ARE YOUNG ARAB WOMEN EATING A HEALTHY DIET? A QUALITATIVE DIETARY STUDY AMONG COLLEGE HOSTEL STUDENTS

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Background: Two recent studies conducted on young College Arab Women showed a trend towards over nutrition. It is well known that good eating habits adopted early in life not only improve health and control obesity in the youthful years but also promote healthy eating behaviours in later life.

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Objective: To investigate the dietary habits of young college women and identify specific areas for nutrition education.

Methods: A self-administered questionnaire containing 20 items related to qualitative dietary history was distributed to all the college (King Faisal University, Dammam) women residing in the hostel during a one-week period in April 1998. Result: Out of a total of 56 women, 50.7% frequently missed out on breakfast and lunch. To satisfy their state of hunger, frequent snacking with deserts/carbohydrate-rich food items (21.4%) and consumption of regular cola drinks (32.1%) was common. Fast food rich in fat and calories from restaurants was popular among a majority (98.2%) of the students. On the other hand, there was a deficient intake of protective foods and nutrients for repair, maintenance and growth, such as fruits (73.2%), vegetables (85.6%), milk and milk products (66.1%) and protein-rich foods (82.1%).

Conclusion: To decrease the risk of malnutrition among young college women, there is a need to target them for nutrition education and adoption of healthy eating practices within the context of a healthy lifestyle.

Key Words: Dietary habits, College women, Dammam, Saudi Arabia.

INTRODUCTION
An appropriate diet is one that is both adequate and balanced and is able to meet all the nutritional needs of an individual for maintenance, repair, the living processes and growth or development. With the increase in morbidity and mortality in recent years as a result of degenerative diseases particularly in the Western world, dietary guidelines, such those from the USA and Canada have now been revised taking the relationship of diet with these diseases into consideration.

Chronic diseases are also an important cause of morbidity in this region. Moreover, a high prevalence of obesity, among other things has been documented as one of the factors associated with the occurrence of these diseases. Over-nutrition among females in particular, has reached a high level in Saudi Arabia and the neighboring Gulf countries. Studies have shown that even in the young female population (15-25 years), its prevalence remains substantially high (30-40%). In general, affluence, a sedentary life-style and a cultural preference for the slightly obese figure in certain subgroups have been cited as some of the prevailing influences for the high occurrence of obesity in this region. Two recent studies conducted on female medical and nursing Saudi as well Arabian Gulf students of King Faisal University, Dammam showed that nearly one-third of the women between the young ages of 17 and 25 years were over-nourished. While an effort has been made in the recent past to investigate weight control beliefs and practices in a subgroup of this population (hostel girls), a detailed qualitative dietary analysis has not been undertaken to identify specific areas for nutrition education. With this in view, the present study was conducted to further investigate the dietary habits of female students from the same institution (King Faisal University, Dammam) during a one-week period in April 1998.

METHODOLOGY
Fifty-six (80%) residents of the female hostel of King Faisal University, Dammam out of a
total of 70 were able to participate in the study as 10 students (14.3%) had left for vacation during the research study period and 4 students (5.7%) pre-occupied with examination work did not respond. The mean age (21.1 years) and the proportion of Saudi vs. non-Saudis (1:0.75) among the non-participants was similar to that of the study population (20.9 years; 1:0.75). A questionnaire containing 20 items related to qualitative dietary data was distributed to the women and the responses were self-administered. An inquiry was made into personal data (age, nationality and the type of educational programme being pursued), number of meals and snacks consumed per day, frequency of intake of (i) regular cola drinks, (ii) deserts (chocolates, candies, cakes, pies, Arab sweets etc) (iii) tea/coffee with sugar and (iv) the usual consumption of daily servings of the five good groups: (a) cereal group: rice, bread, macaroni, pasta, etc; (b) protein group: meat, fish, egg, etc; (c) milk and milk products (d) fruits and (e) vegetables. The concept of servings was explained to the students with the help of measuring cups but precise quantities of food intake by weight were not determined in this qualitative dietary study. Data regarding consumption of the five food groups was compared with the Current US Dietary Guidelines (Food Guide Pyramid). The women were also asked about the frequency of their fast food orders per week from restaurants. Finally, the opinion of the women was sought on their (i) own eating behaviour in relation to a healthy balanced diet and (ii) choice of an ideal body image (very thin, thin, average, slightly obese, obese).

