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Health Promotion Behavior Among Hypertensive and Normotensive Armenian Americans

Zoya Minasyan
Walden University

Walden University

College of Health Sciences

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Zoya Minasyan

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Dr. Leslie Hussey, Committee Chairperson, Nursing Faculty
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Eric Riedel, Ph.D.

Walden University
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Abstract

Health Promotion Behavior Among Hypertensive and Normotensive Armenian Americans

by

Zoya Minasyan

MSN, Edu, Mount Saint Mary's University, 2009

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

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Abstract

Hypertension presents a significant health risk to both developed and developing countries, affecting approximately 78 million Americans of various ethnic backgrounds. Though a great deal of research about hypertension and minority groups has been published, few studies have examined hypertension in the Armenian American population in the Los Angeles area, one of the most concentrated Armenian American communities in the United States. The purpose of this study was to examine the differences in health promotion behavior between hypertensive and normotensive Armenian Americans. The theoretical basis for this study was Pender's health promotion model and the health promoting lifestyle profile (HPLP-II), which is used to measure 6 different subscales of health promotion behavior. A quantitative approach was used to examine the relationship between hypertensive status and health promotion behavior. With a sample size of 204, this study found that while there was no significant difference in overall HPLP-II scores, the normotensive group scored higher on physical activity (p = 0.001) and stress management (p = 0.004). These differences remained significant even when controlling for body mass index (BMI). Additionally, the study found high smoking rates and elevated BMI across both samples. These results suggest that interventions that target stress management and physical activity and use the cultural strengths of interpersonal relationships and spiritual growth may be the most effective. This information may be used as a foundation in future interventional studies and may create significant social change by decreasing hypertension among the Armenian American population and increasing awareness of risk factors and prevention.

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Dedication

This dissertation is dedicated to all of those who supported me throughout this project. Specifically, to the love of my heart, my husband Edik Martirosyan, who supported me emotionally and financially throughout this project. To my son, Arbie, my daughter-in-law, Sylvia, and my daughter, the light of my life, Lia. I also want to especially dedicate this work to my mom and dad, Sofia and Mike Minasyan, who have supported me since day one with good food, fresh bread, and listening to me when I needed to complain. A special thank you to all of my friends and family, who were understanding when I had to miss parties and stay cooped up in my office for hours and days! I could not have completed it without your support.

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Chapter 1: Introduction to the Study

Introduction

Hypertension directly contributes to stroke and cardiovascular disease (CVD), one of the leading causes of death in the United States (Yoon, Fryar, & Carroll, 2015). The 2011-2014 National Health and Nutrition Examination Survey (NHANES) showed that hypertension prevalence for the U.S. population had held steady at 29%, but it increased with age and varied greatly depending on ethnicity (Yoon et al., 2015). Research has shown that controlling blood pressure (BP) results in a significant reduction in morbidity and mortality, which also decreases medical costs (Mozafarian et al., 2016). The estimated annual average cost of hypertension is $48.6 billion, and without any reduction in cost, is projected to reach $274 billion by 2030 (Mozafarian et al., 2016). Though there is evidence that hypertension affects ethnic groups differently, no formal research had been conducted that explored the unique attributes of hypertension among Armenian Americans, a diasporic community comprised largely of first and second generation immigrants. This chapter serves as an introduction to the study by briefly summarizing the existing research on the topic, outlining the purpose of the study, listing the research questions and hypotheses, summarizing the theoretical framework for the study, and exploring the nature of the study as well as the relevant definitions, assumptions, scope, delimitations, limitations and significance of the study.

Background

Hypertension, minority status, immigration and foreign-born status have been extensively explored in the literature. Zallman et al. (2013) and Campbell, Krim, Lavie,

and Ventura (2014) showed that both foreign-born status and ethnic minority status affect rates of hypertension, while Jadalla, Hattar, and Schubert (2015) and Yi, Elfassy, Gupta, Myers, and Kerker (2014) discussed linkages between foreign born status and hypertension. El Mokadem (2013), Kemppainen et al. (2011), and Shafieyan et al. (2015) each used the Health Promoting Lifestyle Profile II (HPLP-II) instrument to gather quantitative data to examine health promotion behavior and lifestyle among hypertensive populations. Tailakh et al. (2014) studied hypertension prevalence, awareness, treatment, and control in the Arab American population of Southern California using the HPLP-II and quantitative methodology. Meihan and Chung-Ngok, (2011) and Mohamadian, Ghannaee, Kortdzanganeh, and Meihan (2013) offered steps for translating and validating the HPLP-II instrument and using it with a non-English speaking population. El Mokadem, Kemppainen et al., Shafieyan et al., and Jadalla et al. used Pender's health promotion model (HPM) as a theoretical framework to explore the various contours of hypertension, cultural competency, and health promotion behavior.

