.9 % of female adults, aged 20 years and above, in Oman². In spite of the prevalence of chronic diseases, there is a dearth of information about the current dietary practices and physical activity among Omani adults. The present study aimed to; assess food choices and dietary intake of Omani adults across all Governorates and to explore the prominent sources of energy in the diet. In order to assess these variables, a survey study was conducted on 500 healthy adults, aged (18–60 years), living in Oman during the period from December 2013 to April 2014. The study was approved by the University of Nottingham Medical School Ethics Committee and a questionnaire was designed and piloted to ensure it was culturally appropriate to the study population. Trained health educators from all Omani Governorates were recruited to administrate and distribute the questionnaires. Eligible participants completed questionnaires, specifically designed for this study, which included demographic data and 3-day dietary assessment. Collected data were statistically analysed by ANOVA.

	Male		Female	
	18–30y	31–60y	18–30y	31–60y
BMI (kg/m ²)	26 ± 5	28 ± 6	23 ± 5	28 ± 6
Total energy (kcal/d)	2353 ± 592	2360 ± 549	2145 ± 516	2188 ± 547
% Energy CHO	49.4 ± 7.6	52 ± 6.8	50.8 ± 6.3	50.9 ± 6.3
% Energy Protein	16.3 ± 3.5	16.4 ± 2.9	15.7 ± 3.1	15.2 ± 2.8
% Energy from Fat	32.9 ± 7.1	29.9 ± 6.6	32.1 ± 6.6	32.4 ± 6.5

Values are means ± Standard deviation (SD)

Results showed no significant effects of governorates (Urban vs Rural) on BMI of study participants. By contrast, BMI was significantly ($p < 0.05$) affected by gender and age group. Although males showed more excessive weight than females in general, BMI was similar between males and females in the older age group. Total energy intake was higher in males than females ($p < 0.05$) though no significant effect of age was found. The distribution of energy intake between the major macronutrients was similar to that seen in many Western countries. Proportion of energy from protein was statistically ($p < 0.05$) different between genders. The moderate daily mean energy intakes of the study samples compared to their BMI suggest low levels of energy expenditure, rather than intake, may represent a significant problem amongst Omani adults. To conclude, the prevalence of overweight amongst adults, particularly those over 30y, found in this study, support the view of adopting preventative and intervention strategies, targeting unhealthy eating behaviours and physical inactivity, in order to reduce high prevalence of diet-related chronic disease in Oman.

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1. World Health Organization (2014). *Noncommunicable Diseases (NCD) Country Profiles*. Geneva: WHO.
2. World Health Organization (2008). *Oman Statistical Profile*. Geneva: WHO.

