



## Research Article

### NUTRITIONAL KNOWLEDGE, ATTITUDE AND PRACTICES OF MEDICAL STUDENTS AT UNIVERSITY OF SCIENCE AND TECHNOLOGY (GIRLS' BRANCH IN SANA'A, 2015)

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#### ABSTRACT

Human nutrition refers to the provision of essential nutrients necessary to support human life and health. Poor eating habits and lack of nutritional knowledge are important public health issues that have serious health implications. It is well recognized that university students have poor dietary habits which may become hard to break once acquired. Individuals who have basic nutrition knowledge and attitude apply these principles when selecting foods. Therefore, improving nutrition knowledge, attitude and dietary practices through nutritional education may help to prevent nutritional related diseases. The purpose of the study is to assess nutrition knowledge, attitudes and practices among medical students at university of Science and Technology, Faculty of Medicine & Health Sciences (Girls' Branch in Sana'a, 2015). The results revealed that 58% of the students had their nutrition knowledge from the media. The nutritional knowledge among the students was good regarding some aspects as food contain the three macronutrients (carbohydrates fat and protein), but it was poor in other aspects as the problems related to low intake of fruits and vegetables (73.2%), (56%) didn't know the source of vitamin B12 and iron. Forty eight percent, (48%) didn't know which foods contain more fibers and 24 % of students did not know which foods rich in calcium. Nutritional attitude revealed that 45% of the students found difficulty in making healthy food choices at the university cafeteria, 39% of them stated that, it was very hard to find time to plan a healthy diet, while only 21% of students attempted to eat healthy diets. Referring to nutrition practices 72% of the students did not follow any diets and none of them were on a sodium restricted diet., The most skipped meal among the students was the breakfast (64%), only 6% did not skip meals, 70% of the students drank one or less glasses of water daily and only 7% drank 8 or more, The present study concluded that existing health and nutrition education to the students was not sufficient to make their practice healthy. Knowledge, attitude, and practice of the students on healthy eating should be improved through nutrition education program.

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## INTRODUCTION

Proper nutrition plays a key role in disease prevention and treatment. Many patients understand this link and look for physicians for guidance diet and physical activity. Actual physician practice, however, is often inadequate in addressing the nutritional aspects of diseases. Physicians do not feel comfortable, confident, or adequately prepared to provide nutrition counseling, which may be related to suboptimal knowledge of basic nutrition science facts and understanding of potential nutrition interventions. The adequacy of nutrition instruction in undergraduate medical education remains an issue of concern. Although the scientific principles related to nutrition have been taught in medical schools since the early 20th century, the latter part of that century was characterized by

increasing concern over the amount of nutrition education provided to medical students. (Bruer *et al.*, 1993) Many studies identify shortfalls in medical students knowledge and attitudes toward nutrition as a result of inadequate emphasis in medical school. Patients routinely seek physician's guidance about diet, and the relation of nutrition to the prevention and treatment of disease is well known. However, practicing physicians continually rate their nutrition knowledge and skills as inadequate (Darer *et al.*, 2004). It is also no surprise that more than one-half of graduating medical students reported that the time dedicated to nutrition instruction is inadequate (Association of American Medical Colleges Medical School Graduation Questionnaire, 2005) University students are an appropriate target audience for nutrition education. Several studies have reported that college students frequently have misconceptions about nutrition, fail to make nutrition a priority in food selection, and are poorly informed about their dietary intake (Stampfer *et al.*, 2000).

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Despite the acknowledged importance of nutrition, there is evidence to indicate that the nutrition training of medical students is inadequate in both quality and quantity. Studies have shown that, physicians do not feel comfortable, confident, or adequately prepared to provide nutrition counseling, which may be related to suboptimal knowledge of basic nutrition science facts and understanding of potential nutrition interventions. (Tappenden *et al.*, 2013). Experiences from many researches showed that adoption of new behavior or modification of the existing behavior needs much input like knowledge, awareness of the matter, attitude, and perception. Most authors found that whilst behaviors are unlikely to change without an increase in knowledge, knowledge alone is insufficient to bring about significant improvement in preventive behavior (ref).

