Emory University

Project Name ...

Healthy Body, Healthy Spirit

Principal Investigator ...

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Background / Significance of Problem ...

Dietary patterns and sedentary lifestyle together account for between 300,000 and 500,000 deaths each year ranking second only to tobacco use. Diets high in fat and low in fiber are associated with higher death rates of coronary heart disease (CHD), colon, breast, and other cancers, stroke, and diabetes, whereas high fruit and vegetable (F&V) intake has been shown to be protective for certain cancers, stroke, CHD, and age-related blindness. Likewise, a sedentary lifestyle has been associated with higher mortality rates due to CHD, stroke, colon cancer, and diabetes. Increasing the proportion of Americans who consume at least five servings of F&V per day as well as the proportion who engage in moderate to vigorous physical activity (PA) for 30 minutes per day are national health priorities.

Research Question ...

This study will test the effectiveness of a culturally-sensitive self-help diet and PA intervention among African Americans, as well as the effectiveness of adding four telephone counseling calls to the self-help intervention. Group 1 (Comparison=C) will receive standard PA and nutrition education materials; Group 2 will receive an intervention package (Tx1) that will include culturally-sensitive nutrition and physical activity videos, an audio tape, cookbook, and written materials; Group 3 (Tx2) will receive the same intervention as Group 2, plus 4 telephone counseling calls based on Motivational Interviewing (MI). The study will test three primary hypotheses: H1—Individuals receiving a culturally-sensitive multicomponent intervention (Tx1) will show significantly greater improvement in diet (e.g., fruit & vegetable intake) and PA patterns than those receiving standard exercise and nutrition education materials (C). The primary goal of comparing groups C and Tx1 is to determine the efficacy of a self-help intervention developed using our "deep structure" model of cultural sensitivity, described below. H2—Individuals receiving a culturally-sensitive intervention plus four telephone counseling calls using motivational interviewing techniques (Tx2) will show greater improvement in diet and PA than those receiving a culturally-sensitive self-help intervention without telephone counseling (Tx1). H3—Comparing groups Tx1 and Tx2 will determine the efficacy of telephone-based MI in changing diet and PA behaviors.

Findings To-Date ...

Results on Fruit and Vegetable Intake: Across the three FFQs, the change in F&V intake was largest in Group 3 and intermediate in Group 2. Based on the mean of the three FFQs, the change (subtracting the post-pre change scores) in Group 3 = 1.13 servings, Group 2 = .44 servings, and Group 1 = .17 servings. Using the composite FFQ and 19-item values, the Group x Time effect was significant for Group 3 compared to both Groups 1 and 2. For the 2-item and 36-item values, Group 3 was significantly different than Group 1. Based on the 2-item and 36-item measures (though not the composite or 19-item measures), the change in Group 2 was significantly different than the control group.

Results on Physical Activity: Total minutes of physical activity based on the CHAMPS measure increased significantly more in Group 3 compared to Group 1 for each of the three index scores, i.e., All activities, $\geq$ 3 METS, and Exercise Items. Group 2 increased activity significantly more than the control group for the index of all activity and activities $\geq$ 3 METS. Groups 3 and 2 did not differ on any of the three indices. Association between Intervention Exposure and Outcomes. Individuals who reporting using the cookbook and watching most or all of the F&V video from Groups 2 and 3 showed a significantly greater increase in F&V intake than those not using these materials. Similarly, individuals who reported using the activity guide showed a significantly greater increase in physical activity than those not using the guide. Although those who reported watching most or all of the activity video showed a greater increase in activity than those not watching the activity video, these difference were not statistically significant. Regular use of the pedometer was associated with a greater increase in activity, and this difference was statistically significant for moderate/vigorous activities and the index of exercise items.

Simultaneous Change of Diet and Activity: Overall, 39% of the sample was classified as having made little or no change for both F&V and physical activity, with the largest percent occurring in the control group. Approximately 44% of the participants reported making a moderate or large change in one health behavior but no change in the other. Specifically, this included 21% who reported a large F&V change but no change in PA; 9% who reported a moderate F&V change but no PA change; 10% who reported a large PA change and no F&V change and 5% who reported moderate PA change but no F&V change. The remaining 17% of participants reported making multiple changes. Across all three experimental groups, the most common pattern of multiple change was a large change for both F&V and PA. The other three possible change patterns, large change in F & V and moderate change in PA, large change in PA and moderate change in F&V and moderate change in both F&V and PA were infrequent, in the range of 1%-3%.

Implications ...

[for multibehavioral and multi-theoretical approaches to behavior change]

There appear to be distinct segments of changers. Those who will make large changes in multiple behaviors, those who will change one and not another, etcetera. We may want to try to identify such segments *a priori*.

Future Research Directions ...

More MI studies with varying intensity and duration. More work on culturally tailored interventions.