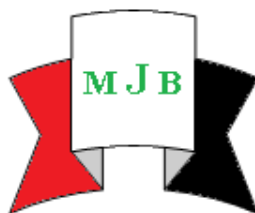


Kirkuk Technical Institute Students Opinions Regarding the Risk Factors, Health Effects and Protective Measures of Obesity

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Received 2 November 2014

Accepted 11 January 2015

Abstract

Obesity is the excessive accumulation of adipose tissue to an extent that health is impaired. The aim of the study was to assess the students knowledge regarding the risk factors of obesity. A descriptive cross- sectional study has been conducted in Kirkuk Technical Institute from the period of 1st April to end of May 2014. Randomly selected sampling students from first and second stage of two scientific departments and a special questionnaire form was prepared by interviewing with the study sample. 70 students were included, 35 students from Electrical department and 35 students from Survey dept . Majority of study students are male (37- 52.8%), aged < 20 years (45- 64.3%), and from first class (45- 64.3%). Most of students from both departments (Electrical and Survey) agree with the psychological effect of obesity (17- 48.6%), (18- 51.4%). Most of study students go with the effect of gender as a risk factor in obesity. The study concluded that most of study students go with the eating sweet diets, soft drinks, and exercises > 30 minutes are the major risk factors for obesity occurrence.

Keywords : Obesity, Risk factors, Students opinions

أراء طلاب المعهد التقني/كركوك تجاه عوامل الخطورة والتأثير الصحي وطرق الوقاية للسمنة

الخلاصة

تعرف السمنة على أنها التجمع الزائد للأنسجة الدهنية لحد تصبح مضرّة بالصحة. هدفت الدراسة لتحديد معارف الطلبة تجاه عوامل الخطورة للسمنة.

أجريت دراسة وصفية مقطعية لطلبة المعهد التقني / كركوك للفترة من ٢٠١٤/٤/١ ولغاية نهاية شهر مايس ٢٠١٤.

تم شمول جميع الطلبة من المرحلتين (الأولى والثانية) من المعهد التقني إنشاء جمع العينة وذلك عن طريق استمارة استبيان صممت لهذا الغرض وذلك عن طريق إجراء المقابلة الشخصية مع الطلبة.

كان عدد الطلبة الكلي (٧٠)، حيث بلغ عدد الطلبة منقسم الكهرباء (٣٥) طالبا إما عن قسم المساحة فكان عددهم (٣٥) طالبا.

جميع الطلبة هم من الذكور حيث شكلوا نسبة (٣٧- ٥٢.٨%) وكانت أعمارهم تتراوح اقل من ٢٠ سنة (٤٥- ٦٤.٣%) وغالبيتهم من المرحلة الأولى (٤٥- ٦٤.٣%).

وافق جميع الطلبة من كلا القسمين (الكهرباء والمساحة) على أن للسمنة آثار سيكولوجية ونفسية (١٧- ٤٨.٦%) و (١٨- ٥١.٤%).

أكد جميع الطلبة على أن للجنس تأثير كبير باعتباره احد عوامل الخطورة في السمنة. استنتجت الدراسة على أن كثرة تناول الحلويات والمشروبات الغازية والرياضة التي تقل عن ٣٠ دقيقة من أهم العوامل التي تعتبر خطرة في حدوث السمنة.

مفتاح الكلمات: السمنة, عوامل الخطورة , أراء الطلاب .

Introduction

Obesity is a medical condition in which excess body fat has accumulated to the extent that it may have a negative effect on health, leading to reduced life expectancy and/or

increased health problems [1]. People are considered obese when their body mass index (BMI), a measurement obtained by dividing a person's weight by the square of the person's height, exceeds 30 kg/m² [2].

Obesity is a leading preventable cause of death worldwide, with increasing rates in adults and children. Authorities views that obesity is one of the most serious public health problems of the 21st century [3]. Obesity is stigmatized in much of the modern world (particularly in the Western world), though it was widely seen as a symbol of wealth and fertility at other times in history and still is in some parts of the world [4].

