International Journal of Research and Development in Pharmacy and Life Sciences
Available online at http//www.ijrdpl.com
October - November, 2016, Vol. 5, No.6, pp 2433-2436
ISSN (P): 2393-932X, ISSN (E): 2278-0238

Short Communication

THE EFFECT OF CONSUMPTION OF DIFFERENT FOODS ON BODY MASS INDEX OF OVERWEIGHT WOMEN

Hadi Akbari[1], Parviz Aghayii Barzabad [2]*

1. Department of Healthcare Management, Fars Science and Research Branch, Islamic Azad University, Marvdasht Iran
2. Social determinants of health research center, Yasouj University of medical Sciences, Yasouj, Iran.

***Corresponding author's Email:** aghaieparv@gmail.com

(Received: July 16, 2016; **Accepted:** September 19, 2016**)**

ABSTRACT

Food pattern is one of factors influencing on incidence of chronic diseases such as colon cancer, hypertension, and vascular diseases. World health organization states that increase of obesity throughout the world threats health of many people and the growing trend of obesity is seen in developing and developed countries. Therefore, concerning importance of women's health, the present study aims to determine the effect of consumption of different foods on BMI of overweight women. This is a sectional study based on observation and interview taken via the researcher and completion of the questionnaire and it was conducted on 70 women aged over 18 years with BMI higher than 25 who referred to health clinics of Lamard city. Concerning obtained information, there is a significant and direct relationship between consumption of bread, cereals, fat and MBI of women (RR= + 0.334, p= 0.005 and RR= 0.277, p= 0.20 respectively) and there was a reverse and significant relationship between milk, its products, vegetables and BMI of women (RR= - 0.314, p= 0.008 and RR= - 0.240, p= 0.046 respectively) but no significant relationship was obtained between fruits, free sugars, grains, meats and BMI. Concerning results of the present study and considering that obesity can have anti-socio-psychological effects in addition to non-optimal effects on physical health, correct education of food pattern and coping with unsafe foods in the society should be one of macro goals of socio-economical development planning.
Keywords: Obesity, BMI, foods and overweight women.

INTRODUCTION

Life style and feeding pattern are factors affecting incidence of chronic diseases such as colon cancer, hypertension, and vascular diseases. Therefore, amount of responsibility and personal selections are important in formation of life style. WHO states that increase of obesity throughout the world threats health of many people and the growing trend of obesity is seen in developing and developed countries (FAO, 1998). Obesity often results from taking in more calories and hungry results from inadequate consumption of food. Therefore, according to recent observations (Tansand et al, 2001) a paradox is created due to overweight and lack of proper calories in individuals who eat unsafe foods. The hypothesis of there is a relationship between hunger and obesity was proposed for the first time in a case study in the USA in 1994. According to Dietz, food selections or physiologic consistencies in response to periodic food shortages can increase body fat. In order to confirm this hypothesis, he conducted many studies and tested the relationship between obesity and unsafe food (Dietz, 1995).

Today many efforts are done about activities related to promotion of health. Incidence of obesity in recent years especially in developing countries is increased considerably. Obesity is important because it can cause cardiac, diabetic, hypertensive diseases, abnormalities in women and deliveries and other side effects. According to heart association of Canada in 2001, life style is one of important factors of disease and death in America and about 70% of physical and psychological diseases associate with life style (Terin, 2001). Today, obesity is one of healthy problems and risk factors for incidence of many diseases. Incidence of obesity is rapidly increasing in many industrial countries especially America and developing countries such that about 64% of American adults are overweight and about 33% are obese (Afkhami et al, 2002). Obesity results from general or local increase of fat in the body (Guyton, 2006). If fat excess accumulates in abdomen, it is called android obesity which is observed mostly in men and if fat excess deposits in the hips, buttocks and tights, it is called gynoid obesity which is seen mostly in women. This type of fat deposit is due to pregnancy and breast feeding (Mahan et al, 2004). Most of important side effects of obesity in women such as insulin resistance, diabetes, hypertension, hyperlipidemia and hyperandrogenism associate with fat excess in abdominal wall or upper part rather than general accumulation of fat (Harrison, 2001). Overweight and obesity are evaluated by different ways depending on the type and accuracy of the activity. Simple methods are tables of weight, height, MBI, waist circumference, waist-hip ratio and abdomen-hip ratio (Wildman, 2000). Several factors are involved in incidence of obesity such as genetic factors, increase of taking in more calories than its consumption, inactive life, socio-environmental and psychological factors, nervous disorders and overfeeding in childhood (Samaras et al, 1999). Mikkola et al (2011) studied reduction of factors of cardiac diseases such as obesity in young solders of military service and stated that physical activities are the key part in life style but its independent contribution in losing weight and preventing cardio-vascular diseases (CVD) is not clear. In the study done by Michel Sechini et al (2014), most people and one fifth of children had overweight or obesity in OECD region and the rate of obesity and overweight is ten times higher in OECD countries. Onill et al (2015) studied "metabolic syndrome: a more accurate look at this epidemic and growing disease and related traumas" and stated that obesity is becoming epidemic throughout the world and its growth has been estimated by 1.4 milliard per year. Obesity influences on many socio-economical fields and races and it is a prerequisite of metabolic syndrome. Problems resulted from obesity directly or indirectly and also being a risk factor in many metabolic diseases and some cancers are clear for everybody. In recent decades, many studies have been conducted on food patterns in Iran due to the increasing trend of overweight but no study has been conducted on the effect of consumption of different foods on BMI of women. Therefore, concerning importance of women health, the present study aims to determine the effect of consumption of different foods on BMI of overweight women.

