

Title:

Epigenetics for Breast Cancer Prevention: A Family Case-Control Study

Mildred C. Gonzales

Graduate Program, School of Nursing, Azusa Pacific University, Alhambra, CA, USA

Session Title:

Rising Stars of Nursing Invited Posters - Group 2

Slot (superslotted):

RSG STR 2: Friday, September 26, 2014: 10:00 AM-10:30 AM

Slot (superslotted):

RSG STR 2: Friday, September 26, 2014: 11:45 AM-1:00 PM

Slot (superslotted):

RSG STR 2: Friday, September 26, 2014: 3:00 PM-3:30 PM

Keywords:

Breast cancer, Epigenetics and Health behaviors

References:

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Learning Activity:

LEARNING OBJECTIVES	EXPANDED CONTENT OUTLINE	TIME ALLOTTED	FACULTY/SPEAKER	TEACHING/LEARNING METHOD	EVALUATION/FEEDBACK
Example Critique selected definition of the term, "curriculum"	Example Definitions of "curriculum" Course of study Arrangements of instructional materials The subject matter that is taught Cultural "training" Planned engagement of learners	Example 20 minutes	Example Name, Credentials	Example Lecture PowerPoint presentation Participant feedback	Example Group discussion: What does cultural training mean to you?

At the end of the presentation, the learner will be able to:	Overview on epigenetics and breast cancer	15 minutes of presentation	Mildred Gonzales	Lecture presentation with powerpoint	Group discussion: What is the significance of epigenetics in relation to your health?
1. Describe the epigenetic risk factors for breast cancer in women and their family members. 2. Identify potential health behavioral interventions and strategies for breast cancer control and prevention based on genome health.	Epigenetic risk factors: MTHFR gene variations, health behaviors identified as folate, alcohol intake, and smoking	5 minutes of questions and answers	RN, MSN, OCN, PhD doctoral candidate	Discussion	What is your perception of personalized health care based on genome health?

Abstract Text:

Background

Breast cancer (BC) is the most common malignancy and second leading cause of cancer death among women. Epidemiological studies have documented that environmental carcinogens and unhealthy behaviors increase the risk of BC. This area of epigenetic interactions warrants further examination as it may provide promising behavioral interventions to effectively improve health of families in various communities.

Purpose

The major purpose of this study is to provide foundation for evidence-based prevention strategies to enhance quality of care for women with BC and their families through examination of epigenetic pathways. This study will examine the epigenetic risks associated with BC identified as: a) BC gene variations specifically methylenetetrahydrofolate reductase (MTHFR); and b) health behaviors on folate, alcohol intakes, and smoking.

Methods

Using the family context, this is a case-control study of BC cases and their family members as controls. The stratified random sampling method will be used with inclusion criteria. Thirty BC cases and one of their family members (total of 60) will be recruited from four southern California counties around the University main campus. Contact information is being accessed from California Cancer Registry (CCR) databases. Participants will be interviewed for personal health, cancer-related family history using standardized instruments, and nutrient intake using Food Frequency Questionnaire (FFQ). Salivary and/or blood samples will be collected for MTHFR gene, folate, and metabolites' analyses. FFQ will be analyzed through Fred Hutchinson Cancer Research Center using standardized nutrition data system software. Results will be sent to participants as required by the California Bill of Rights for Human Subjects.

Results

Data collection is in progress.

Conclusions/Implications

Findings in this study will lay out the foundation for future development of effective behavioral intervention strategies and quality care for BC control and prevention based on personal genome variations and epigenetic risks. Thus, this study has potential impact for high quality healthcare with enhanced genome health awareness, competencies among healthcare professionals, and evolution of new targeted approach in diagnostics and treatment management for BC.