Obesity and Overweight among Medical Teachers in College of Medicine in university of Kufa

***Salam Jasim Mohammed, FIBMS. *Huda Ghazi Hamid, FIBMS.**
***Department of community medicine, college of medicine, university of Kufa.**

الخلاصة:
أجريت هذه الدراسة لمعرفة مدى انتشار زيادة الوزن والسمنة لمجموعة من اساتذة كلية الطب في جامعة الكوفة وبعض العوامل المساعدة على ذلك. ولهذا الغرض تم اجراء دراسة مسحية مقطعية شملت ٩٦ استاذ في كلية الطب للفترة من الاول اربيل الى الاول من آب ٢٠١١. تم جمع المعلومات من الاساتذة من خلال استمارة تحتوي على مجموعة من الاسئلة متعلقة بالموضوع قيد البحث كذلك تمت عملية قياس الطول والوزن من خلال جهاز متخصص موجود في قسم طب المجتمع. نتائج هذه الدراسة اظهرت ان ٣٦.٥% من المشاركين يعانون من زيادة الوزن بينما ١٨.٨% يعانون من السمنة .
هذه الدراسة اظهرت انه لا توجد علاقة بين الجنس و مؤشر كتلة الجسم (P=0.417) كذلك لا توجد علاقة بين مؤشر كتلة الجسم والسمنة لدى الاقارب من الدرجة الاولى (P=0.944) .
كذلك لا توجد علاقة بين مؤشر كتلة الجسم ووجود مرض مزمن لدى الاستاذ.
اظهرت هذه الدراسة انه هنالك علاقة بين الوجبات التي يتم تناولها بين الوجبات الرئيسية ومؤشر كتلة الجسم(P=0.024) كذلك هنالك علاقة بين مؤشر كتلة الجسم و التمارين الرياضية التي يمارسها الاستاذ.
هذه الدراسة بينت ان حجم المشكلة كبير لدى هذه الشريحة من المجتمع والحاجة لتغيير نمط حياتهم من حياة الخمول الى حياة ذات حركة اكثر وكذلك تغيير طبيعة الغذاء .
كذلك الدعوة الى بناء مركز رياضي داخل الجامعة وتشجيع الاساتذة على ممارسة الرياضة في اوقات الفراغ.

Abstract

Objective: this study was conducted to determine the prevalence of obesity and overweight and some associated factors among teachers in medical college in Kufa university.

Design and methods: A cross sectional study on obesity and overweight covering 96 medical teachers in medical college in Kufa university was carried out during the period 1st of April to 1st of august 2011, data collection done by using questionnaire and measurement of weight and height by using weight display instrument which is present in community medicine department

Results : results of this study shows that there is 36.5% of participants suffering from overweight and 18.8% suffering from obesity.

In the current study no significant association between sex and body mass index (BMI) (P=0.417) and also no significant association between BMI and obesity in first degree relatives (P=0.944).

This study shows no significant association between BMI and having chronic disease (P=0.856).

This study shows significant association between BMI and number of meals taken between the main meals (P=0.024) also significant association between BMI and exercise (P=0.023)

Conclusion: the results show that the problem is big among this group of community and the need to change their lifestyle from sedentary lifestyle to more active one and change dietary habits and establish a center for exercise inside the university and encourage all medical teachers to participate in it.

Keywords: obesity, overweight, BMI

Introduction:

Obesity is an excessive accumulation of energy in the form of body fat which impairs health. The degree of health impairment is determined by three factors: (1) the amount of fat, (2) the distribution of fat, and (3)the presence of other risk factor Obesity is most commonly caused by a combination of excessive dietary calories, lack of physical activity, and genetic susceptibility, although a few cases are caused primarily by genes, endocrine disorders, medications or psychiatric illness. [1]

Evidence to support the view that some obese people eat little yet gain weight due to a slow metabolism is limited; on average obese people have a greater energy expenditure than their thin counterparts due to the energy required to maintain an increased body mass.[2][3]

The scale of the obesity epidemic makes it difficult to manage every overweight and obese person through clinical services; social and environmental changes, food education, and community based interventions are needed. However, all health professionals should be able to recognize obesity and its related co morbidities and access resources to manage obesity.[3]

