

The Effects Of Lifestyle And Dietary Intake On Health Outcomes And The Metabolic Syndrome Among Lebanese University Students

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Summary

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Cardiovascular disease (CVD) is the leading cause of death in Lebanon, and more than a third of the Lebanese Population suffers from a full diagnosis of the Metabolic syndrome which in turn increases the risk for diabetes, stroke and further developing heart disease. Furthermore, obesity rates in Lebanon are at an all time high with the highest rise being among the young. The financial burden of heart disease is hefty and prevention programs must be implemented to decrease the economical strain secondary to the disease. Such prevention programs should be evidence based and should target vulnerable groups to initiate appropriate change since most of the risk factors for metabolic syndrome, heart disease and obesity are modifiable. Therefore our aim, in this thesis, was to assess whether university students are a high risk group vulnerable to weight gain during the freshman year as are students in more developed countries. Therefore in chapter 3 we assessed, via a longitudinal study, the freshman 15 phenomena and its predictors in a sample of Lebanese students and found that students did gain on average 4,2 lb(1.9 kg) and were unaware of the increase in the weight they had experienced thus necessitating the need for awareness programs which focus on self monitoring of weight.

We also assessed stress level in our student sample and we did not find that increased stress levels were significantly associated with weight gain(Chapter 3.) Additionally a systematic review was conducted to further assess the association between stress, anxiety and weight change among collegians (Chapter 2) however no firm conclusions could be generated from the studies used in the review as there were inconsistent results and most of the studies were observational in design.

Furthermore, we were able to estimate the prevalence rate of the metabolic syndrome in university students, through a cross-sectional study (chapter 4.) The prevalence rate was found to be approximately 6.4%. Moreover, 90% of the students were found to suffer from at least one metabolic abnormality, the most common being substandard levels of HDL-cholesterol The second most common abnormality was an elevated waist circumference which was observed in more than 50% of the students sampled.

Furthermore, since preclinical studies suggest that circulating levels of a recently identified myokine, β -amino-isobutyric acid (BAIBA), may have a role in obesity management and may improve cardiometabolic health, we aimed at assessing among our student sample whether serum BAIBA is associated with level of physical activity, BMI and other markers of cardiometabolic risk (chapter 5.)

However serum BAIBA levels were not found to be related to nutritional status, metabolic status, and physical activity, but were found to be inversely related to diastolic blood

pressure in males. This has decreased the confidence in its therapeutic potential. As a result of the data presented in this thesis we can conclude that university students are a high risk and vulnerable group to weight gain and cardiometabolic derangements and thus should be targeted proactively with evidence based prevention programs which should ideally be implemented at a university level.