

## ZHANG PRESENTS AT 2009 AICR ANNUAL CONFERENCE IN WASHINGTON, DC

Fang Fang Zhang, MD, PhD presented a poster at the 2009 American Institute for Cancer Research (AICR) Annual Research Conference on Food, Nutrition, Physical Activity and Cancer in Washington, DC in November 2009. Dr.

Zhang's novel research provides exciting data on the associations between dietary patterns and levels of genomic DNA methylation.

**Title:** Dietary Patterns and Global Hypomethylation in Peripheral Leukocyte DNA

**Presenter** Fang Fang Zhang, MD, PhD

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### Abstract

Animal studies have provided direct evidence that dietary factors induce changes in DNA methylation patterns. In humans, studies on diet and DNA methylation yielded inconsistent findings. Because humans tend to consume foods and nutrients that are highly interrelated, study of dietary patterns may have improved power of detecting the effect of diet on DNA methylation. We examined



the associations between dietary patterns and level of genomic DNA methylation in peripheral blood leukocytes of 150 participants in the North Texas Healthy Heart Study aged 45-75.

Dietary data were collected from study participants using the Block Food Frequency Questionnaire. Genomic DNA methylation was measured using bisulfite conversion of DNA and real time PCR (MethyLight) for SAT2-M1. We identified two dietary patterns using factor analysis: the "Prudent" dietary pattern characterized by a high intake of vegetables and fruits and the "Western" dietary pattern characterized by a high intake of meats, grains, dairy, dietary fat and potato. Individuals who were in the highest category of the "Prudent" dietary pattern had an increased level of genomic DNA methylation compared to the lowest category (adjusted OR=3.2, 95% confidence interval, 1.1-9.5, *P* for trend, 0.03) whereas individuals who were in the highest category of the "Western" dietary pattern had a reduced level of genomic DNA methylation compared to the lowest category (adjusted OR=0.8, 95% confidence interval, 0.3-2.3, *P* for trend, 0.74).

Our results suggest that a healthy dietary pattern may limit global hypomethylation, a known risk factor for cancer. Future studies with a larger sample size are needed to confirm this association.

## RACIAL / ETHNIC DIFFERENCES IN STRESS AGE AMONG WOMEN

Dr. Fulda has been awarded an intramural grant from the University of North Texas Health Science Center. The purpose of the study is to delve into the role stress plays in health disparities among women.



Differences in health status and disease disparity exist among racial/ethnic groups, particularly in women. While these disparities are not fully understood, one concept suggests that African American women may "age" quicker than Caucasian (cont. page 7)