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Research Article

Association of eating habit with BMI and waist circumference in women, Ahvaz, Iran.

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Abstract

Keywords

Eating habit,
BMI,
Waist circumference.

Background: In the past year Iran has been experiencing a nutritional transition in food choices from the typical Mediterranean diet to the fast food pattern. As a consequence, the dietary habits of young adults have been affected; thus, overweight and obesity are increasingly being observed among the young. This work aimed to identify eating habit and to explore their associations with body mass index (BMI) and waist circumference (WC) among women in Ahvaz- Iran. **Methods:** A cross-sectional survey of 139 women, aged 19- 40 years, was chosen randomly from the clubs of Ahwaz during autumn 2014. Subjects were asked to fill out a self-reported questionnaire that included questions on their eating and drinking habits. Also, their weight, height, body mass index and waist circumference were measured. **Results:** There was not significant correlation between eating habits and anthropometric indicators (BMI and WC) but There was significant correlation between dieting (trying to lose weight) and BMI (P= 0.01) and WC (p=0.031). **Conclusion:** Failure to find relationships between proximity to eating habit and obesity may be due to methodological weaknesses.

Introduction

Obesity rates and associated co-morbidity are increasing globally (1) and are attributed to detrimental lifestyle practices (2). Obesity is a risk factor for cardiovascular disease, diabetes and certain types of cancer (3). It can also be associated with non-fatal but debilitating illnesses such as respiratory difficulties, infertility and musculoskeletal disorders (4).Traditionally, studies on the effect of diet on overweight and obesity have been based on the analysis of energy and nutrient intake (5).However, the complexity of the human diet is a limiting factor for this type of approach, since people usually ingest vastly different types of foods. Thus, the effect of specific food components cannot be easily identified and it is reasonable to assume the occurrence of an interactive combination of these in any diet (6, 7).The eating habits of youths have changed significantly over the past decades (8) with increases in the consumption of fast foods, sweetened beverages and pastries and lower intakes of fruits and vegetables (9, 10, 11). Diet quality has diminished with fast-food consumption (12). In some countries, the fast-food restaurant rather than the home has become the most common place for meal consumption for reasons of convenience, cost

and availability(10,11). Therefore, this work aimed to identify eating habit and to explore their associations with body mass index (BMI) and waist circumference (WC) among women in Ahvaz- Iran.

Materials and Methods

Subjects: The study was of a cross-sectional survey design conducted during autumn 2014.A total number of 139 women aged 19- 40 years had participated in the study after signing a written consent form.

Dietary assessment: Food intake was assessed by a previously validated semi-quantitative FFQ administered by interview. The eating habit questionnaire consisted of 18 questions regarding eating, drinking habits (16 questions), with 2 questions related to dieting (trying to lose weight).

Anthropometric Measurements: Weight, height and waist circumferences were measured using standard methods. Body weight, without shoes and with light clothing, was recorded to

the nearest 0.1 kg using a calibrated electronic platform scale. Standing height was recorded to the nearest 0.1 cm using a Seca Leicester Portable Height Measure (model 206; Seca, Hamburg, Germany). Subjects had to stand tall but relaxed with heels together but feet diverging slightly. To the extent possible, heels, buttocks, shoulders and back of the head were positioned against the vertical ruler. Subjects were asked to look straight ahead during the measurement. Based on the weight and height values, body mass index (BMI) was calculated for each individual using the formula of (weight/ height ^{2}).waist circumference was measured to the nearest 0.1 cm with a plastic tape measure using a standardization protocol observing waist as the midpoint between the lowest rib and iliac crest. Height and waist circumference were measured twice.

Statistical analysis: The Statistical Package for Social Sciences (SPSS Inc., Chicago, IL, USA) version 17 was used for data analysis. Results were expressed as means ± standard deviations. All reported P values were made on the basis of two-tailed tests. Differences were considered statistically significant at P value <0.05.

Results

In the present study, we did not observe any significant regression between energy, protein, carbohydrate and fat with BMI and WC (p>0.05) (**Table 1**). Based on BMI classification of weight status, findings of this study indicate that the majority of subjects were of normal weight (mean = 24.32) .There was not significant correlation between eating habits and anthropometric indicators(BMI and WC) but There was significant correlation between dieting (trying to lose weight) and BMI(P= 0.01) and WC (p=0.031) (**Table 2).**

Table1 Multiple linear regression analysis

	BMI (kg/m2)		WC(cm)	
	R	p	R	p
Energy	0.49	0.63	0.031	0.76
Protein	0.043	0.67	0.11	0.26
Carbohydrate	0.037	0.71	0.93	0.35
Fat	0.009	0.93	0.16	0.1

Table 2 Correlations between food habit and anthropometric indicators

	BMI (kg/m2) p	WC(cm) p
Regular consumption of break fast	0.85	0.53
Regular consumption of fruit or juice	0.79	0.78
Regular consumption of vegetables	0.46	0.63
Eats once or more weekly in a fast food restaurant	0.76	0.64
consumption of full fat foods	0.71	0.21
Regular consumption of dairy product	0.6	0.59
Regular consumption of red meat	0.85	0.48
dieting (trying to lose weight)	**0.01**[*]	**0.031**[*]

*p< 0.05

Discussion

Chronic diseases, including cancer, are believed to have long latency periods (13). In fact, dietary habits from a decade ago and those close to the presentation of the disease could both be of importance. Dietary habits are, however, relatively stable and the ability to change eating habits varies between individuals (14).Dietary changes over time may occur because active decisions are made about lifestyle and dietary behaviors (15). Food habits may also change because the availability of food products changes or because alterations in life circumstances force individuals to change(16).A recent study conducted among college students reported that increased knowledge of dietary guidance, Dietary Guidelines for Americans 2005, appeared to be positively related to healthier eating patterns thus the better eaters had a higher level of knowledge about nutrition (17). Therefore, developing nutrition education programs that promote healthy eating habits for university students should be encouraged. When the life situation changes, lifestyle-including food habits- may also change (18). In the present study, we did observe significant correlation between dieting (trying to lose weight) and BMI (P= 0.01) and WC (p=0.031) (**Table2).**Dieting is supposed to be more common among females and may be one explanation for the stronger association between obesity and past food habit change in women than in men(19).We did not, however, find a strong link between obesity itself and eating habits variables. A possible reason for failing to find the expected"eating habits "/obesity relationship is that the Small sample size of our study. Future studies with larger sample size are needed.

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