



Cancer Risk Reduction through Dietary Intervention

Grant Number: R44CA097849-03

Abbreviated Abstract

This Phase II SBIR will develop and test a theory based, developmentally appropriate, and culturally specific intervention designed to promote increased fruit and vegetable consumption among economically disadvantaged Black adolescents aged 11 to 14 years. Drawing from the theoretical and empirical dietary behavior change literature and Phase I data, Phase II will draft intervention content. Formative evaluation procedures will ensure that intervention content is culturally and developmentally appropriate for the target population. The intervention will undergo successive reviews by an expert panel; a panel of community-based professionals that have experience working with economically disadvantaged Black youths; and a sample of 48 youths representative of the target population. Revisions will be made to the intervention based on feedback provided by these referents, and the intervention will be programmed for CD-ROM delivery. The efficacy of the CD-ROM-mediated intervention, relative to no intervention, will be examined in a group-randomized trial.

Youth services agency sites will be randomized to experimental and control study arms. Experimental-arm youths will interact with the software in four on-site weekly sessions. Youths will complete outcome measurement batteries before and after intervention. Outcome analyses will determine the efficacy of the computer-mediated intervention in increasing youth's fruit and vegetable consumption and promoting forward movement through the stages of change for fruit and vegetable consumption. Should the intervention prove effective, it will be disseminated to schools and youth services agencies similar to those engaged in this research and development effort through direct marketing and through licensing agreements with distributors of youth-oriented health promotion programs.

Primary Investigator

Jennifer Di Noia, PhD
Intersystems Incorporated
P.O. Box 165
Roxbury, CT 06783
jenniferd@intercom.com

Research Team & Affiliations

Jennifer Di Noia, Isobel Contento, & Steven Schinke (Columbia University); Eric Rimm (Harvard School of Public Health).

Total Budget

\$854,211

Visit the SBIR Product Directory online at <http://cancercontrol.cancer.gov/hcirb/sbir>



Research Objectives

Aim 1: Develop theory based, developmentally and culturally appropriate intervention content for increasing fruit and vegetable consumption among economically disadvantaged Black adolescents aged 11 to 14 years;

Aim 2: Program intervention content for computer-mediated delivery; and

Aim 3: Determine the efficacy of the computer-mediated intervention, relative to no intervention, in altering youths' fruit and vegetable consumption and stage of change for fruit and vegetable consumption in a randomized trial.

Theory/Hypothesis

(1) Relative to controls, youths exposed to the intervention will evidence higher fruit and vegetable intake; and (2) a greater proportion of experimental-arm youths than control-arm youths will progress to later stages of change for fruit and vegetable consumption.

Experimental Design

Expert panel review of 10-session program to ensure the representativeness of content relative to TTM change processes and incorporation of recommended changes; curriculum review by a panel of professionals from community-based agencies that work with the target population and incorporation of recommended changes; curriculum review by focus groups of economically disadvantaged Black adolescents and incorporation of recommended changes; and examination of intervention efficacy in a group-randomized trial.

Final Sample Size & Study Demographics

504 African American Adolescents aged 11 to 14 years from families with incomes below the Federal poverty line.

Data Collection Methods

Youths completed an outcome battery at pretest and posttest measurement occasions.

Outcome Measures

Fruit and vegetable consumption, stage of change for consumption.

Evaluation Methods

One-way analysis of covariance (ANCOVA) with fruit and vegetable consumption as the outcome and study arm as the fixed factor. Covariates included the model were sociodemographic variables and baseline fruit and vegetable consumption. Chi-square analyses were used to examine between-arm differences in youths' stage progression.



Research Results

After adjustment by covariates, fruit and vegetable consumption varied significantly with study arm. Youths who interacted with the program increased their intake about 38% more than control-arm youths. This represents an average increase of 0.9 daily servings of fruits and vegetables. A significantly greater proportion of youths in the experimental arm than in the control arm progressed to later stages and maintained recommended intake levels.

Barriers & Solutions

No major problems encountered.

Product(s) Developed from This Research

Healthy Eating