Obesity occurs when eat and drink more calories than body burn through exercise and normal daily activities [5]. The body stores these extra calories as fat. Obesity usually results from a combination of causes and contributing factors, including:

- 1- Genetics. Which may also play a role in how efficiently the body converts food into energy and how body burns calories during exercise.
- 2- Family lifestyle. Obesity tends to run in a family members and to have similar eating, lifestyle and activity habits. If one or both of parents are obese, the risk of being obese is increased [6].
- 3- Inactivity. If there is no enough activity/ daily, no much calories can be burned.
- 4- Pregnancy. During pregnancy, a woman's weight necessarily increases. Some women find this weight difficult to lose after the baby is born [7].
- 5- Lack of sleep. Not getting enough sleep or getting too much sleep at night can cause changes in hormones that increase your appetite.
- 6- Age. Obesity can occur at any age, even in young children, but as age, hormonal changes and a less active lifestyle increase the risk of obesity. In addition, the amount of muscle in the body tends to decrease with age. This lower muscle mass leads to a decrease in metabolism. These changes also reduce calorie needs and can make it harder to keep off excess weight [8].
- 7- Social and economic issues. Certain social and economic issues may be linked to obesity, like safe areas to exercise, unhealthy ways of cooking [9].

The study aimed to assess the Kirkuk technical institute student's opinions regarding the risk factors, health effects and preventive measures of obesity.

Subjects and Methods

Official permission was taken from the Electrical and Survey departments/ Kirkuk Technical Institute/ (and a written consent was taken from each student).

A descriptive (cross- sectional study) was carried out in Kirkuk Technical Institute. Two stages were included in the study (First & Second) from the two scientific departments.

Randomly selected sample and 70 students were included in the study and a special questionnaire form was conducted after receiving their written consent and the data was collected by interviewing with the study students .

The study was conducted during the period from 1st April to end of May 2014.

A special questionnaire form has been prepared by the investigator utilizing available related literature which include the following main items:

Part-1- Demographic characteristics including (sex, age, student stage).

Part-2- Students opinion regarding health effect of obesity which includes 3 items.

Part-3- Students opinions regarding the main risk factors of obesity which includes 8 items .

Part -4- Students opinions regarding the main protective measures of obesity which includes 4 items.

The items of students opinions were rated according to type of likert scale as (yes- uncertain- no) and scored as:

3 number for yes answer

2 number for uncertain answer

1 number for no answer

The deviation of the score using the following formula:

Cut- off point $(3+2+1) / 3 = 2.0$, therefore the results calculated as follow:

$$\frac{\text{No. of students said yes} \times 3 + \text{No. of students said uncertain} \times 2 + \text{No. of students said no} \times 1}{\text{Sample size}}$$

Sample size

Descriptive statistics by using (number, percent)

The statistical test Chi—square was used. $p \leq 0.05$ was considered level of significance.

Results

Regarding the socio demographic characteristics of the study students, table 1 show that most of study students are male (52.8%), aged > 20 years (64.3%), and from first class (64.3%).

Table 2- show that most of students from both departments (Electrical and Survey) go with the psychological effect of obesity (48.6%), (51.4%)

Table 3 shows that students go with the risk factors of obesity in eating sweet diets, soft drinks and exercise > 30 minutes. They agree with effect of gender as a risk factor in obesity.

Table 4 show that most of study students with dietary modification 34.3%) and daily exercises (31.4%) are the most effective protective measures.

Discussion

The current study show that majority of students go with the psychological effect of obesity.

This result against the study done by Kolodinsky *et al.* [10] among American college students. They reported that students agree with the physical effect of obesity like heart diseases, Diabetes Mellitus, and hypertension. They explained the result due to increased knowledge which is related to increased likelihood of meeting dietary guidelines. Moreover, nutrition knowledge was related to making more healthful choices in every case. Ultimately, increased knowledge of dietary guidance appears to be positively related to more healthful eating patterns.

They suggested that guidelines such as the Dietary Guidelines for Americans 2005, in conjunction with effective public-awareness campaigns, may be a useful mechanism for promoting change in what foods consumers choose to eat and future effect of overweight.

Another study performed in China by Wang *et al.* [11]. They indicated that obesity is one of the risk factors for development of breast cancer and its effect lead to small intestine, colon and gallbladder tumor and other physical effects.

Regarding the students opinions about the main risk factors of obesity, they go with eating sweet diets, soft drinks and exercise > 30 minutes and they agree with effect of gender as a risk factor in obesity.

Shrivastava *et al.* [12] in Kancheepuram district, Tamil Nadu/ India conducted in a study among medical students in India . The study revealed that a lack of physical activity and the presence of stress were identified as the most common risk factors for obesity development. Approximately, 73 (52.9%) students were of the incorrect opinion that gynaecoid obesity was more dangerous than android obesity, although the majority of the medical students were aware of the risk factors of obesity; many gaps which need to be bridged were identified in their knowledge. These medical students could be actively involved in awareness campaigns for delaying the onset of lifestyle diseases.