Elder et al. (2012) and Marshall, Wolfe, and McKevitt (2012) examined the links between patient trust in their provider and ability to communicate with that provider about hypertension control, while Yi et al. (2014) examined the effect of the language barrier on hypertension treatment and control. Shafieyan et al. (2015) studied the link between lifestyle and hypertension in a specific population, while Kemppainen et al. (2011) looked at these relationships in two culturally separate groups. Chow et al. (2013) examined the relationship between national income and hypertension, and Yi et al. studied the differences based on nativity, language spoken at home, and ethnicity.

Tadevosyan et al. (2013) showed that there are comparatively high rates of hypertension in the country of Armenia, and comparatively low rates of awareness, while Yi et al. showed that immigrants from that geographic region tend to have higher rates of hypertension due to a variety of risk factors, including smoking prevalence, diets high in processed foods, and a general mistrust of the medical system. Naccashian and dela Cruz (2014) provided evidence of unusually high risk factors for hypertension among Armenian Americans in Glendale, California, which are far greater than the national averages described by Yoon et al. (2015).

Though many studies regarding hypertension have been conducted, no researcher had yet explored hypertension among Armenian Americans. Studies conducted in Armenia suggested that people from this region had higher than average rates of hypertension, while other researchers suggested that White immigrants from countries with higher rates of hypertension had higher rates of hypertension than their white, non-Hispanic contemporaries (Tadevosyan et al., 2013; Yi et al., 2014). No research could be found that assessed whether or not health promotion behaviors differed between hypertensive and normotensive Armenian American adults. More research was needed to understand the rates of hypertension and health promotion behavior among the Armenian American ethnic group. This study addressed this gap in the literature while collecting data to prepare a solid foundation for future studies that may focus on interventions.

Problem Statement

Hypertension presents a significant health risk to both developed and developing countries, affecting approximately 78 million Americans of various ethnic backgrounds

(Go et al., 2014; Lukoschek, 2003). Minority and immigrant groups have disproportionally high rates of hypertension and often have less access to healthcare services than White, native-born Americans (Lukoschek, 2003; Zallman et al., 2013). Rates of hypertension among ethnic groups are affected by a variety of risk factors, including foreign-born status, language spoken at home, health promotion behavior, and more (Tailakh et al., 2014; Yi et al., 2014). Understanding the health promotion behaviors of hypertensive and normotensive members of various ethnic groups is vital for conducting effective research and creating future interventions among these communities (Chow et al., 2013).

Though a great deal of research about hypertension and minority groups has been published, no studies were located about hypertension prevalence in the Armenian American population in the Los Angeles area. After an extensive search, one poster presented at a research conference was located presenting the risk factors present in Armenian Americans in Glendale, California. Of the sample taken for that study, 35.7% had prehypertension, 24.6% had hypertension, and 71% exceeded normal body mass index (BMI) ranges (Naccashian & dela Cruz, 2014). Although the data suggested high levels of risk factors among this population, more research was needed.

Researchers have shown that hypertension prevalence in Armenia is quite high; one fourth of the population is affected, though the percentage of those who have been diagnosed is small (Tadevosyan et al., 2013). Because of this, hypertension-related morbidity and mortality rates are on the rise in Armenia (Tadevosyan et al., 2013). This could be partially attributed to Armenian's myriad of risk factors, which include one of

the highest rates of smoking prevalence in the world, a diet heavy in sugary jams, salty canned vegetables, and preserved meats, and high rates of physical inactivity (Tadevosyan et al., 2013). No researcher has compared the risk factors of hypertension--including smoking, diet, and exercise--of Armenians to Armenian American immigrants. Glendale, California, just north of Los Angeles and in Los Angeles County, has the third most-concentrated population of Armenians in the world, creating a unique area for data collection on this population (Karapetian, 2014).

The health promotion behavior among this population must be assessed in order for these risk factors to be understood. Though no formal research compared the diet of Armenians to that of Armenian-Americans, many of the same foods are sold in local Armenian and American grocery stores. Los Angeles County Department of Health (2015) survey data showed that while the overall county smoking rate was 13.3%, the rate among foreign born Whites (which would include Armenian immigrants) was 17.7%, while the rate for U.S. born Whites was 12.2%. Despite the large population of Armenian Americans in the Los Angeles area, no data existed regarding this specific population and their risk factors relative to other groups. This was in part because the U.S. census captured Armenians as White, instead of as a distinct ethnic group. Though the population of Armenian Americans could be estimated through the use of ancestral self-reporting, no other quantitative data has captured the health promotion behavior of this group (U.S. Census Bureau, 2014).

