

David Pack
packda31@berkeley.edu

SURF Research Proposal

Reducing blood pressure through dietary change among Filipino Americans in the Bay Area: the impact of culturally tailored culinary interventions

1. Research Statement:

Among all Asian American subgroups, Filipino Americans have consistently shown to suffer from the highest rates of hypertension. [1,2] Despite this alarming fact, little research has been done to investigate culturally sensitive interventions to help control blood pressure and reduce rates of hypertension in this community. The purpose of my research will be to investigate whether the development and implementation of a culturally tailored culinary intervention used to control hypertension, such as a heart healthy Filipino recipe cookbook, is effective for encouraging dietary change and ultimately reducing blood pressure in Filipino Americans currently diagnosed with hypertension and living in the Bay area. In the initial phase of my research, I will work with key individuals in the local Filipino community to help me develop and design a heart healthy Filipino recipe cookbook. In the subsequent phase, I will conduct usability testing of the cookbook in order to assess additional needs or preferences of the community and would revise the cookbook accordingly. Lastly, I will begin the implementation of my intervention in the study population. Outcomes that will be measured pre and post intervention will include blood pressure and dietary knowledge & attitude change through administration of a questionnaire.

2. Background to Topic and Rationale for Research:

Filipino Americans, who account for the 2nd largest Asian American population in the US, consistently show disproportionately higher rates of hypertension in comparison to Caucasian Americans and other Asian American groups. [1,2] In fact, studies have estimated that 3 in 5 Filipino Americans currently suffer from hypertension. [3] In addition, a study found that hypertension awareness, treatment, and control rates among Filipino Americans were shockingly low, indicating that a majority of Filipino Americans exhibit poor hypertension management and control. [4] There are a variety of cultural factors that may contribute to the high rates of hypertension as well as the poor medical management and control of this chronic condition in the Filipino American population. However, a major factor contributing to high rates of hypertension among Filipino American's is diet. The traditional Filipino diet consists of foods that are high in sodium, cholesterol, and carbohydrates which can contribute to the development or worsening of hypertension. [5] In an attempt to help reduce and control blood pressure in hypertensive

Filipinos, a majority of physicians recommend generic lifestyle and dietary modifications that are directed toward Caucasian Americans or even suggest that they cut Filipino food out of their diet completely. As a result, many Filipino Americans struggle with making modifications to their diet because they don't know how to or simply don't want to because it will compromise the taste of traditional Filipino food. Therefore, there is a need for more culturally sensitive approaches to encouraging dietary change in hypertensive Filipino Americans struggling with controlling and managing their blood pressure.

Despite the clear necessity for more culturally tailored approaches to address high rates of hypertension in the Filipino community, few studies have been conducted to help solve this problem. However, in my review of the existing literature I was able to find one study in which the researchers were able to prove that a culturally tailored educational intervention used to promote physical activity and reduce dietary sodium intake among Filipino Americans resulted in a significant reduction in blood pressure in comparison to the control. [6] My current study will help add to these findings and explore another culturally tailored intervention aimed at helping Filipino Americans control their blood pressure and ultimately help to reduce the disproportionately high rates of hypertension that exist within the community. My ultimate goal is to reduce sequelae like heart attack and stroke that result from uncontrolled hypertension.

3. Research Plan- Methodologies and Timeline:

Timeline:

Pre-Phase I (March-May): In this phase of my research project, I will be conducting the “planning stage” of the iterative design process. This first step in the iterative design process will consist of developing a prototype heart healthy Filipino recipe book. I have gathered a team of about 5 individuals who will assist me in this process. I will also involve and seek out advice from a number of key individuals in the local Filipino community such as Filipinx chefs, dieticians, and physicians to help consult on the design and development of recipes for this prototype heart healthy Filipino recipe book. My team and I will undergo extensive research looking into possible ways to make modifications to classic Filipino recipes such as exploring potential ingredient substitutes, alternative cooking methods, and vegan/vegetarian (plant-based) alternatives. Our ultimate goal will be to develop and/or find existing recipes that will both be heart healthy (e.g., lower sodium, lower fat, lower cholesterol, etc.) and tasty. After developing, testing out, and photographing the recipes, we will compile the text and photos into a visually appealing, cohesive cookbook. In addition to the recipes, specific dietary education on the health benefits of each dish will be included and written in a manner that will be understandable to our target population. By the start of June, a prototype cookbook will be designed and ready to test out in a sample population.

