



BONE HEALTH AND MINERAL METABOLISM IN 14- TO 18-YEAR-OLD ADOLESCENTS WITH USUAL LOW INTAKE OF MILK PRODUCTS: IMPLICATIONS OF MICRONUTRIENT INTAKES AND RESPONSE TO A MOTIVATIONAL INTERVIEWING DIETARY INTERVENTION TRIAL

Oral Defence by PhD Candidate [May Slim]

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Abstract

Osteoporosis is major global health concern affecting more than 200 million people worldwide. In Canada, osteoporosis touches over 1.4 million individuals 40 year of age and older and costs the Canadian health care system over \$4.6 billion in 2010-2011, an increase of 83 % from the 2008 estimate. Maximizing genetic potential peak bone mass (PBM) during skeletal growth is thought to be the primary strategy to prevent osteoporosis. About 95% of final PBM is attained by late adolescence, of which 33 to 46% is acquired over the 5 years surrounding peak height velocity. Consequently, any factor that influences the development of bone mass early in life is hypothesized to reduce fracture risk and, thus, osteoporosis later in life. The role of calcium intake in optimizing bone mineral mass has been widely recognized, with milk and milk products (MILK) being the major and the most bioavailable sources of dietary calcium. MILK consumption has long been widely recognized as an important strategy for optimizing PBM. Therefore, it is assumed that MILK intake, especially during development of PBM, reduces risk for osteoporosis. To date, only 5 RCTs have investigated the effect of MILK intake on bone parameters in adolescents. None of these studies is recent or Canadian or has included males. To fill this knowledge gap, a dose-response study of MILK intervention in 14 to 18-year-old males and females with low habitual MILK intake is needed to determine whether increasing MILK consumption during the growing years can promote PBM and thereby reduce fracture risk in later life. The present RCT will build upon existing knowledge in young women but will be novel by inclusion of young men.



About the Candidate

May holds a BSc and MSc degree in Human Biology from the Lebanese University. She also completed an MSc in Community Nutrition from the University of Montreal. In 2013, she graduated from McGill's undergraduate dietetics program and then joined Dr. Weiler's research lab to pursue her PhD in Human Nutrition. Her Ph.D. project looks at the impact of milk and milk products on bone health and metabolism of healthy adolescents 14 and 18 years of age.