The relationship between insulin resistance and the intake of dairy products: A cross sectional study among employees at a private university in Lebanon

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The literature is suggesting an association between dairy product consumption and insulin-resistance, however results are inconclusive. To our knowledge, no study examined this association in the Middle Eastern Region. The objectives of this study are to examine the association between dairy products' consumption and insulin resistance in a sample of Lebanese adults and to assess the effect of different types of dairy products on insulin resistance.

This is a cross-sectional study conducted among Notre Dame University employees, in Zouk Mosbeh, North and Shouf campuses. Four questionnaires were administered including a background and International Physical Activity Questionnaire short form questionnaires, food frequency questionnaire and a 24h recall. Bioelectric Impedance Analysis was used to measure percent body fat (PBF). Fasting insulin levels were measured using Enzyme Linked Immunosorbent Assay technique. Homeostatic Model Assessment for Insulin Resistance (HOMA-IR) was used to quantify insulin resistance. A person with HOMA-IR ≥ 2.5 was considered as insulin resistant. Statistical analyses were performed using SPSS version 23. P< 0.05 was considered to be statistically significant.

The sample consisted of 286 subjects (46.9 % men and 53.1 % women) with a mean age of 41.2±11.0 years. Average dairy product intake in the total sample was 2.2 servings per day. More than one third of participants (38.0%) were insulin resistant with higher proportion of men (47.0%) being insulin resistant compared to women (31.6%) (p=0.008). After controlling for confounders, variables that were directly associated with HOMA-IR when total dairy intake was included in the model were gender (p=0.001), marital status (p=0.016) and PBF (p<0.001) and inversely associated factors included age (p=0.049) and low-density lipoproteins (p=0.041). The same factors were associated with HOMA-IR, when the types of dairy products were included in the model, in addition to yogurt intake (p=0.021).

This study suggests that yogurt consumption, but not total dairy consumption, was associated with increased insulin resistance.

Speaker Biography

Jessy El Hayek Fares joined the Department of Nursing & Health Sciences in fall 2012 shortly after completing her PhD and postdoctoral fellowship in Human Nutrition, at McGill University, Canada, in Spring 2012. Currently El Hayek is teaching multiple graduate and undergraduate courses including basic human nutrition, lifecycle nutrition as well as community nutrition. As of fall 2014, she was appointed as chairperson of the Department of Nursing & Health Sciences. El Hayek 's main research interests include repercussions of low vitamin D status on bone health and other extra skeletal functions, particularly chronic diseases.

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