

Dietary Patterns and Body Composition: Implications for Metabolic and Cardiovascular Health

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Abstract:

Obesity is a major health concern worldwide. Poor dietary habits and sedentary lifestyles leading to obesity are at the origin of metabolic disorders and deadly diseases including cardiovascular accidents, type 2 diabetes mellitus (T2DM)

and cancer. MetCardio_DBC human observational study will explore the impact of vegetarian-vegan versus omnivorous dietary patterns and physical activity habits in body composition, skin health and metabolic markers to establish the correlations between these parameters with metabolic health and cardiovascular risk. The following parameters will be investigated:

- (i) The eating behaviors and physical activity habits of participants using validated questionnaires;
- (ii) Body composition by Bioimpedance and Dual radiation X-ray Absorptiometry (DEXA);
- (iii) Cutaneous physiology by means of carotenoids tests, Transepidermal Water Loss (TEWL), superficial and deep Epidermal hydration, skin biomechanics characters and skin microcirculation;
- (iv) Biochemical parameters, blood pressure, and microcirculation parameters using the LINX DUG Multi-analyzer, validated semi-automatic oscillometer and Multispectral Optoacoustic Tomography (MSOT) imaging, respectively;
- (v) Cardiovascular risk using QRISK@3-2018.

MetCardio_DBC relies on the expertise of a multidisciplinary team gathering experts in Nutrition, Diabetes, Biochemistry, Epidemiology, Skin Physiology and Microcirculation regulation with the ultimate goal to decipher the impact of Dietary Patterns on Human Health. Scientific and academic activities within the framework of the project will contribute to the training of the young researchers, PhD, MSc, and undergraduate students of the team. International collaborations of the team members with top scientists in Nutrition and Health create a network of unique complementary expertise ensuring the success of the project and promoting our competitiveness to attract funding based on the novel findings produced in this project.