Currently, obesity is poorly recognized and documented.[4] Clinicians do not feel they have expertise, or access to expertise, in weight management[5] and some doubt whether it is within their remit.[6] In pediatrics, lack of time, lack of training, and the poor motivation of patients were seen as major barriers to tackling childhood obesity in a clinical setting. [7]

Obesity and overweight in adults

Classification:

Use body mass index (BMI) to classify overweight or obesity in adults (B):

- Less than 18.5—underweight.
- 18.5-24.9—normal range.
- 25-29.9—overweight.
- 30-34.9—obesity I.
- 35-39.9—obesity II.
- 40 or more—obesity III.[8]

Obesity has reached an epidemic proportion globally, with more than one billion adults over weight, at least 300 million of them clinically obese, and is a major contributor to the global burden of chronic disease and disability. Often coexisting in developing countries with under nutrition, obesity is a complex condition with serious social and psychological dimensions, affecting virtually all ages and socioeconomic groups. The obesity epidemic is not restricted to industrialized societies; this increase is often faster in developing countries than in the developed world.[9]

Aims of the study:

1-obtain data about the prevalence of obesity and overweight among teachers in medical college in university of Kufa.

2-identify some associated factors

3- make the medical teachers aware about this problem to change their life style.

Subjects and methods:

A prevalence study was done covering 96 medical teachers working in medical college in Kufa university during the period between 1st of April till 1st of august 2011. There are 179 medical teachers in the college. We hope that all medical teachers participate in this study but unfortunately some of them not respond for cause or another. A well prepared questionnaire that contain some demographic data about the persons and questions related to obesity and overweight given to each participant. For each participant we check height and weight by using (weighting display)instruments which is present in community medicine department then we compute body mass index using the formula (BMI= weigh(kg)/height(m^2)).

Results:

The results of current study which includes 96 participants of teachers in medical college in university of Kufa. The age range of them was 33-66 years with mean ± standard deviation (46.3±10.5)years. 76 (79.2%) of them were males, 20 (20.8%) were females. Regarding body mass index (BMI) 43 (44.8%) were within normal weight, 35(36.5%) were suffering from overweight while only 18 (18.8%) were obese as shown in the figure 1.

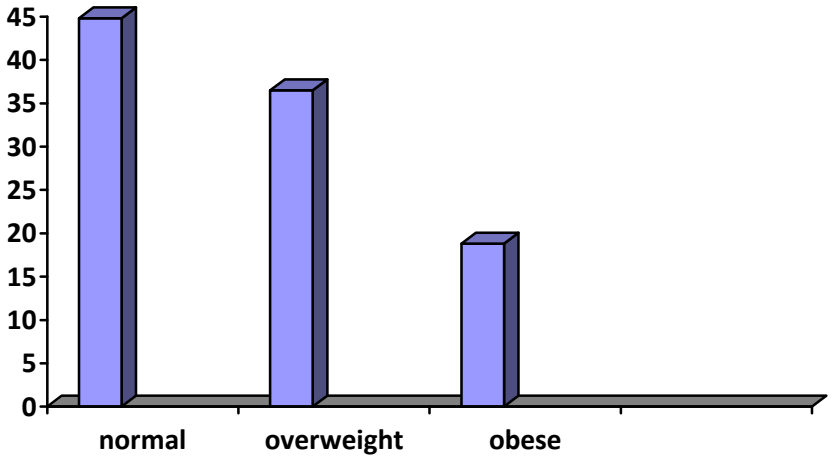

Figure 1: the distribution of the sample according to BMI

There was no significant association between sex and BMI (X^2=1.748 P=0.417) as shown in the table 1

Table (1) relation between sex and BMI.