RESULTS
The age distribution of the hostel students ranged from 17 to 25 years (mean age 20.9 years) with the highest proportion of women (48.2%) in the 20-22 age group. The number of Saudi women (57.1%) was slightly more than the non-Saudis (42.9%), who were of Arab origin from the neighboring Gulf countries. A majority of the students were in the medical program (73.2%), followed by those in Interior Design (12.5%), Nursing (8.9%) and Laboratory Technology (5.3%) programs.

Dietary Intake
Of the 56 respondents, more than half (60.7%) of them consumed one to two meals per day; some women (30.4%) ate three meals daily (Table 1). Nearly one-third of the students missed breakfast (32.1%) and a similar proportion on lunch (32.1%) but dinner was eaten by many of them (76.8%). Snacking was popular with most of the women (75%). Consumption of 2 snacks per day was reported by 33.9% students, whilst 16.1% of the women had 3 or more snacks daily.

Table 2 shows that 32.1% and 21.4% girls respectively, had regular cola drinks and deserts (chocolates, candies, cakes, Arabic sweets, etc) more than once per day; and 8.9% of them consumed these items ≥ 3 times daily. Nearly one-fourth of the students (21.4%) reported frequent intake (> 3 times/ day) of tea or coffee with sugar. An inquiry on the intake of the five food groups (Table 3) showed that a large proportion of the girls, that is 73.2% and 66.1% respectively, consumed fruits juices and fruits less than once per day and milk and its products less than twice per day which is inadequate according to the recommendations for a healthy diet. Thirty-one students (55.4%) had less than one serving of leafy green vegetables per day or not at all. With regard to the “other vegetables” (not green) it was found that 42 students (75%) did not eat vegetables on a daily basis. Whilst a majority of the girls (82.1%) ate less than the
recommended two daily servings of protein rich foods (meat, fish, egg, etc.), cereal based food items (rice, bread, macaroni, pasta, etc.,) were very popular. Of the 56 women, 46 (82.1%) of them had more than 4 daily servings of carbohydrate rich food items. Interestingly enough, a vast majority of the students (82.1%) were aware that they did not have a healthy balanced diet and despite the fact that the hostel cafeteria served the necessary nutritious food items, it was common practice of nearly all the women (98.2%) to order fast food, high in fat and calories from restaurants; 53.5% of these women did more than three times per week.

An inquiry as to the choice for an ideal body image showed that most of the girls (80.4%) preferred the average figure but some girls (17.9%) opted for the very then/thin western ideal body image. Only one girl (1.8%) favoured the ‘slightly obese’ figure.

DISCUSSION

Though the data of this investigation may not be representative of the young female population from other areas or circumstances in the Kingdom, the girls in a hostel of a medical institution form a highly selective group, it could nonetheless, serve as a pilot study for research on larger samples of population as well as those residing

| Table 1: Distribution of students according to intake of meals and snacks (n=56) |
|----------------------------------|---------|---------|---------|---------|
| **Frequency per day** | 0       | 1       | 2       | 3       |
| Meals                | -       | 7 (12.5%) | 27 (48.2%) | 17 (30.4%) | 5 (8.9%) |
| Snacks               | 14 (25%) | 14 (25%) | 19 (33.9%) | 5 (8.9%) | 4 (7.1%) |
| **Total**            | 60.7%   |         |         |         |

| Table 2: Distribution of students according to intake of daily regular cola drinks, deserts and tea/coffee (with sugar) n = 56 |
|----------------------------------|---------|---------|---------|---------|
| **Frequency per day** | 0       | ≤ 1      | > 1 - < 3 | ≥ 3      |
| Regular cola drinks           | 11 (19.6%) | 27 (48.2%) | 13 (23.2%) | 5 (8.9%) |
| Deserts                       | 2 (3.6%) | 42 (75%) | 7 (12.5%) | 5 (8.9%) |
| Tea/Coffee (with sugar)       | 12 (21.4%) | 27 (48.2%) | 5 (8.9%) | 12 (21.4%) |
| **Total**                     | 32.1%   |          |         |         |