Knowledge can however, influence health-related behaviors when mediated by attitudes, belief, self-efficacy, and an effective call to action. Some studies have shown that most students are not familiar with the healthy foods needed for their body in different conditions (Cotugna *et al.*, 2005). Unfortunately, in Yemen country, no adequate studies about knowledge of the medical students on nutrition, and sufficient information are not available. Therefore, the purpose of this study was to assess nutrition knowledge, attitude and practices of students studying at the University of Science and technology in Faculty of medicine and health sciences.

to incomplete information provided by the students in some of the questionnaires which lead to their exclusion. The number of students in various years of degree was selected by the use of this formula:

$$Z^2 \times P \times Q \div n = \dots\dots\dots 3.7 \text{ Measures:}$$

Measures used in the study were chosen according to the requirements of the aims and objectives of the study. For this study, questionnaires and anthropometric techniques were used

**Datas Analysis**

Data were analyzed by using SPSS version20.

**RESULTS**

**Table 1. Distribution of the study subjects according to age groups**

Age group		
18 or less	10	6%
19-24	20	12%
22-23	33	20%
≥24	101	62%

Table (1) shows that the age of the students was ranging between 18 years or less and 24 and more years old.

**Table No. 2. Level of nutritional knowledge among the medical students of the University of Science and Technology Girls' Branch in Sana'a, 2015**

Nutritional Knowledge	Yes		No	
	No.	%	No.	%
Importance of dietary fiber consumption	85	52	79	48
Identification of best source of calcium	125	76	39	24
Knowledge of food containing protein	86	52	78	48
Knowledge of food containing carbohydrates	102	63	62	37
Identification of good source of fat	92	56	72	44
Knowledge of the sources of vitamin B12 and iron	73	44	91	56
Knowledge of problems related to low intake of fruits and vegetables	44	26.8	120	73.2
Knowledge of problem related to the soft drinks	30	18.3	134	81.7%

**Table No. 3. Level of nutritional attitude among the medical students of the University of Science and Technology Girls' Branch in Sana'a, 2015**

Nutritional Attitude Questions	Yes		No		Sometimes	
	No.	%	No.	%	No.	%
Attempting to eat a healthy diet	35	21	40	24	89	54
Difficult in making healthy food choices at the cafeteria of the university	74	45	29	18	61	37
Difficulty to find time to plan healthy meals	64	39	27	16	73	45
Unhealthy diet is a very important risk factor for various diseases	75	46	30	18	59	36
Family supporting the efforts to eat a healthier diet	74	45	24	15	66	40

**MATERIALS AND METHODS**

This was cross-sectional descriptive study about nutrition knowledge, attitude, and practice conducted among the medical students at the University of Science and Technology Girls' Branch, in Sana'a, 2015.

**Study subjects**

The sample was 200 medical students from the University of Science and Technology Girls' Branch, in Sana'a, 2015, but the presence of 36 missing values lead to a decrease to 164 due

**Nutritional knowledge**

The major source of nutritional knowledge among the students was from the media followed by their parents. The nutritional knowledge among the students was good regarding some aspects as macronutrients (carbohydrates, protein and fat), fiber, dietary source of calcium and source of B12 and iron, but it was poor in other aspects as the problems related to low intake of fruits and vegetables and problem related to soft drinks

**Nutritional Attitude**

Regarding, nutrition attitude 21% of the students attempted to eat healthy diet, 45% found difficulty in making healthy food

choices at cafeterias, 39% did not find time to plan healthy meal, 46% demonstrated that unhealthy diet lead to the risk factors of many diseases related to nutrition, while 46% stated that their family supporting them to eat healthy diet.