METHODOLOGY

This is a sectional study with observation and interview taken by the researcher and completion of the questionnaire and it was done on 70 women aged over 18 years with BMI higher than 25 who referred to health clinics of Lamard from January 2016 to March 2016. The statistical population is all overweight women who referred to health clinics of Lamard. Concerning incidence of overweight and obesity in Lamard women, the amount obtained from food department of Shiraz medical science university is 35% and 50 subjects were chosen concerning the sample amount of some other studies with 95% confidence coefficient and by using n= z2pq/d2. Totally 70 questionnaires were considered for completion of study and they were randomly distributed among subjects. Data were analyzed by SPSS 23 and Pearson correlation test.

RESULTS

Results obtained from consumption of bread and cereals have been 10.6 units (table 1), after analyzing information obtained from the study, a significant relationship was found between bread, cereals and BMI of women (RR= + 0.334, p= 0.005). Therefore, increasing consumption of bread and cereals enhances BMI of women (BMI> 25) (table 2). Results obtained for consumption of meat showed that mean consumption of meat has been 2.6 unites (table 1) and after analyzing information obtained from the study, no significant relationship was found between meat and BMI of women (RR= + 0.231, p= 0.054).

Table 1: Mean and standard deviation of consumption of different foods.

Nutrient groups	Mean	Std. deviation	Variance
Bread & cereals	10.6171	1.90499	3.629
Milk & its products	1.1864	.58346	.340
Meat	2.6157	1.17481	1.380
Grains	.2957	.13098	.017
Vegetables	1.4457	.60880	.371
Fruits	2.0386	1.05340	1.110
Fat (g)	37.2714	9.20290	84.693
Sugar (g)	31.3714	18.48632	341.744
BMI	31.2171	3.14306	9.87

Table 2: Correlation coefficient of nutrient groups and BMI

Nutrient groups	Bread & cereals	meat	Milk & its products	Grains	Vegetables	Fruits	Fat	Free sugars
Correlation coefficient	0.334	.231	. -314	.-111	.-240	.-140	.277	.-132
Significance level	0.005	.054	.008	.358	.046	.247	.020	.276

P<0.01, P< 0.05

Results obtained for consumption of milk and its products showed that mean consumption of milk has been 1.1 unites (table 1) and after analyzing information obtained from the study, no significant relationship was found between milk and BMI of women (a reverse relationship, RR= - 0.341, p= 0.008). Therefore, increasing consumption of milk and its products reduces BMI of women with BMI> 25 (table 2). Results obtained for consumption of grains showed that mean consumption of grains has been 0.29 unite (table 1) and after analyzing information obtained from the study, no significant relationship was found between grains and BMI of women (RR= + 0.358, p= 0.111). Therefore, increasing consumption of grains reduces BMI of women with BMI> 25 (table 2). Results obtained for consumption of fruits showed that mean consumption of fruits has been 2 units (table 1) and after analyzing information obtained from the study, no significant relationship was found between fruits and BMI of women (RR= - 0.140, p= 0.247). Therefore, increasing consumption of fruits reduces BMI of women with BMI> 25 (table 2) (reverse relationship). Results obtained for consumption of fats showed that mean consumption of fats has been 37 g (table 1) and after analyzing information obtained from the study, a significant relationship was found between fats and BMI of women (RR= + 0.277, p= 0.020). Therefore, increasing consumption of fats enhances BMI of women with BMI> 25 (table 2) (direct relationship). Results obtained for consumption of free sugars showed that mean consumption of sugar has been 31 g (table 1) and after analyzing information obtained from the study, no significant relationship was found between free sugars and BMI of women (RR= - 0.132, p= 0.275).

