



THE UNIVERSITY OF ARIZONA
COLLEGE OF AGRICULTURE & LIFE SCIENCES

Nutritional Sciences & Wellness

Please join us Tuesday, April 26th at 2pm

THESIS SEMINAR DEFENSE

Presented by: Maren Sfeir, B.S.

“Characterizing dietary Advanced Glycation End-Product (dAGE) exposure and colorectal adenoma recurrence: A secondary analysis”

Purpose: Colorectal Cancer (CRC) is the third most common cancer diagnosed among men and women in the United States. Adenomatous polyps are the most common type of polyps that can develop into cancer. Studies have suggested that red meat and processed meat consumption is strongly associated with risk for adenomas. Advanced Glycation End products (AGEs) are organic molecules that form endogenously or in the cooking of meat products in dry or high heat. AGEs have been speculated to drive colorectal carcinogenesis. Few studies have evaluated the association between dietary AGE intake and the risk for adenoma formation. The objective of this study was to build on evidence to determine the association between dietary AGEs and adenoma recurrence. **Methods:** A secondary data analysis was conducted using an existing dataset from a pooled sample of participants in the Wheat Bran Fiber trial (WBF) and Ursodeoxycholic Acid (UDCA) adenoma prevention trials. Primary outcomes in both trials include adjudicated adenoma status post intervention period (average 3.1 years follow up for both trials). Participants in both studies completed a baseline Arizona Food Frequency Questionnaire (AFFQ) to estimate AGE exposure. N^ε-carboxymethyl-lysine (CML)-AGE values were assigned and quantified for foods in the AFFQ from both trials, using a published AGE database, and participants were assigned to quartiles based on CML-AGE (ku/1000 kcal) intake. A series regression models were run to determine the relationship between CML-AGE intake and adenoma recurrence in participants. **Results:** The sample included 1976 adults (31.9% female); mean age was 67.2±7.34. The average CML-AGE intake was 5251.1± 1633.1 (kU/1000kcal), ranging between 4960 – 17032.4 (kU/1000kcal). Higher intake of CML-AGE had no significant association with odds of adenoma recurrence [OR(95% CI) = 1.02 (0.71,1.48)] compared to participants with lower intake. **Conclusion:** In this sample of adults, CML-AGE intake was not associated with adenoma recurrence. Future research should examine intake of different types of AGEs and apply a more comprehensive list of dietary AGE exposure. In addition, consideration of direct measurement of AGE biomarkers may allow for more accuracy of AGE intake.



In person: The University of Arizona, Shantz Building Room 159, at 2pm

OR via Zoom:

<https://arizona.zoom.us/j/83606818494?pwd=OXk2dkYrb0hINDAyNUhrZ1IwNnJVUT09>

Password: 291252