| Table 3: Distribution of students by daily frequency of intake of the five good groups |
|----------------------------------|---------|---------|---------|
| **Food groups**                  | 0 - < 1 | 1       | 2 - 3   | ≥ 4      |
| Milk and its products            | 19 (33.9%) | 18 (32.1%) | 19 (33.9%) | -      |
| Meat or alternates               | 14 (25%) | 32 (57.1%) | 10 (17.9%) | -      |
| Fruit and fruit juices           | 24 (42.9%) | 17 (30.4%) | 12 (21.4%) | 3 (5.4%) |
| Vegetables (not green)           | 42 (75%) | 6 (10.7%) | 4 (7.1%) | 4 (7.1%) |
| Green vegetables                 | 31 (55.4%) | 3 (5.4%) | 22 (39.3%) | -      |
| Carbohydrate (cereal etc)        | -       | 3 (5.4%) | 7 (12.5%) | 46 (82.1%) |
Are Young Arab Women Eating a Healthy Diet?

The study has nevertheless raised concerns on the current eating habits of these young women. The fact that many students (60.7%) from the study population ate only one or two meals a day instead of three and usually skipped breakfast and/or lunch reflects an erratic eating pattern. It has been reported that skipping of meals especially breakfast results in frequent snacking during the day particularly on a selection of food items rich in fat and calories to satisfy hunger. This was also observed in this study. Instead of fruits, fruit juices and salads, food items that should be eaten sparingly such as chocolates, doughnuts, cookies, sweets, regular carbonated drinks, tea/coffee with sugar were commonly consumed by the study group. Moreover, the popular preference for high calorie fast food such as hot dogs, hamburgers and French fries was also notable. One needs to draw the attention of the women to the risks of overeating during the day as a result of skipping meals. They should be made aware of the advantages of eating three meals of balanced healthy food and selecting snacks low in fat and calories such as fruit/fruit juices, unbuttered, unsalted popcorn, high fibre cookies or cereals.

The United States Department of Agriculture has suggested that normal healthy adults should follow their recommendations of “The Food Guide Pyramid” by a daily intake of all five food groups. Some variations to these guidelines on the consumption of cereal products in certain individuals are possible according to their activity level, or physiological status such as pregnancy and lactation. Most healthy adults require six to eleven daily servings of cereals or its products, two to three daily servings of the protein-rich foods (meat, fish, eggs, etc), two to three daily servings of milk and dairy products, two to four daily servings of fruits and three to five servings of vegetables including green leafy and yellow-orange vegetables. According to these recommendations, a large proportion of students, were depriving themselves of nutrients vital for body maintenance, growth and repair as a result of their inadequate intake of milk and its product and protein rich foods such as meat and its alternates (Table 3). Similarly, a low intake of protective as well as fibre-rich foods such as fruits and vegetables especially green leafy vegetables by a majority of the women points to the deficiency in their dietary pattern. On the other hand, their overindulgence in snacks and deserts rich in fat and refined carbohydrate, as well as the regular intake of carbonated drinks is a cause for concern especially if there is no physical activity to burn off the calories. A recent study (1998) on a similar group of hostel students from the same institution pointed out that over-nutrition was common and exercise was not a part of the daily routine for the majority (83%) of the women. The present study has shown that though most of the women (82.1%) were aware of their unhealthy and unbalanced diet, they were making no attempt to correct this despite the availability of nutritionally balanced meals, albeit not in much variety, at the local cafeteria. Fortunately, a majority (80.4%) of the women had the correct concept of an ideal body image and did not favour the “slightly obese” figure which was preferred by less educated women in a study from the same region.

CONCLUSION
Since many in this group would soon be health workers as well as mothers, they must be targeted and educated to adopt better dietary habits in order to develop a healthy lifestyle, not only for their own sake but also
as models and effective educators, part of whose job it is to control malnutrition. A wider choice in the menu of healthy foods should be provided in school/college/hostel cafeterias in order to discourage fast food/junk food from restaurants. It is vital to emphasize the need for choosing healthier diet options. Good eating habits adopted early in life would not only improve health and control obesity in youth but also promote healthy eating behavior in later life.

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