

The risk of diabetes versus coronary disease health essay

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This paper analyses the research study which was published in "The New England Journal of Medicine". The article to review is "Adolescent BMI Trajectory and Risk of Diabetes versus Coronary Disease". This study was conducted to find out the risk factors of diseases which are associated with BMI. The association of body mass index from adolescence to adulthood with obesity-related diseases in young adults has not been fully delineated. The researchers conducted a prospective study in which they followed apparently healthy young adults to detect the incidence of diabetes and coronary disease by angiography demonstrated through periodic review at the Centre of the Israeli Army Medical Corps. The researchers found that youth BMI was a main analyst of angiography-proven coronary heart disease and diabetes in multivariate models.

Discussion

Obesity and diabetes are among the most common and lethal associations today. From the first results of the study Framingham both conditions were considered as risk factors for coronary heart disease, and in recent years the incidence of obesity explosive in developed countries, together with the growing understanding of their relationship with the occurrence of symptomatic insulin resistance and the onset of noninsulin-dependent diabetes mellitus has made many studies have been conducted to address this issue. This is one of the studies, aims to address this issue (Eckel, 2011). The research article "Adolescent BMI Trajectory and Risk of Diabetes versus Coronary Disease" is about body-mass index (BMI) and risk of diseases. The research was done to find out whether elevated BMI in early days, teens and middle age, or increase in BMI in transition, takes part separately to the risk

of disease. The researchers conducted a prospective study in order to get the answers of their questions. In the study, the researchers followed 37, 674 healthy young men. These people were followed to look at the incident of angiography-proven coronary heart disease and diabetes with the help of Staff periodic examination centre. The height and weight of all followed people were checked and measured after a standard interval. First measurement of height and weight was taken when they were 17. As a result of the research, it was found that from about 650, 000 person-years, there were 327 of coronary heart disease and 1173 incident cases of diabetes type II. Youth BMI was an important and major analyst of angiography-proven coronary heart disease and diabetes in multivariate models. More modifications for BMI at middle age totally ablated the group of youth BMI with diabetes, but not with heart diseases. After modification of BMI values as nonstop variables, only prominent BMI in middle of age was considerably connected with diabetes. On the contrary, elevated BMI in young and middle age people were separately connected with heart disease. The body mass index (BMI) is a formula used to evaluate body weight relative to height. The formula used to measure body composition and has proven to be an effective way to determine body fat. The BMI has been recognized as the most valuable tool for assessing body overweight and obesity, and is widely recommended by organizations such as WHO and the Centres for Disease Control and Prevention (CDC). This is a reliable, affordable and fast (Lesser, 2007). Despite this, recent studies have suggested the possibility that BMI underestimates obesity, or the risks, so that other measures, such as waist circumference were taken into account. Many doctors now measure obesity

using body mass index (BMI), which is calculated by dividing weight in kilograms by the square of height in meters ($BMI = \text{kg}/\text{m}^2$). According to the National Institute of Heart, Lung, and Blood Institute (NHLBI), a person is considered overweight if he has a BMI over 25 is obese and if the figure is over 30. Obesity is becoming conceptually considered a health problem in the early 90s, from epidemiological studies by U. S. insurance companies. Start there to measure their magnitude and impact that this disease has on other conditions. It is assessed to be a risk factor and disease both for different diseases. However, in recent decades is depicted on this health problem, as a real disease itself and has been defined by the World Health Organization, as the epidemic of the XXI century. According to Lesser (2007), Obesity increases the risk of cardiovascular disease due to its effect on blood lipid levels. The effects of obesity on cardiovascular health can begin in childhood, which increases the risk of developing cardiovascular disease in adulthood. Overweight and obesity increase the risk of illness and death associated with coronary artery disease and is a major risk factor for heart attack. Heart diseases are a leading cause of death in children and adolescents, but are the leading cause of death in adults in the United States. Moreover, someone dies every 39 seconds in the United States some form of cardiovascular disease. Obesity is major cardiovascular risk factors. This is alarming when you consider that one in three American adults is obese. Recent studies have shown that obesity is related to more than 110,000 deaths in the UK each year. Childhood obesity in the United Kingdom has become a problem in recent years. According to Lewis, McTigue, Burke, Poirier, Eckel, Howard, et al. (2009), between 16 and 33 percent of children

