

PROTECTIVE AND RESTORATIVE EFFECT OF NUTRIENTS AND PHYTOCHEMICALS

Walter Milano¹, Anna Capasso²

¹Simple Departmental Operative Unit, "Eating Disorders", ASL North Naples 2- Italy, ²Department of Pharmacy, University of Salerno, Fisciano (SA) - Italy

Dietary intake fundamentally provides energy and essential nutrients reintegration of human organism, but in addition to that its qualitative and quantitative composition strongly affects health individual perspective, possibly being either a preventive or a risk factor. It was shown that nutritional status resulting from long term exposition to specific diet formulations can impressively reduce incidences of most common and most important diseases of developed world, such as cardiovascular and neoplastic diseases. Diet formulations result from different food combinations which bring specific nutrient molecules. Numerous molecules, mostly but not exclusively from vegetal foods, have been characterized among nutritional components as being particularly responsible for diet capabilities to exert risk reduction. These "bioactive nutrients" are able to produce effects which go beyond basic reintegration tasks, i.e. energetic and/or structural, but are specifically pharmacologically active within pathophysiological pathways related to many diseases, being able to selectively affect processes such as cell proliferation, apoptosis, inflammation, differentiation, angiogenesis, DNA repair and carcinogens activation. The present paper deals with the molecular mechanisms and pathways of the bioactive molecules and searches for optimal food composition and intake, and the possible therapeutic targets of such molecules. Also, the present review is discussing the therapeutic effect of both nutrients and phytochemicals.