The total population of Armenians in the United States is 324,902, with 170,959 (53%) of that population residing in the Los Angeles area (U.S. Census Bureau, 2014). It

was important to explore health promotion factors in Armenian American culture such as spiritual growth, interpersonal relations, nutrition, physical activity, health responsibility, and stress management and how those interacted with hypertension status (Tadevosyan et al., 2013; Tailakh et al., 2014; Walker, Sechrist, & Pender, 1995).

Purpose

The purpose of this study was to establish a baseline of data regarding the relationship between health promotion behaviors of hypertensive and normotensive Armenian Americans in the Los Angeles area. Generating this body of information allowed researchers to address the current gap in literature regarding hypertension and the Armenian American community. A quantitative approach was used to gather and analyze information regarding lifestyle, behavior, and physiological factors and their relationship to hypertension in this population. The independent variable in this study was hypertensive status, which was divided into categories of hypertensive and normotensive. Dependent variables included BMI as well as the six subscales of the HPLP-II: *spiritual growth*, *interpersonal relations*, *nutrition*, *physical activity*, *health responsibility*, and *stress management*.

Research Question

What is the difference between the health promotion behaviors among a community sample of Armenian Americans in the Los Angeles area who have been diagnosed with hypertension and health promotion behavior among those who do not have hypertension?

Alternative hypothesis: There is a difference between the health promotion behaviors among a community sample of Armenian Americans in the Los Angeles area who have been diagnosed with hypertension and health promotion behavior among those who do not have hypertension.

Null hypothesis: There is no difference between the health promotion behaviors among a community sample of Armenian Americans in the Los Angeles area who have been diagnosed with hypertension and health promotion behavior among those who do not have hypertension.

Hypertension status, the independent variable, was measured through participants' self-reported medical history. Those who had been formally diagnosed as hypertensive and prescribed antihypertensive medication were considered hypertensive, and those who had not been diagnosed were considered normotensive. The dependent variables included BMI and the six subscales of the HPLP-II. BMI was measured by obtaining participant height and weight. Spiritual growth, interpersonal relations, nutrition, physical activity, health responsibility, and stress management were measured using the HPLP-II, which was self-administered.

In this study, I tested the association between hypertension and Armenian American ethnicity as well as the association between a hypertension diagnosis and health promotion behavior.

Framework

The theoretical basis used for this study was Pender's HPM, which used foundational concepts from social learning theory to explore methods of disease

prevention and health promotion (Tomey & Alligood, 2006). This model retained its strength and efficacy across all ages and many cultures and methods and is used widely in the healthcare field to explore innovations in health promotion as well as epidemiological data (Tomey & Alligood, 2006). Because hypertension can be prevented or controlled and treated with health interventions such as dietary, behavioral, and lifestyle changes, the HPM can be used to motivate community members to attain their personal health (Marshall et al, 2012; Tomey & Alligood, 2006). The HPM uses the already-existent desire of patients to increase their own health and to trade their fear and avoidance for hope and hard work (Tomey & Alligood, 2006). The desire for personal improvement of health is rooted deeply in complex physiological, psychological, and social processes, and those processes can be accessed by healthcare professionals in order to maximize community engagement and health (Tomey & Alligood, 2006).

The HPM proposes that health is not merely the absence of disease but is rather a dynamic positive state that includes a vast array of contributing factors (Pender, Murdaugh, & Parsons, 2015). Any individual's participation in health promotion behavior consists of many different dimensions of social, medical, and mental factors that include their own perception of their ability to contribute to their personal health. An individual's specific biopsychosocial factors interact with their environment in unique ways, creating a variety of effects and results. This model accounts for the full spectrum of factors that influence health promotion behavior and seeks to encourage individuals to invest in their own health and wellness (Pender et al., 2015). A more detailed explanation of this theory is covered in Chapter 2.

Pender's HPM is specifically well-suited for use among vulnerable populations and is able to capture health promotion behavior across cultural lines (Pender et al., 2015). The HPM takes a variety of factors into account and examines the whole picture of a person's health promotion behavior instead of focusing solely on medical data. As I focused not only on the risk factors for hypertension but on the behavioral differences between those who had hypertension diagnoses and those who did not, the HPM was uniquely suited to capture the nuanced behavior of this group.

