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Phytonutrient and bioactivity analysis of traditionally used Native American edible plants

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Plant derived foods such as fruits and vegetables are rich sources of antioxidants, phenolics and other biologically active components shown to reduce the risk of chronic diseases. The association between the consumption of plant derived foods and a decreased risk of cardiovascular disease, cancer, and diabetes is supported by significant epidemiological evidence. Traditionally used Native American edible plants are thought to be rich sources of phytonutrients, antioxidants, and biologically active components; however research reports providing data on content, processing and inflammation impacts are sparse. The objective of the study was to measure phytonutrients and other biologically active components of selected, Native American edible plants and plant parts from Southern California including prickly pear fruit pods *Opuntia ficus-indica*, *Yucca whipplei* fruit pods and blossoms in fresh and thermally processed samples. Sample analyses of pH, moisture, total soluble solids (TSS), total chlorophyll, total carotene, antioxidant activity, phenolic and flavonoid contents were conducted. HPLC chromatographic overlays were also made to illustrate the difference in antioxidant components in the fresh compared to processed plant samples. In addition, the plant extracts were investigated regarding the potential for novel preventive or therapeutic supplements for inflammation related diseases. In summary, these plants were found to be rich sources of antioxidant activity and phenolic content, that processing significantly influenced activity in the plant samples.

Biography

Shasha Zheng has completed her PhD from University of Illinois at Urbana-Champaign and Postdoctoral studies from Yale University School of Medicine. She is an Assistant Professor of Nutrition at California Baptist University, USA. She has published 9 papers as first author in top reputed journals in the areas of nutrition and diseases.

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