Count

		body mass index			Total
		18.5-25	25-30	>30	
sex	male	32	26	16	74
	female	11	9	2	22
Total		43	35	18	96

No significant association was found between obesity in first degree relatives and BMI as shown in table (2)

Table (2) relation between BMI and obesity in first degree relatives

Count

		body mass index			
		18.5-25	25-30	>30	Total
obesity in first degree relatives	present	26	20	11	57
	absent	17	15	7	39
Total		43	35	18	96

X^2=0.116 P=0.944

As well as there was no significant association between the BMI and the history of chronic diseases, table 3

Table (3) the relation between BMI and history of chronic disease

Count

		body mass index			
		18.5-25	25-30	>30	Total
chronic disease	present	18	13	8	39
	absent	25	22	10	57
Total		43	35	18	96

X^2=0.312 P=0.856

Regarding the relation between the eating habits and BMI, No significant association was found between BMI and the number of the main meals, table 4

Table (4) relation between BMI and number of main meals

Count

		body mass index			
		18.5-25	25-30	>30	Total
number of main meal	1	4	1	4	9
	2	16	16	3	35
	3	23	18	11	52
Total		43	35	18	96

X^2=7.731 P=0.102

On the other hand there was significant statistical association between the BMI and the number of meals between main meals (snacks) as shown in table 5

Table (5) relation between BMI and number of meals between main meals

Count

		body mass index			Total
		18.5-25	25-30	>30	
number of meals between main meal	0	12	21	10	43
	1	25	10	8	43
	2	6	4		10
Total		43	35	18	96

X^2=11.202 P=0.024

Also there significant statistical association between the BMI and the exercise, table 6

Table (6)relation between BMI and exercise

Count

		body mass index			Total
		18.5-25	25-30	>30	
excersize	yes	20	6	7	33
	no	23	29	11	63
Total		43	35	18	96

X^2=11.577 P=0.023

Discussion:

Obesity is a public health and policy problem because of its prevalence, costs, and health effects[10]. Public health efforts seek to understand and correct the environmental factors responsible for the increasing prevalence of obesity in the population. Solutions look at changing the factors that cause excess food energy consumption and inhibit physical activity[11].

Obesity increases the likelihood of various diseases, particularly heart disease, type 2 diabetes, obstructive sleep apnea, certain types of cancer, and osteoarthritis[12]

In the current study there was 55.3% have BMI more than 25Kg/m^2 and this is about the same in national health survey in Australia which is equal to 53.6%[13]. While in united kingdom it is 22-24%[14]. This difference between countries may be due to difference in lifestyle like exercise and dietary habit. The target group in our study differ from general population and this may be the cause of the high percentage of overweight and obesity because they are having sedentary lifestyle.

In the current study there is significant difference between male and female in BMI and this disagree with what is found in Iran in which obesity is more common in women (39.5%) while (14.5%)among men[15]. This difference may be related to dietary habits and physical activity between male and female.

Obesity possess a major risk for serious diet related non-communicable diseases, including diabetes mellitus, cardiovascular disease, and stroke and certain forms of cancer. Its health consequences range from increased risk of premature death to serious chronic conditions that reduce the overall quality of life[16]. But in this study there is no significant difference between those with BMI>25 Kg/m^2 and those with BMI<25

kg/m^2 regarding chronic diseases and this may be due to age of participants (46.3±10.5 years) or family history of diabetes mellitus or hypertension.
In this study there is no significant difference between number of meal and BMI and this may be due to those with large BMI try to decrease their meals to decrease body weight and this agree with a study which show that eating frequency has been negatively related to body mass index (BMI)[17].
While there is significant difference in BMI associated with number of meals taken between main meals (snacks) (P=0.024) and this agree with a fact that snacks one of the major factors of weight gain in western population[18,19,20].
There is significant difference between those doing exercise and BMI (P=0.023) and this agree with other studies which show that Physical exercise and activity are important for maintaining long-term weight loss and can be beneficial in preserving lean body mass while dieting. A dose-response relationship has been demonstrated in overweight adult women between the amount of exercise and long-term weight loss maintenance[21].

Conclusions:

There is high prevalence of overweight and obesity 55.3% in the medical teachers in Kufa university. Body mass index not significantly affected by sex or number of main meals or even familial risk (obesity in first degree relatives). Body mass index significantly affected by meals that taken between main meals and also by exercise (lifestyle has important effect on body weight).

Recommendations:

1- As the medical teachers represent the good health example not for their students only but also for the entire community so they must have an increased awareness on the size of the problem and ways to overcome it through meetings or conferences and encourage them to change their lifestyle.
2- Encourage the manager of the college to open an exercise room which contain all the exercise instruments and encourage all the staff to do exercise during free time.
3- Instead of using cellular phones, walking must be the role during transfer and communication inside the university.