Another study was conducted by Alla *et al.* [13] among secondary schools female students in Benghazi / Libya, over a six month period. The study reveled that the important risk factors for obesity observed were family history, eating whilst watching television, lack of physical activity, and high calorie diet. They noted that more than half of studied students did not monitor their weight regularly, in addition to, they suggested that exercise is essential for health, and obesity was dangerous for health.

Concerning the protective measures, current study students go with dietary modification and daily exercises are the most effective preventive measures.

Rauner *et al.* [14] reported in their study in the electronic academic databases PubMed, Sport Discus, web of knowledge and Ovid that 107 (77.5%) respondents cited that regular exercise is the best strategy followed by dietary modifications in obesity preventive measures .

Similar study was done in Germany by Winkler *et al.* [15]. They reported that the intensity of physical activity played a critical role independent of age and gender in protection of obesity.

Also, in a cross-sectional study conducted by Trost *et al.* [16] among the six grade school children to compare the physical activity (PA) patterns and the hypothesized psychosocial and environmental determinants of PA in an ethnically diverse sample of obese and non-obese middle school children. The study show that physical activity (moderate/vigorous) was an important determinant of obesity in children.

In a study conducted by Gomez *et al.* [17] among Mexican women. The data was obtained with the Urban Food and Nutrition Survey 2002 in the Metropolitan Area of Mexico City (ENURBAL 2002), and they concluded that having poor nutritional knowledge is a direct predictor for development of obesity.

They emphasized the importance of improving knowledge about nutrition, in planning the strategy for interventions aimed to prevent overweight and obesity.

Conclusions

The study concluded that majority of the students from both departments (Electrical and Survey) with the psychological effect of obesity. Majority of study students with the risk factors of obesity in eating sweet diets, soft drinks, and exercises > 30 minutes. Most students with the effect of gender as a risk factor in obesity and the dietary modification and daily exercises for the effective protective measures for obesity.

References

- 1- Rejeski WJ, Marsh AP, Chmelo E, Rejeski JJ. Obesity, intentional weight loss and physical disability in older adults. *Obes Rev* 2010; 11(9):671-685.
- 2- Jensen MD, Ryan DH, Apovian CM, et al. Guideline for the Management of Overweight and Obesity in Adults: A Report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines and The Obesity Society. *Circulation*, Epub 2013
- 3- Douketis JD, Macie C, Thabane L, Williamson DF. Systematic review of long-term weight loss studies in obese

adults: clinical significance and applicability to clinical practice. *Int J Obes* 2005; 29 (10):1153-1167.

4- Hill JO, Thompson H, Wyatt H. Weight maintenance: what's missing? *J Am Diet Assoc* 2005; 105 (5 Suppl 1): S63-S66.

5- Sharifi-Mollayousefi A, Yazdchi-Marandi M, Ayramlou H, Heidari P, Salavati "Assessment of body mass index and hand anthropometric measurements as independent risk factors for carpal tunnel syndrome". *Folia Morphol.* 2008; 67 (1): 36-42.

6- Beydoun MA, Beydoun HA, Wang Y."Obesity and central obesity as risk factors for incident dementia and its subtypes: A systematic review and meta-analysis". *Obes Rev.*, 2008; 9 (3): 204-18.

7- Esposito K, Giugliano F, Di Palo C, Giugliano G, Marfella R, D'Andrea F, "Effect of lifestyle changes on erectile dysfunction in obese men: A randomized controlled trial". *JAMA.* 2004; 291 (24): 2978-84.

8- Obesity and overweight. World Health Organization 10/1/04. 1-4.

9- Reilly JJ, Methven E, McDowell ZC, Hacking B, Alexander D, Stewart L, et al. Health consequences of obesity. *Arch Dis Child* 2003; 88:748-52.

10- Kolodinsky J, Harvey-Berino JR, Berlin L, Johnson RK, Reynolds TW. Knowledge of current dietary guidelines and food choice by college students: better eaters have higher knowledge of dietary guidance. *J Am Diet Assoc.* 2007; 107(8): 1409-13.

11- Wang XL, Jia CX, Liu LY, Zhang Q, Li YY, Li L. Obesity, diabetes mellitus, and the risk of female breast cancer in Eastern China. *World J Surg Oncol* 2013; 11:71.