Figure (5) reveals that 70% of the students drank one or less glasses of water daily and only 7% drank 8 or more.

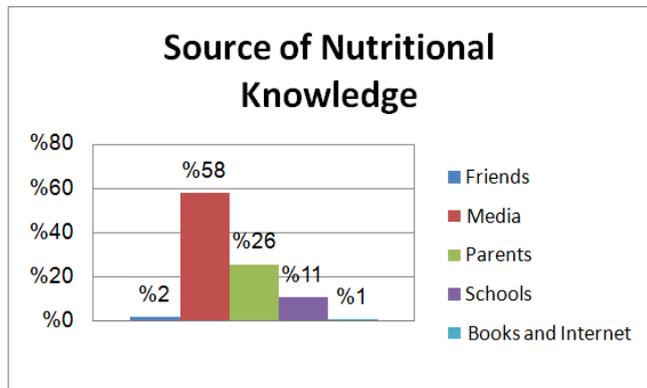


Figure No. 1. Source of nutritional knowledge among the medical students at the University of Science and Technology Girls' Branch in Sana'a, 2015

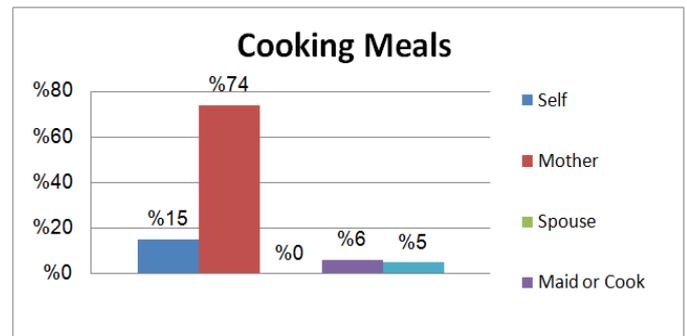


Figure No. 4. Percentage of medical students who cooked meals at University of Science and Technology Girls' Branch in Sana'a, 2015

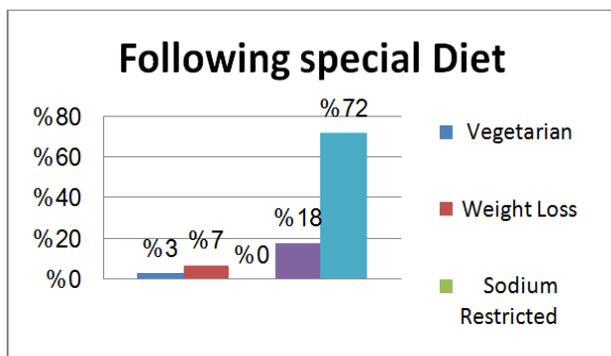


Figure No. 2. medical students following special diet at of the University of Science and Technology Girls' Branch in Sana'a, 2015

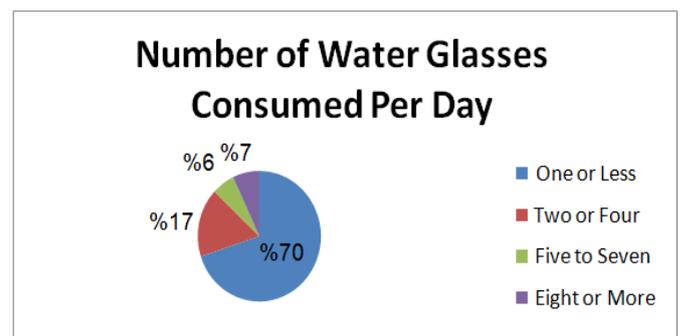


Figure 5. Number of water glasses consumed among the medical students at the University of Science and Technology Girls' Branch in Sana'a, 2015

**Nutritional practices**

About 72% of the student's did not follow any diets and none of them were on a sodium restricted diet.