Phase I (1st 2-3 weeks of June): During the first 2-3 weeks of my research project, I will be conducting usability testing of my prototype heart healthy Filipino recipe book. In order to evaluate the usability of my prototype recipe book, I will have a small sample of around 5 individuals who are representative of my target population to test out recipes in the cookbook as well as critique and give feedback for the cookbook as a whole. A questionnaire to evaluate various aspects of the cookbook will be given at the end of the usability assessment period and individuals who fill out the questionnaire will be awarded a gift card for their participation. After receiving feedback through the questionnaires, appropriate modifications and revisions to the cookbook will be made in order to account for the critique and suggestions for improvement provided. The goal of this usability assessment is to involve key community members in the design and development of the finalized cookbook in order to ensure that it will be readily understood and well received when brought into the actual study population.

Phase II (6 weeks in June, July, August) : In this second phase of my research project, I will begin implementation of my intervention in the study population. My study population will consist of Filipino Americans living in the Bay Area who are at risk for or are currently diagnosed with hypertension. I will recruit participants for my study through partnering with local community-based organizations (CBOs). As an incentive participants will be given gift cards for participating in the study. Eligibility criteria for entering the study will be a) Identify as Filipino/ Filipino American b) Be between the ages of 30-65 and c) Not be enrolled currently in any other hypertension prevention or non-pharmacological treatment programs. After eligibility screening, an informed consent will be obtained from participants who choose to participate in the study. Enrolled participants will then be randomly assigned to either the intervention or control group. The intervention group will be given a heart healthy Filipino recipe book and will be asked to make and incorporate at least one recipe into their weekly meals during the study period of 6 weeks. The control group will be given generic lifestyle change education through an American Heart Association Life's Simple 7 brochure. At the beginning and end of the study period, outcomes measured will be seated BP using a digital BP cuff/device and dietary attitude/knowledge change through the administration of a questionnaire.

Phase III (2 weeks prior to SURF conference): In this last phase of my research project, I will use this time to evaluate and analyze all the data I have collected in the past 6 weeks in order to present my current findings at the 2021 SURF conference.

4. Qualifications and Project Affiliations:

I am particularly well qualified to carry out this research project because of my experience as undergraduate researcher and student health coach for a hypertension research study, my experience as a medical mission volunteer in the Philippines, and my coursework as

Nutritional Science major. As a student health coach, I have been trained using American Heart Association resources and have been taught how to encourage lifestyle changes in patients seeking to reduce their blood pressure through a skill called motivational interviewing. This skill has taught me to reflectively listen and help elicit lifestyle changes through self-empowerment. These skills will help me when I am interacting with participants in my study. As a medical mission volunteer, I have had the opportunity to interact with Filipino patients on a regular basis. This previous experience working with my target population will greatly help me in my current project. Lastly, my coursework is extremely relevant to this study and has helped to inform my current knowledge of subjects relating to the study.

In order to recruit participants for my study, I have been in communication with and plan to partner with local CBO's such as the Filipino Community Center in SF, Filipino Advocates for Justice in Daly City, Asian Health Services in Oakland, as well as local free clinics in the Bay area. Lastly, I intend to seek IRB approval for my study through the help of my research mentor, Dr. Susan Ivey who is the Director of Research at Health Research for Action.

5. Citations and Core Text

1. Gordon, N.P., Lin, T.Y., Rau, J. *et al.* Aggregation of Asian-American subgroups masks meaningful differences in health and health risks among Asian ethnicities: an electronic health record based cohort study. *BMC Public Health* 19, 1551 (2019).
<https://doi.org/10.1186/s12889-019-7683-3>
2. Alexander C. Adia, Jennifer Nazareno, Don Operario, and Ninez A. Ponce, 2020: Health Conditions, Outcomes, and Service Access Among Filipino, Vietnamese, Chinese, Japanese, and Korean Adults in California, 2011–2017 *American Journal of Public Health* 110, 520_526, <https://doi.org/10.2105/AJPH.2019.305523>
3. Ma, Grace X., et al. "Risk Assessment and Prevention of Hypertension in Filipino Americans." *Journal of Community Health* 42(4), 2017, pp. 797–805.
doi:10.1007/s10900-017-0320-0.
4. Ursua R, Aguilar D, Wyatt L, Tandon SD, Escondo K, Rey M, & Trinh-Shevrin C (2014). Awareness, treatment and control of hypertension among Filipino immigrants. *Journal of General Internal Medicine*, 29(3), 455–462. doi:10.1007/s11606-013-2629-4
5. Batcagan-Abueg, Ada Portia M. "Salt Intakes and Salt Reduction Initiatives in Southeast Asia: a Review." *Asia Pacific Journal of Clinical Nutrition*, 22(4), 2013, pp. 683–697.
apjcn.nhri.org.tw/server/APJCN/22/4/490.pdf
6. Ma, G.X., Bhimla, A., Zhu, L. *et al.* Development of an Intervention to Promote Physical Activity and Reduce Dietary Sodium Intake for Preventing Hypertension and Chronic Disease in Filipino Americans. *J. Racial and Ethnic Health Disparities* (2020).
<https://doi.org/10.1007/s40615-020-00781-z>