References:

1-World health organization .obesity :preventing and managing the global epidemic :report of a WHO consultation on Obesity ,Geneva: world health organization ;1997.
2- Kushner, Robert (2007). *Treatment of the Obese Patient (ContemporaryEndocrinology)*. Totowa, NJ: Humana Press. pp. 158. ISBN 1-59745-400-1. http:// books.google.com/? id = vWjK5etS7PMC&pg = PA121&lpg = PA121 & dq = measurement + of + metabolism + in + obese+Bessesen. Retrieved April 5, 2009.
3-Adams JP, Murphy PG (July 2000). "Obesity in anaesthesia and intensive care". *Br J Anaesth* 85 (1): 91–108.doi:10.1093/bja/85.1.91.PMID 10927998. http://bja. oxfordjournals.org/cgi/content/full/85/1/91
4-*Cleator J, Richman E, Leong KS, Mawdsley L, White S, Wilding J. Obesity: under-diagnosed and under-treated in hospital outpatient departments. Int J Obes2002;25:581-4*

5-*Leslie WS, Hankey CR, McCombie L, Lean MEJ. Weight management: a survey of current practice in secondary care NHS settings in 2004. J Eval Clin Pract2005;11:462-7*
6-*Hankey CR, Eley S, Leslie WS, Hunter CM, Lean MEJ. Eating habits, beliefs, attitudes and knowledge among health professionals regarding the links between obesity, nutrition and health. Public Health Nutr2003;7:337-43*
7-*Story MT, Neumark-Stzainer DR, Sherwood NE, Holt K, Sofka D, Trowbridge FL, et al. Management of child and adolescent obesity: attitudes, barriers, skills and training needs among health care professionals. Pediatrics2002;110:210-4*
8-WHO. Obesity: preventing and managing the global epidemic: report on a WHO consultation (WHO technical report series 894). 2000.
9-world health organization. Global strategy on diet, physical activity, and health. Geneva: world health organization; 2004.
10-Satcher D (2001). *The Surgeon General's Call to Action to Prevent and Decrease Overweight and Obesity*. U.S. Dept. of Health and Human Services, Public Health Service, Office of Surgeon General. ISBN status=May be invalid – please double check. http://www.ncbi.nlm.nih.gov/bookshelf/br.fcgi?book=hssurggen&part=A2.
11-Brook Barnes (2007-07-18). "Limiting Ads of Junk Food to Children". *New York Times*. http://www.nytimes.com/2007/07/18/business/18food.html. Retrieved 2008-07-24.
12-Haslam DW, James WP (2005). "Obesity". *Lancet* 366 (9492): 1197–209. doi:10.1016/S0140-6736(05)67483-1. PMID 16198769.
13-Body section (Biomedical factors; Australia's health 2006)"
14-Peter G. Kopelman, Ian D. Caterson, Michael J. Stock, William H. Dietz (2005). *Clinical obesity in adults and children: In Adults and Children*. Blackwell Publishing. p. 493. ISBN 140-511672-2.
15-Rashidy-Pour A, Malek M, Eskandarian R, Ghorbani R (January 2009). "Obesity in the Iranian population". *Obes Rev* 10 (1): 2–6
16-World Health Organization. Nutrition: controlling the global obesity epidemic. Geneva: World Health Organization, 2005.
17-Jessica L-Bachman et al, Journal of the American Dietetic Association Volume 111, Issue 11 , Pages 1730-1734, November 2011. Eating Frequency Is Higher in Weight Loss Maintainers and Normal-Weight Individuals than in Overweight Individuals
18-Zizza, C., Siega-Riz, A. M., Popkin, BM. (2001) Significant increase in young adults' snacking between 1977–1978 and 1994–1996 represents a cause for concern! Prev Med. 32: 303–310.
19-Schrauwen, P., Westerterp, KR. (2000) The role of high-fat diets and physical activity in the regulation of body weight. Br J Nutr. 84: 417–427
20-McCrory, M. A., Fuss, P. J., Saltzman, E., Roberts, SB. (2000) Dietary determinants of energy intake and weight regulation in healthy adults. J Nutr. 130(2S Suppl): 276S–279S
21-Jakicic JM, Mrcus BH, Lang W, et al. Effect of exercise on 24-month weight loss maintenance in overweight women. Arch intern med 2008; 168:1550.