12- Shrivastava S., Shrivastava P., Ramasamy J. Assessment of knowledge about obesity among students in a medical college in Kancheepuram district, Tamil Nadu *Prog Health Sci* 2013;Vol 3(1) : 54 .

13- Alla HA, Assel HS, Obesity among secondary school female students. *Al-Tagani – journal* 2011; 24(4): 149- 155.

14- Rauner A, Mess F, Woll A. The relationship between physical activity, physical fitness and overweight in adolescents: a systematic review of studies

published in or after 2000. BMC Pediatr 2013; 13:19.
15-Winkler S, Hebestreit A, Ahrens W. Physical activity and obesity. Bundesgesundheitsblatt Gesundheitsforschung Gesundheitsschutz 2012; 55(1):24-34
16- Trost SG, Kerr LM, Ward DS, Pate RR. Physical activity and determinants of

physical activity in obese and non-obese children. Int J Obes Relat Metab Disord 2001 ; 25(6): 822-829.
17-. Gomez GC, Martinez JL, Levy ST, Guerra GA, Curiel AA, Aguilar QMA. Nutritional knowledge and its association with overweight and obesity in Mexican women with low socioeconomic level. Arch Latinoam Nutr 2011; 61(4): 396-405.

Table (1): Socio-demographic characteristics of the study students

Socio-demographic parameter		Electrical Dept N=35		Survey Dept N=35		Total N=70	
		N o,	%	No.	%	N o.	%
Sex	male	21	60.	16	45.	37	52.
	Female	14	40.	19	54.	33	47.
Age Group (years)	> 20 years	20	57.	25	71.	45	64.
	21-22	13	1%	9	4%	22	3%
	years	2	37.	1	25.	3	31.
	> 23 years		1%		7%		4%
			5.8		2.9		4.3
Class	First	20	57.	25	71.	45	64.
	Second	15	42.	10	28.	25	35.
			9%		6%		7%

Table 1 shows that majority of study students are male (52.8%), aged > 20 years (64.3%), and from first class (64.3%)

Table (2): Frequency distribution of study sample according to their opinions regarding the health effect of obesity

Health effect of obesity	Study sample						P- Value*
	Electrical Dept N=35		Survey Dept N=35		Total N=70		
	No.	%	No.	%	No.	%	
Physical effect	5	14.2%	9	25.7%	14	20.0%	0.282
Psychological effect	17	48.6%	18	51.4%	35	50.0%	0.011
Social effect	13	37.2%	8	22.9%	21	30.0%	0.192
Total	35	100.0%	35	100.0%	70	100.0%	

* χ^2 – test was used

Table 2 show that most of students from both departments (Electrical and Survey) go with the psychological effect of obesity (48.6%), (51.4%) respectively

Table (3): Frequency distribution of study students sample according to their opinions regarding the risk factors of obesity

Opinions parameter about risk factors	No. of students (n=70)			
	Yes	Uncertain	No	Mean of score
Family history of obesity	10	12	48	1.45 Under cut-off point
Eating while watching T.V	23	6	41	1.74 Under cut-off point
Exercise > 30 minutes / time	17	38	15	2.02 Above cut-off point
Soft drinks	21	19	30	2.01 Above cut-off point
Eating sweet diet	52	7	11	2.58 Above cut-off point
Lack of physical activity	51	8	11	
Gender have a role	43	5	22	2.3 Above cut-off point
Hormonal changes	19	14	37	1.74 Under cut-off point

Table 3 shows that students go with the risk factors of obesity in eating sweet diets, soft drinks, and excursive > 30 minutes. They go with effect of gender as a risk factor in obesity (2.3)

Table (4): Frequency distribution of study sample according to their opinions regarding the protective measures of obesity

Protective measures of obesity	Study sample N= 70						P- Value*
	Electrical Dept N=35		Survey Dept N=35		Total N=70		
	No.	%	No.	%	No.	%	
Regular cheek –up	10	28.6%	11	31.5%	21	30.0%	0.794
Dietary modification	15	42.8%	9	25.7%	24	34.3%	0.131
Daily exercises	7	20.0%	15	42.8%	22	31.4%	0.039
Management of stress	3	8.6%	0	0.0%	3	4.3%	0.077
Total	35	100.0%	35	100.0%	70	100.0%	

Table 4 show that most of study students go with dietary modification (34.3%) and daily exercises (31.4%) are the most effective protective measures.