ADAPTING DIETARY GUIDELINES TO CLIENT-CENTERED PREFERENCES AT THE DOWNTOWN EVENING SOUP KITCHEN (DESK)

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BACKGROUND

The Downtown Evening Soup Kitchen (DESK) in New Haven, Connecticut exists to serve individuals who are food insecure, through the provision of meals. A majority of DESK's food is sourced through donations and federal programs. A significant portion of these donations are from Yale University Dining, where trays of food from the dining hall are delivered multiple times a week.

Connecticut faces a 6.4 percent prevalence of households with low food security, exceeding the 5.2 percent national average (Coleman-Jensen, 2017). Meals served at soup kitchens tend to contain high levels of fat and low levels of fiber, vitamins, and minerals (Lyles et al., 2013; Sisson, 2011), contributing to malnutrition, obesity, high blood pressure, and many other chronic conditions (Sisson, 2011). Currently, there are no national guidelines to regulate the nutrition of meals served specifically at these institutions, allowing for the continued distribution of meals with insufficient nutritional value (Koh et al., 2015; Kourgialis et al., 2001).

OBJECTIVES

1) Conduct a nutritional assessment of the dinners served by DESK
2) Establish effective principles for the DESK menu based on the 2015-2020 Dietary Guidelines for Americans
3) Incorporate client food preferences in menu adaptations

METHODS

Qualitative Data:

- Five 20-minute semi-structured focus groups with DESK clients, consisting of 5 clients each (a total of 25 clients)
  - Convenience sample, with recruitment conducted immediately prior to the focus group during DESK's evening meal.
  - Questions centered around foods clients liked and disliked, their reactions to new foods, diet-related health concerns, and their awareness of the suggestion box.
- Two key-informant, semi-structured interviews with DESK volunteers, each lasting 20-25 minutes
  - One interview in-person, one phone
  - Questions focused on their experiences volunteering at DESK, the reaction of clients to new foods, foods that clients preferred, and any suggestions they had with regards to improving nutrition and overall agency of clients

Quantitative Data:

- Nutritional analysis of 6 evening meals at DESK
  - Shadowed the main chef at DESK, recording the type and quantity of all foods used in recipes, the preparation methods, and serving methods
  - Assumed that each individual obtained about half of their daily caloric intake from DESK's evening meal.
  - Used the online nutrition software, Cronometer to calculate micro and macronutrient content of each meal
  - Calculated the percent estimated average requirement (EAR) that each meal would provide to a 195-pound man aged 31-50 and a 166-pound woman aged 31-50.

FOCUS GROUP RECOMMENDATIONS

A more centralized suggestion box
Condiment options, such as including salt
Juice of any variety
Improved communication with Yale Dining and Kitchen to Kitchen
Increased portion sizes upon request
Various dressing options for salads

RESULTS

	Amount	unit	%DV	% EAR males	% EAR females
Energy	739.31	Calories	34.96%	-	-
Vitamin A	9571.29	IU	283.71%	-	-
Vitamin C	64.11	mg	70.97%	85.47%	106.84%
Calcium	305.19	mg	30.35%	38.15%	38.15%
Iron	5.18	mg	65.13%	86.39%	63.99%
Sodium	825.46	mg	55.12%	-	-
Carbs	79.09	g	38.78%	-	-
Fiber	8.10	g	21.56%	-	-
Sugars	31.33	g	-	-	-
Fat	30.95	g	38.04%	-	-
Saturated	10.48	g	52.39%	-	-
Cholesterol	131.64	mg	-	-	-
Protein	39.73	g	30.45%	68.02%	79.21%

Table 1. Nutrition analysis of six evening meals at DESK.

KEY FINDINGS

- For most meals, clients felt they were receiving a well-balanced meal and described the food as a "gift from god"
- Clients feel a lack of agency and have a sense that suggestions they make will not be heard and carried out
- Overall, macronutrient and caloric needs were met, but several key micronutrients need to be increased

NUTRITION RECOMMENDATIONS

Maintain or reduce amounts of sodium and saturated fat

Increase fiber, folate, vitamin D, vitamin E, magnesium, potassium, and zinc

Consider increasing calcium, iron, thiamine, riboflavin, vitamin K, omega-3 fatty acids, and omega-6 fatty acids

Incorporate beans into meals whenever possible; consider offering bean dishes as an alternative to meat entrees, or as salad toppings

Increase serving sizes for vegetables, fruits, whole grains, and legumes

Use whole grains whenever possible (for example, whole wheat bread, brown rice, quinoa)

Replace lettuce with spinach whenever possible; increase use of spinach, kale, broccoli, and green beans

Introduce "half salt" shakers to dining tables that include a mix of sodium and potassium

Introduce sunflower seeds as a salad topping

Favor yogurts with added vitamin D; consider serving skim milk at meals

LIMITATIONS

- Short time frame for focus groups
- $10 gift card for 20 minutes of participation may have been coercive
- Social desirability in participant responses altering answers they provided to questions
- Some ingredients not properly measured and were thus estimated
- Nutritional information provided for Yale Dining meals was not as comprehensive as the information generated from meals prepared fully at DESK

ACKNOWLEDGMENTS

Our project would not have been possible without the assistance of many individuals. We thank Steve Werlin and Meagan Howard at DESK for establishing a supportive partnership to complete this project and the clients of DESK in actively engaging with us and welcoming us into their community. We thank Amelia Reese Masterson of City Seed and Dr. Leah Ferrucci of the Yale School of Public Health for guidance and resources regarding the nutritional analysis. Our project benefited immensely from the support and guidance of Nicole Hood and Dr. Debbie Humphries of the Yale School of Public Health as well.

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RESOURCES: *CRONOMETER SOFTWARE (HTTPS://CRONOMETER.COM/); 2015-2020 DIETARY GUIDELINES FOR AMERICANS (HTTPS://HEALTH.GOV/DIETARYGUIDELINES/2015/ GUIDELINES/)*