Academic Partnership to Implement DASH Diet and Social/Behavioral Interventions in Congregate Meal Settings to Reduce Hypertension Among Seniors Aged In Place

Vasques, KS; Qureshi, A J; Running, A; Najy, M; Cofran, C; Sylvestre, C; George Alexander, G; Vasques, D; Ezeonu, T; Khadla, C; Baaz, V; Dionne, W; Tobias, S; Perez, D; Jiang, C; Vaughan, R; Covello, BS; Tobin, JN*; Gulshard, D; Kost, RG*


BACKGROUND:
Since 2015, the Rockefeller University Center for Clinical and Translational Science (RU-CCS) and the Clinical Directors Network (CDN) have continued to design engagement with Carter Burden Network (CBN), a multi-site, community-based organization on New York City’s west side, to develop and implement a DASH Diet and Social/Behavioral Interventions program. The intervention was designed and participated in by multiple agencies including Carter Burden Network, Rockefeller University, and the Clinical Directors Network.

From 2016-2018, we re-conceptualized and conducted a CCBR-funded pilot project to engage the health of seniors attending three CBN sites, building infrastructure and capacity for future comprehensive effectiveness research. Results from the pilots revealed that blood pressure for 54% of seniors was “not controlled” (systolic >140 mmHg and diastolic >90 mmHg). Among non-Hispanic seniors, higher blood pressure poses a significant and modifiable risk for cardiovascular disease (CVD) in seniors, increasing risk for stroke, heart attack, kidney failure, and associated increase in morbidity, mortality, disability, functional decline, and healthcare costs.

From 2016-2020, supported by a nutritional innovation award from the NIH’s Administration for Community Living, we launched CBN’s pilot of daily congregate meals to design and implement an intervention to lower blood pressure in the congregate meal settings of CBN.

OBJECTIVE:
The Rockefeller University, Clinical Directors Network, and Carter Burden Network involved an Administration for Community Living National Innovation grant to test whether two evidence-based interventions – the implementation of Dietary Approaches to Stop Hypertension (DASH) meals and Dr. Covello’s Social Behavioral Nutrition (CBN) program, and health education programs designed to enhance blood pressure self-care – together lower blood pressure among seniors aging in place and in congregate meal settings at a neighborhood senior center. The DASH diet has been shown to reduce blood pressure levels in as little as 6 days. This implementation has never been tested among seniors in the setting of congregate meals.

AIMS:
Primary Aim: To determine whether implementation of the DASH diet through the congregate meal program delivered at the Carter Burden Network sites, along with the CBN’s Social Behavioral Nutrition program, significantly reduces blood pressure in seniors receiving the intervention. We compared these outcomes to seniors who chose to continue eating normal meals at all of the CBN sites.

METHODS:
Creating DASH-Aligne d-Meals for Congregate Meals:

FOOD GROUPS DASH DIET SERVING GOALS AT LUNCH MEAL

Examined DASH-Aligne d-Meals for Congregate Meals:

RESULTS:

Table 2: Concordance Between DASH Planned vs. DASH Served, Week 3 Lunch

Table 3: Change in Blood Pressure at Month of DASH Intervention

Table 4: Mean Change in Home-Self-Monitored Systolic BP, CCBR

Table 5: Mean Change in Home-Self-Monitored Systolic BP, Luncheon Club

CONCLUSIONS:
Three sets of CBN congregate meal menus were aligned with DASH. The food service staff successfully achieved the percentage goals (≥76%) of the DASH-aligned meal to make the congregate meal program in the neighborhood senior center a DASH-aligned meal program.

Food preferences were assessed in advance and throughout the menu intervention, showing responsiveness of the final food service menu, and overall unbiased acceptance with the DASH-aligned menus.

A higher level of staff preparedness to implement and adhere to menu plans.

Participants were trained in home self-blood pressure monitoring; 50% completed monitoring through the first month, and 70% completed month 5 or 6 despite the challenges of the pandemic. Participants took their BP monitor and BP cuff with them for the DASH intervention, and their BP was monitored at the drop-in site at the CBN site every week.

Primary outcome: The reduction of Blood Pressure (BP) (as measured by):

1. Change in mean systolic BP (SBP) at Month 6 after implementation of the DASH-aligned congregate meals compared to baseline (SBP measured before the institution of dietary or behavioral interventions).

2. Increase in the proportion of individuals whose blood pressure is within the range of “normal” according to Eighth Joint National Committee (JNC VIII) guidelines, between Baseline and Month 6.

3. Differences in the proportion of individuals whose blood pressure readings were ≤140/90 mmHg between Baseline and Month 6.

DEFINITIONS:
DASH: Dietary Approaches to Stop Hypertension
Hypertension: Blood Pressure reading of 140/90 or greater
SBP: Systolic Blood Pressure
DBP: Diastolic Blood Pressure
Secular Epidemiological Definition:
A secular epidemiological definition is a statistical evaluation of other factors that might have contributed to the observed change in the outcome.

ACKNOWLEDGMENTS:
A Community- Academic Partnership to Implement DASH Diet and Social/Behavioral Interventions in Congregate Meal Settings...