DISCUSSION AND CONCLUSION

In this study, 4 nutrient groups had a significant correlation with BMI in women with BMI>25: bread and cereals, milk and its products, vegetables and fats. Two groups had a direct relationship (bread, cereals and fats) with BMI and two groups had reverse relationship (milk and vegetables with BMI. Results obtained from this study determined that high consumption of milk and vegetables have protective and anti-overweight effects and also high consumption of bread, cereals and fats have direct and overweight effects. In recent decades, obesity and overweight is increasing in Iran especially in women due to rapid nutrient and life style changes (5). Studying life style and its effect on BMI in Iran

suggested that about 29% of urban adults and 17% of rural adults aged over 40 years old were overweight and obese respectively. Also, in this study, individuals take in 40% more calories and carbohydrates and fats were consumed more than 40% and 30% respectively (6). Results of the research done by Moon showed that increase of BMI enhances affection to obesity, hypertension, and diabetes type 2 (7). Results obtained from the research done by Wilsgaard indicated that there is as significant relationship between factors of life style and changes of BMI in women (8l). Concerning results of this research compared to other results about safe foods, it is concluded that increase of unsafe foods results in reduction of milk and vegetables and increase of fats, breads, and cereals. Concerning the correlation between such changes and increase of BMI, this incremental trend of overweight can be explained. Obesity associates directly with unsafe foods. Obesity and unsafe foods can have non-optimal effects on physical health and anti-social-psychological effects. Therefore, supplying safe foods and fighting against unsafe foods should be among macro goals of socio-economical development planning.

REFERENCES

1. Afkhami Ardakani M, Sedghi H, diabetes and obesity: the most prevalent metabolic disorders in the world, journal of Shahid Sadoughi medical science university of Yazd, 2002, 10 (4): 7-20
2. Dorosti, AR, the relationship between safe food, obesity, and familial factors related to them, journal of health faculty and health research institute, 2008, 6(1), 1-9
3. Azizi, F, 24 millions of Iranian population suffer from overweight and obesity, the abstract of the first congress of obesity prevention and treatment in Iran, Tehran, March 2007
4. Carbohydrates in human nutrition. Report of aJoint FAO/WHO Expert Consultation.FAOFood Nut Pap 1998; 66: 1-140.
5. Dietz WH. Does hunger cause obesity? Pediatrics 1995; 95: 766-7.
6. Guyton AC, Hall JE. Textbook of medical physiology. 11th ed. St.Louis: Mosby; 2006.
7. Harrison T. Harrison's principles of internal medicine endocrine. Metabolism and Nutrition. 13th ed. USA: McGraw Hill; 2001.
8. Mahan.LK, Escott- Stump S. Krause's food. Nutrition & Diet Therapy. 2004; 3 (2): 565-75.
9. Michel Chesini., Walls HL, Peeters A, Son PT, Quang NN, Hoai NT, LoidD, et al. Prevalence of underweight, overweight and obesity in urban Hanoi, Vietnam. Asia Pac J ClinNutr 2014; 18(2): 234-9.
10. Micola,R., Carroll MD, Curtin LR, McDowell MA, Tabak CJ, Flegal KM. Prevalence of overweight and obesity in the United States, . JAMA 2011; 295(13): 1549-55.
11. Moon OR, Kim NS, Jang SM, Yoon TH, Kim SO.The relationship between body mass Index andthe prevalence of obesity-related diseases basedon the 1995 National Health Interview Surveyin Korea. Obese Rev 2002; 3(3):19-6.
12. Onill S, Huus K, Ludvigsson JF, Enskar K, Ludvigsson J. Risk factors in childhood obesity -Southeast Sweden (ABIS) Cohort. Pediatr. 2007; 96: 1321-1325.
13. Therrien J, Warnes C, Daliento L, Hess J,Hoffmann A, MarelliA,et al. CanadianCardiovascular SocietyConsensus Conference2001 update: recommendations for themanagement of adults with congenital heartdisease part III. Can J Cardio 2001; 17(11): 1135-58.
14. Townsend MS, Peerson J, Love B, Achterberg C, Murphy SP. Food insecurity is positively related to overweight in women. J Nutr 2001; 131(6):1738-45.
15. Wildman R, Mederios DM. Advanced human nutrition. St.Louis: Mosby; 2000.
16. Wilsgaard T, Jacobsen BK, Arnesen E.Determining lifestyle correlates of body massindex using multilevel analyses: the TromsStudy; 1979-2001. Am J Epidemiol2005;162(12):1179-88.