Nature of the Study

Quantitative Methodology

In this study, I used a comparative descriptive approach. Due to the specific characteristics of this population, I employed similar methodological procedures as Tailakh et al. (2014). In that study, the researchers used various convenience sampling methodologies to capture data from small, mostly immigrant populations in a specified geographic region (Tailakh et al., 2014). Similarly, because of the number of Armenians living in the Los Angeles, California area, data were collected from this population through an adult healthcare center and a local Armenian bakery (see Creswell, 2009). Participants were assigned to one of two groups, where one group had been diagnosed with hypertension and the other group had never been diagnosed with hypertension. Each participant was asked to complete the HPLP-II to measure healthy lifestyle behaviors according to Pender's HPM (Tailakh et al., 2014; Tomey & Alligood, 2006). The instrument created from this framework is the HPLP-II, which uses six subscales to examine a participant's health promotion behavior and lifestyle. These subscales measure

dimensions of the health-promoting lifestyle: (a) *spiritual growth*, which refers to developing optimal health by understanding the meaning, purpose, and goals in one's life, (b) *interpersonal relations*, which refers to deeper relationships and open communication, (c) *nutrition*, which refers to healthy eating habits, (d) *physical activity*, which refers to regular engagement in physical activity, (e) *health responsibility*, which refers to an individual taking responsibility for his or her own health, and (f) *stress management*, which refers to using one's own resources to relieve stress and anxiety. This instrument was used to generate quantitative descriptions of the health promotion and lifestyle behaviors of this population, which allowed me to examine relationships between these variables and health outcomes.

Because at least 49% of the adult population of the Glendale, California area does not possess an English fluency level great enough to understand the consent process or the questions on the instrument, the consent document, the demographics, and medical history were translated into Armenian, evaluated by monolingual and bilingual community members for clarity, and tested for reliability and validity (City of Glendale, California, 2002; Meihan & Chung-Ngok, 2011; Mohamadian et al., 2013; Tailakh et al., 2014). Participants' BP and BMI measurements were taken and demographic data were collected (Tailakh et al., 2014). Demographics included age, gender, birthplace, time living in the United States, household income, number of family members living in the household, highest level of education completed, marital status, employment status, health insurance status, and religious affiliation. A short medical history was taken to record medications, lifestyle information, diet and exercise information, smoking history,

drinking (alcohol) history, and whether or not the participant had been diagnosed with hypertension and other medical conditions. Responses on the HPLP-II from the two groups were compared. This approach was meant to create a foundation on which future interventional research regarding this population could be constructed.

Types and Sources of Data

1. Participants' BP was taken using an OMRAN HEM-705CP automatic BP monitor in line with the American Heart Association protocol (Tailakh et al., 2014).
2. Participants' BMI, where weight was measured using the Omron HB-40 Fat Monitor and Scale, and height was measured with a stadiometer while the participant remained barefoot (Tailakh et al., 2014).
3. Participants' responses to the HPLP-II, which was self-administered and available in both Armenian and English.
4. Participants' demographic data and a brief medical history, which was collected through a demographic data form available in both Armenian and English.

Data were analyzed with SPSS, with demographic and medical information analyzed as descriptive statistics, and multivariate analysis done on the relationship between health promotion behavior and hypertension status.

Definitions

The independent variable, *hypertension status*, was defined by JNC-8 guidelines. Hypertension, or high blood pressure (HBP), was defined as a BP reading greater than

140/90 millimeters of mercury (mmHg; Sawicka et al., 2011). For the purposes of this study, participants were considered hypertensive if they had been previously diagnosed with hypertension by a medical professional and prescribed antihypertensive medication.

The dependent variables included BMI and the six subscales of the HPLP-II. *BMI* was defined as a simple weight-to-height index in kilograms per meters squared used to assess whether an individual is under weight, normal weight, overweight, or obese (Go et al., 2014; Mozaffarian et al., 2016). *Normal weight* was defined as a BMI between 18.5 and 24.9 kg/m^2, while overweight was defined as a BMI between 25 and 29.9 kg/m^2, and *obesity* was defined as a BMI exceeding 30 kg/m^2 (Tailakh et al., 2014). The subscales of the HPLP-II include (a) *spiritual growth*, or the development of internal resources, (b) *interpersonal relations*, or building meaningful and intimate relationships, (c) *nutrition*, or the informed selection of a diet that meets physical needs and increases health, (d) *physical activity*, or a regular participation in light, moderate, or heavy physical activity, (e) *health responsibility*, or an individual's feelings of personal accountability for their health, and (f) *stress management*, or an individual's ability to control and/or reduce tension through mental and physical resources (Walker et al., 1995). More detail is provided in Chapter 3.

