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Flavonoids: Examination of the evidence as a potential treatment strategy for obesity

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Dietary changes and exercise are important strategies to prevent and treat obesity, but the long-term implementation of these lifestyle changes are often unsuccessful. Thus, alternative nutritional approaches are needed. Flavonoids, which are natural chemicals found in foods such as berries, tea, and apples, may attenuate the effects of obesity such as inflammation, oxidative stress, and glucose intolerance based on *in vitro* and animal studies. Research in humans validating these findings is limited. In intervention studies using flavonoid mixtures, traditional biomarkers of inflammation, oxidative stress, and cardiovascular health have been unaltered. However, supplementation with flavonoids has been associated with changes in gene expression and metabolites in humans supporting a potential role for attenuating inflammation and enhances immune function at the tissue level. Evidence from *in vitro*, animal, and human studies flavonoid supplementation in obesity will be reviewed with a discussion on clinical applications.

Biography

Lynn Cialdella-Kam is an Assistant Professor in Nutrition at Case Western Reserve University. She is engaged in undergraduate and graduate research, teaching, and advising with a focus on sports nutrition, wellness, and women's health. Her research examines the health consequences of chronic energy imbalance (i.e., obesity, disordered eating, and intense exercise training). She received her PhD in Nutrition from Oregon State University, her Master's in Exercise Physiology from The University of Texas at Austin, and her MBA from The University of Chicago Booth School of Business. She completed her Post-doctoral research in Sports Nutrition at Appalachian State University and is a licensed and registered Dietitian and Nutritionist.

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