Eating patterns and prevalence of obesity among Arabs living in Ahwaz, Iran

Sir,

The most prominent noncommunicable diseases are linked by common preventable risk factors related to lifestyle. These factors are tobacco use, unhealthy diet and physical activity.1 Recommendations on a healthy diet have also been made in relation to consumption of fiber-rich carbohydrates, and total energy.² Many factors are associated with dietary behavior at a family level. For instance, the type of consumed diet is affected by educational attainment, wealth and family size.² At an individual level, diet is associated with appetite, physiological factors, and other factors such as; age, body weight, stress and the presence of many diseases.³ We identified the distribution of body mass index (BMI) and dietary behavior of Arabs living in Ahwaz, Iran. Data on dietary patterns as part of a wider life-style survey were collected from native Arabs aged 18 to 84 years living in Ahwaz, Iran. The questionnaires were selfreported and the questions were asked orally by trained interviewers. The survey was citywide and completed questionnaires were received from 528 subjects, a response rate of 96%. Questions for the survey were derived from Newcastle Health & Lifestyle Survey.³ Subjects were asked how often

they ate specified foods (for example, red meat, milk. fish, and so on). These food items are more frequently consumed by the Iranian households in their daily diets. The body mass index (BMI) was calculated from self reported weight and height [BMI = weight $(Kg)/height (m)^2$]. Obesity was assessed using established criteria³ as; > 30 for men, and >28for women. **Table 1** shows the frequency of consumption (%) of the main food items. Many subjects consumed foods known to be less healthy in many days of a week. For instance, large proportions of respondents consumed solid fat, red meat and fizzy soft drinks 2 or more days of the week. However, there were substantial proportions of people who consumed foods known to be more healthy (for example, vegetables, fish, fruits, and so on) within many days of the week. Overall, the prevalence of obesity was 12.7% (95% confidence interval (CI); 8.8 to 16.7). The mean BMI in males was 25.5 (standard deviation (SD) = 4.2), and in females 26.9 (SD = 4.7). The pattern of BMI showed a significant pattern of greater obesity in females compared to males (36.1% versus 10.7%, P<0.001). There were no significant differences by age group or educational attainment. Arabs living in Ahwaz are the highest ethnic minority compared to other ethnic minorities. This study was the first to be conducted on the pattern of dietary behavior in this society. This study showed that many people consume unhealthy foods during their daily food habits, and

Main Food Groups	Most days	2-3 times a week	Once a week	1-2 times a month	Rarely or never
Less healthy foods Solid fat Red meat Fizzy soft drinks Chocolates Butter Cakes/Pastries Ice cream Cream Sausages Processed meat	$\begin{array}{ccccc} 375 & (74.1) \\ 157 & (31.1) \\ 115 & (23.0) \\ 79 & (15.8) \\ 102 & (20.5) \\ 0 & (0.0) \\ 68 & (13.9) \\ 56 & (11.4) \\ 32 & (6.4) \\ 29 & (5.8) \end{array}$	$\begin{array}{cccc} 44 & (8.7) \\ 210 & (41.6) \\ 156 & (31.2) \\ 105 & (21.0) \\ 91 & (18.3) \\ 167 & (33.9) \\ 87 & (17.8) \\ 65 & (13.2) \\ 61 & (12.2) \\ 68 & (13.7) \end{array}$	$\begin{array}{ccccc} 61 & (12.2) \\ 78 & (15.4) \\ 82 & (16.4) \\ 103 & (20.6) \\ 76 & (15.3) \\ 83 & (16.9) \\ 121 & (24.8) \\ 66 & (13.4) \\ 122 & (24.5) \\ 121 & (24.3) \end{array}$	$\begin{array}{ccccc} 45 & (9.0) \\ 61 & (11.9) \\ 146 & (29.2) \\ 211 & (42.3) \\ 225 & (45.3) \\ 116 & (23.6) \\ 210 & (43.0) \\ 304 & (61.7) \\ 283 & (56.8) \\ 277 & (55.7) \end{array}$	$\begin{array}{cccc} 0 & (0.0) \\ 0 & (0.0) \\ 1 & (0.2) \\ 1 & (0.2) \\ 3 & (0.6) \\ 126 & (25.6) \\ 2 & (0.4) \\ 2 & (0.4) \\ 0 & (0.0) \\ 2 & (0.4) \end{array}$
<i>More healthy foods</i> Bread Tea/Coffee Vegetables Fruits Rice Cheese Yogurt Eggs Peas/Bean Liquid Oil Chicken Milk Fish Fruit Juice	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccc} 1 & (0.2) \\ 0 & (0.0) \\ 38 & (7.6) \\ 27 & (5.3) \\ 38 & (7.4) \\ 34 & (6.8) \\ 32 & (6.2) \\ 34 & (6.6) \\ 66 & (12.9) \\ 61 & (12.2) \\ 125 & (24.3) \\ 74 & (14.7) \\ 118 & (23.0) \\ 121 & (24.3) \end{array}$	$\begin{array}{cccc} 0 & (0.0) \\ 0 & (0.0) \\ 36 & (7.2) \\ 28 & (5.5) \\ 14 & (2.7) \\ 74 & (14.7) \\ 19 & (3.7) \\ 56 & (10.9) \\ 58 & (11.3) \\ 211 & (42.3) \\ 37 & (7.2) \\ 114 & (22.6) \\ 55 & (10.7) \\ 277 & (55.7) \end{array}$	$\begin{array}{cccc} 0 & (0.0) \\ 11 & (2.1) \\ 1 & (0.2) \\ 0 & (0.0) \\ 0 & (0.0) \\ 1 & (0.2) \\ 0 & (0.0) \\ 0 & (0.0) \\ 0 & (0.0) \\ 0 & (0.0) \\ 3 & (0.6) \\ 0 & (0.0) \\ 0 & (0.0) \\ 1 & (0.2) \\ 2 & (0.4) \end{array}$

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indicator measures of less healthy diet tend to be found in older generations. A wide range of epidemiological studies have implicated obesity as a significant predisposing risk factor in a variety of disabling and life threatening medical conditions.¹ Healthy eating starts with healthy shopping and people need to be educated with regards to healthy shopping. The results confirmed that females tend to be more obese than males. Higher prevalence of obesity in this study, particularly among women, compared to other studies⁴ needs more effective intervention to decrease the problem in this community. Obesity affects 15% of men and 16.5% of women in the United Kingdom. A study in the Kingdom of Saudi Arabia showed that 28% of Saudi males in Riyadh region are obese (BMI>30).⁵ The rising prevalence of obesity in developing countries is a major public health issue and a population based prevention strategy¹ aimed at a downward shift in the BMI distribution seems to be the most appropriate strategy to tackle the problem. Regarding the sex differences of BMI, previous studies have confirmed the higher prevalence of obesity among women than men.⁴ It seems that it is mainly due to the lower physical activity with a possible social acceptance of obese habitues among women compared to men in this community. In addition, Arabs living in Ahwaz, Iran have undergone major economical changes in the last couple of decades. This has resulted in significant changes in their lifestyles. They use cars more frequently, and nowadays, use mechanical domestic appliances more than the past. In conclusion, a comprehensive educational policy to promote healthier eating, and to encourage exercise should be targeted at the more at risk groups. The relationships between the availability and price of food, and its consumption in a healthy diet need to be explored further using different methods and

appropriate intervention studies. Experience indicates that success of community-based interventions requires community participation, supportive policy decisions, intersectional action, appropriate legislation, health care reforms and collaboration with nongovernmental organizations, food industry and the private sector. Further research is needed to explore the factors that determine access to a healthy diet in ethnic minorities in our community.

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