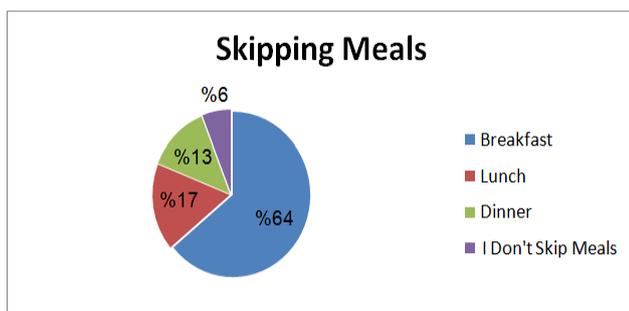


Figure No. 3. Medical students skipping meals among the students of the University of Science and Technology Girls' Branch in Sana'a, 2015

The most skipped meal among the students was the breakfast and only 6% did not skip meals. Figure (4) shows that 74% of the students ate meals prepared by their mothers.

**DISCUSSION**

Despite the widespread appreciation of the relationship between diet, disease prevention, and treatment, physicians often fall short in addressing the nutritional aspects of diseases such as in their patients. Several surveys have examined the practice behaviors of physicians. Many surveys have found that physicians agreed on the importance of nutrition in their medical practice but did not feel comfortable and adequately prepared to provide nutrition counseling to their patients. (Vetter *et al.*, 2008).

Students who participated in the present study were from faculty of medicine their age was ranging between 18 years or less and 24 and more years old. The major source of nutritional knowledge among the medical students in the university of Science & Technology in Sana'a was acquired from the media (58%). These findings are in line with Ahfad Ahfad University for women School of Medicine and south African studies, where the majority of students also acquired their knowledge from the media. (Mohammed *et al.*, 2013) (Okeyo, 2009) The nutritional knowledge among the students was good regarding some aspects of the food contain the three macronutrients (carbohydrate fat and protein), but it was poor in other others aspects such as the problems related to low intake of fruits and vegetables, The majority (73.2%) did not aware of the major health problems related to low intake of fruits and vegetables.

This could be explained by the fact that students did not take nutritional courses as the part of their syllabus which familiarizes the students with the nutritive value of fruits and vegetables and their role in human health, moreover the majority of textbooks currently used by medical students in these regions are standard textbooks written by physicians from developed countries. These textbooks do describe nutrition problems of developed countries; however most of these textbooks do not emphasize that there are substantial differences in dietary intakes and disease risk patterns for comparative analysis between people in developing and developed countries, and among the ethnic groups in developing countries as well. It was observed that students of faculty of medicine preferred to drink soft drinks more than water, because they did not aware by the health hazards of the soft drinks as revealed in Table (2) (81.7%).

Lack of water consumption may affect the body normal and important functions. Referring to nutritional attitude, as shown in Table (3) 21% of students attempted to eat a healthy diet. These findings are not consistent with previous study, showed 3 % of the students attempted to eat healthy diet, which was the lower percentage comparing by the result in the present study (Mohammed *et al.*, 2013). Regarding nutritional practices, 72% of the students did not follow any diets, none of them were on a sodium restricted diet, and 64% of them skipped breakfast diet. Breakfast is often thought to be the most important meal of the day as it is known to provide energy for the brain and improve learning. It is also known to contribute significantly to the total daily energy and nutrient intake. Skipping breakfast may affect performance during the rest of the day. (Katie Adolphus *et al.*, 2013)

Regarding drinking water, 70% of the students drank one or less cup of water daily and only 7% drank 8 cups or more. Drinking adequate amount of water daily is an important for over all health because water aids digestion, circulation, absorption and even excretion. As conclusion, the majority of the medical student's did not well equipped with the knowledge and skills to meet their responsibilities of nutrition counseling and care in health and illness. This is because the medical curriculum and medical education have not yet internalized these nutrition topics with their practices into undergraduate study programs. Therefore, it is essential to provide a framework for the integration of nutrition topics at all levels of medical education.

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