

17<sup>th</sup> World Congress on **Nutrition and Food Chemistry**  
&  
14<sup>th</sup> Euro **Obesity and Endocrinology Congress**

September 13-15, 2018 | London, UK

**Effects of dietary phytochemicals on healthy ageing in a hormetic stress response manner****Ceren Gezer**

Eastern Mediterranean University, Turkey

Hormesis is defined as any circumstance in which chemical and environmental factors give beneficial effect to the cells in an organism at low doses while causing harm for them at high doses. The stress responses observed in mammalian cells can be classified as heat shock response, unfolded protein response, autophagic response, DNA damage response, antioxidant response and sirtuin response at the intracellular and molecular levels. Factors which strengthen the hemodynamic structure causing low level molecular damage and activating one or several stress response pathways are called hormetins. Hormetins can be categorized as: physical hormetins, physiological hormesis, biological and nutritional hormetins. Nutritional hormetins are an interesting, comprehensive research topic because of their effects on health and life span. Dietary phytochemicals are potential nutritional hormetins with their low-level stress inducing effects. Resveratrol, curcumin, capsaicin, epicatechin, isothiocyanates, ferulic acid and certain vitamin minerals can form heat shock response, unfolded protein response, autophagic response, DNA damage response, antioxidant response and sirtuin response causing the stimulation of kinases and transcription factors. Studies generally have shown that these phytochemicals are related to nuclear factor erythroid 2 (Nrf-2) and sirtuin pathway, heat shock response activation and nuclear factor kappa-B (NF-κB) down regulation. This study aims to explain stress response effect mechanisms of the dietary phytochemicals, which show the property of nutritional hormetin as important components that affect the delay of age related diseases, healthy aging and life span.

ceren.gezer@emu.edu.tr