and adolescents are obese. For this reason there has been a sharp increase in problems related to obesity, such as type 2 diabetes, which typically only seen in adults. Because obese children are more likely to be obese adults, prevent or treat obesity in childhood may reduce the risk of obesity in adulthood. In turn, this could help reduce the risk of heart disease, diabetes and other obesity-related diseases. Obesity is a disease in which genetic and environmental factors are involved, the latter represented by poor eating habits and sedentary lifestyles. The explosion of obesity in the world has made this disease becoming an epidemic of XXI century. This increase in obesity cannot be explained only by the genetic contribution of the disease, but by environmental factors inappropriate lifestyles that are implemented in parallel to development in many countries. But genetics is also important. The parental obesity is also an important predictor of obesity in offspring during childhood. In Hoeger and Hoeger's (2010) study, body overweight adolescents had a higher percentage of family history of obesity and diabetes mellitus and gestational diabetes, although with the difference that were not overweight in none of the cases was significant. There is a strong association between obesity and type 2 diabetes in both sexes and in all races. Different studies showed that BMI > 31 kg / m² and > 35 kg / m² in women and men respectively, is associated with increased risk of diabetes. Besides, the overweight precedes diabetes. A young Israeli study demonstrated the importance of obesity as a risk factor for diabetes in the presence of other factors. Young people with normal fasting glucose, high (91-99 mg / dl) and a BMI > 30 kg / m² had 8.29 times higher risk of diabetes than youth with BMI <25 kg / m² and fasting blood glucose <86

mg / dl (Lewis, McTigue, Burke, Poirier, Eckel, Howard, et al., 2009). The Framingham Study and the Nurses' Health Study showed an increased risk of coronary heart disease among the obese. Obesity is also associated with the presence of fat and coronary atherosclerotic lesions in the right and left anterior descending coronary artery in young. Moreover, people with pre-existing heart disease do not have a close association between obesity and cardiovascular mortality by multivariate analysis. There is a clear association between obesity and heart failure. The Framingham study evaluated 6000 individuals with a history of heart failure for 14 years. It was observed that obese subjects had twice the risk of heart failure compared to lean individuals. Multivariate analysis showed that the risk of heart failure rises 5% in men and 7% in women for every unit increase in BMI. Some studies seem to indicate that the location of the body in which accumulates the additional weight can predict the risk of coronary disease better than BMI. Obesity is a major risk factor for cardiovascular disease, it is estimated that approximately two thirds of patients who have had a myocardial infarction have a body mass index (BMI) higher than normal (Hoeger and Hoeger, 2010). Obesity reduces sensitivity to insulin, increasing the free fatty acid turnover, increasing sympathetic basal tone and induces a state of hypercoagulability and inflammation that contributes to the onset and progression of cardiovascular disease. Moreover, obesity is associated with increased risk of diabetes, dyslipidemia, hypertension and obstructive sleep apnea. Though undoubtedly, obesity is a cardiovascular risk factor, it is not yet known exactly the effect of obesity on overall mortality, cardiovascular mortality and frequency of infarction and revascularization in patients with

established coronary heart disease (WHO, 2002). Himes (2009) found in his study that low BMI was associated with greater long-term risk of total mortality and cardiovascular events. Overweight patients had better survival and lower frequency of cardiac events, while obese individuals had higher total mortality, but this association was only seen among subjects with a history of CABG. Morbid obesity is associated with significantly increased risk of cardiovascular mortality but no significant increase in total mortality in individuals with established coronary heart disease. However, this inverse association between obesity and death in patients with cardiovascular disease (known as the "paradox of obesity") should be analyzed with caution, the authors, and do not mean that excess fat does not represent a risk factor for coronary disease progression or complications, in patients with established cardiovascular disease (Must and Anderson, 2006). The research study has some limitations as well. The main limitation is that of weight and height of boys at 17 years of age, as it is not necessary that the body composition was not equivalent to that of grown-up people. Another limitation of this study is that the study may not have some parts which are important for it, like waist perimeter. The generalization of the study and its conclusions got limited due to the nature of cohort, which became one of the limitations of this research study. Women were not involved in the study, which cannot help determining the relationship between BMI and risk of diseases (WHO, 2002). There is contradiction in the results of the study, as this study shows that the association between BMI and heart diseases. This association is not shown by other studies. The researchers got the answers of their questions by surveying properly, looking at as many aspects as they

could. But whatever the limitations were, they should not be there in the future. Women should also be involved in the study to have information on sex based diseases and risks (Must and Anderson, 2006). Overall, a high BMI in adolescence even within the range considered normal, is a significant risk factor for developing obesity-associated disease in adulthood. Although risk of diabetes is more determined by BMI at the time of diagnosis, the risk of coronary heart disease is associated with an elevated BMI both in adolescence and in adulthood (Himes, 2009). Teaching is clear, although it is very hard to say that not a child, all must be responsible for acquiring healthy habits before adolescence since that benefit not only will result in a healthier weight but in better health in adulthood.

Conclusion

In this paper, an article has been critical reviewed. Obesity is one of the main reasons of creating risk of diseases. Complications associated with obesity which respond to weight reduction are: type 2 diabetes and coronary heart disease. Obese people tend to have high risk of type 2 diabetes and coronary heart disease. Obesity increases the chances of getting other cardiovascular risk factors, especially hypertension, elevated blood cholesterol and diabetes. How these risk factors are related to BMI is the main focus of this study. This study has a great value, but it has some limitations as well, so it can't be used everywhere.

Bibliography

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