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FOREWORD

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X For the protection of human subjects, the investigator(s) adhered to policies of applicable Federal Law 45 CFR 46.

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N/A In the conduct of research utilizing recombinant DNA, the investigator(s) adhered to the NIH Guidelines for Research Involving Recombinant DNA Molecules.

N/A In the conduct of research involving hazardous organisms, the investigator(s) adhered to the CDC-NIH Guide for Biosafety in Microbiological and Biomedical Laboratories.


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DIET, GENETIC POLYMORPHISMS AND BREAST CANCER IN AFRICAN AMERICANS

TABLE OF CONTENTS

1.	Report Documentation	
2.	Foreword	
3.	Introduction	5
4.	Summary	5
5.	Key Research Accomplishments	8
6.	Reportable Outcomes	9

DIET, GENETIC POLYMORPHISMS AND BREAST CANCER IN AFRICAN AMERICANS

3. INTRODUCTION

Dietary fat and cooking practices, such as overcooking of meats that can lead to the formation of heterocyclic amines (HAAs) and polycyclic aromatic hydrocarbons (PAHs), differ by racial groups and culture. The project initially will assess the role of dietary fat, cholesterol, cooking practices (i.e. of fatty foods that would increase HAAs and PAHs), smoking, and alcohol consumption as risk factors for breast cancer. The primary goal of the project is to identify non-hormonal dietary risk and genetic susceptibility factors for breast cancer in African-American women. Specifically, the hypotheses that these are risk factors mediated by host capacity for metabolism will be tested. The study design also will allow the testing of new hypotheses as they emerge. A case-control study of 250 breast cancer incident cases and 250 controls will be conducted on African-American women in Washington, D.C. Genetic variation in apolipoproteins (Apo E, Apo A, Apo B), N-acetyl transferase (NAT 1 and NAT 2), Cytochrome P₄₅₀ (CYPIA1), Glutathione-S-transferase M1 (GSTM1), and alcohol dehydrogenase (ADH2 and ADH3) will be determined. Odds ratios and logistic regression will be used to evaluate the association of genetic polymorphisms and dietary factors as risk factors for breast cancer. Also examined will be the effect modification for known breast cancer risk factors by these genetic polymorphisms.

4. SUMMARY

During the first year of the study the following methodological issues have been addressed. An eligibility survey has been developed to screen and identify potential cases and controls. This survey addresses specific criteria which assist in determining if a women should be included as a

DIET, GENETIC POLYMORPHISMS AND BREAST CANCER IN AFRICAN AMERICANS

study participant.

A HAAs and epidemiology questionnaires have been developed and piloted among African-American women. The HAAs questionnaire is a 138 question survey designed to assess the role of dietary fat, cholesterol, cooking practices, and alcohol consumption in relation to breast cancer risk. The questions are designed to query each participant about their usual diet over the past year. In addition, several questions are asked to examine how often and how much certain foods are eaten.

An eighty questionnaire survey has been designed to examine different demographic characteristics and lifestyles. The areas addressed in the questionnaire are: general vital statistics (e.g., age, race, marital status, education, health insurance, and household income), medical history, menstrual and reproductive history, medication history, family history, tobacco history, nicotine dependence, alcohol history, and physical activity.

The General Clinical Research Center (GCRC) , located at Howard University, is a NIH-sponsored institutional resource, with the primary goal of stimulating and facilitating individual and collaborative clinical research in the Howard University Health Science Center. Submission and notification of approval has been granted to conduct this research project at the Howard University GCRC.

In addition, a standardized protocol of research guidelines and procedures has been developed for GCRC and study personnel. The manual of operation describes in detail step by step procedures for each phase of the project. The areas addressed are as follows: selection process for cases and controls, study procedures, data analysis, acronym and symbol definition for specific terms

DIET, GENETIC POLYMORPHISMS AND BREAST CANCER IN AFRICAN AMERICANS

used in the study, consent forms and questionnaires to be used for this study. This procedure manual was designed to assist in standardizing study procedures (e.g., recruitment, interviewing, phlebotomy, processing of biological samples and data collection).

A trained phlebotomist and nurse, from the GCRC, will conduct the blood draw and anthropometrics on all study participants. A dietician will administer the food record diaries. These individuals are highly trained and certified in their specialty area. Each participant will be interviewed by a trained interviewer.

In addition, a Voter Registration list has been obtained and is being used to randomly select female population-based controls. The list of controls to be recruited will be randomly generated via the computer and matched by age (within one year) and zip codes to cases.

DIET, GENETIC POLYMORPHISMS AND BREAST CANCER IN AFRICAN AMERICANS

5. LIST OF KEY RESEARCH ACCOMPLISHMENTS

- Development of eligibility survey
- Development and piloting of HAAs questionnaire
- Development and piloting of epidemiology questionnaire
- Submission and notification of approval to conduct this research project at the Howard University GCRC
- Development of a standardized protocol of research guidelines and procedures for GCRC.
- A voter registration list has been obtained and is being used to randomly select population-based controls

DIET, GENETIC POLYMORPHISMS AND BREAST CANCER IN AFRICAN AMERICANS

6. REPORTABLE OUTCOMES

The first year of this population-based study has just been completed. Therefore, this section is not applicable.