Health promotion was defined as a personal process that allowed an individual to improve his or her health through controlling environmental factors and overcoming personal challenges (Pender et al., 2015). Though health promotion can be practiced on the individual level, it is also dependent on environmental factors that require the cooperation and awareness of government and public health agencies. *Health promoting*

behavior is the ultimate outcome in the HPM and is defined as behaviors that result in improved health, enhanced functionality, and better quality of life throughout and across the lifespan (Pender et al., 2015). The HPM assessed eight different model belief concepts, which include prior behavior, personal factors, behavioral specific cognitions, personal affect, interpersonal influences, situational influences, competing demands and preferences, and commitment to action plan (Pender et al., 2015). When healthcare providers use this model to assess an individual's overall health promotion behavior, it can provide valuable and nuanced insights into the overall picture of individual health and lifestyle factors.

In this research, I was concerned with a specific minority ethnic group: Armenian Americans. *Armenian American* was defined as any person with an Armenian ethnic background, regardless of whether or not they speak the language (Karapetian, 2014). Armenian Americans may have been born in another country and immigrated to the United States or may have been born in the United States as first, second, or third generation immigrants (Karapetian, 2014). Armenians are considered to be a diaspora, as genocide and war have caused them to be dispersed from their homeland (Bakalian, 1993). Thus, Armenian American immigrants may have originated from a variety of countries, including but not limited to Armenia, Russia, Syria, Canada, France, Iran, Israel, Australia, Germany, and Greece (Karapetian, 2014). In the United States, Armenian communities typically exist in or around large metropolitan areas (Bakalian, 1993). These communities consist of social networks of families, friends, and

acquaintances as well as cultural centers such as churches and schools and Armenian businesses, including grocery stores (Bakalian, 1993).

Assumptions

In the context of this study, it was assumed that the population wanted to be healthy. Even if they did not wish to change their diet or lifestyle, I assumed that participants wanted to be healthy. I also assumed that participants did not want hypertension and that they wanted to control their blood pressure, even if they did not want to make lifestyle changes.

The HPM makes several assumptions, which are examined in more depth in Chapter 2. However, for this study, the most pertinent assumptions included the first assumption, which stated that individuals aim to create living conditions most suitable to their own health potential, and the third assumption, which stated that change that is seen as positive by an individual will be actively sought, even while that individual attempts to balance change and stability in their life (Walker et al., 1995).

Scope and Delimitations

In this study, I focused on the Armenian American population of Glendale, California. This particular population was chosen due to a paucity of data regarding hypertension and health promotion behavior in this community. Because hypertension leads to CVD, one of the leading causes of death in the country, it was important to understand how this condition affected the Armenian American community (Tailakh et al., 2014). With a developed understanding of health promotion behavior among hypertensive and normotensive Armenian Americans, healthcare providers who serve this

community can work toward creating preventative care models as well as treatment models that are specific to the biopsychosocial needs of this population. Reducing the incidence of hypertension and CVD could potentially reduce the healthcare costs for this community.

This study included the Armenian American population of Los Angeles County and excluded other ethnic groups. Additionally, this study included those over 40 years of age and excluded any participants who were pregnant or those who had disabilities such as cognitive impairment that made it impossible for them to consent to and/or complete the questionnaire.

Limitations

The generalizability of this study was limited due to the nature of convenience sampling, so it may not be generalizable outside of this region and ethnic population. This study did not include an intervention due to the lack of research currently available on this population. Instead, I sought to create a baseline of data regarding this population that may be used in future interventional studies. Finally, it should be noted that the results of this study could affect me because I am a healthcare professional and a part of this community. These biases were addressed through the use of data collection instruments with high validity and reliability.

Significance

Though it is well-known that hypertension presents major health risks and that minorities tend to experience hypertension in greater numbers, the rate of hypertension in the Armenian American community remained unknown (Lukoschek, 2003; Zallman et

al., 2013). As a community with a large number of immigrants, Armenian Americans could experience greater levels of prehypertension and hypertension (Jadalla et al., 2015). The Armenian American community could be at high risk for hypertension, which could be patterned after the higher rates of hypertension among immigrants from Eastern Europe and Central Asia, where Armenia is located (Yi et al., 2014). The population of Armenian Americans in the Los Angeles area includes a significant population of immigrants from Eastern Europe and Central Asia. Understanding what the prevalence and incidence of hypertension is in the Armenian American population could shape future interventions for hypertension. This study serves as a foundation for future interventions by establishing quantitative data for this ethnic minority group in this region. As the Los Angeles area contained a large number of Armenians from various geographic regions (including Armenia, Russia, Iran, Syria, and Canada), with various immigration statuses, research on this population regarding the presence of hypertension could prove valuable for Armenian Americans nationwide (Karapetian, 2014).

Based on the results of this study, interventions could be developed and tested that are targeted for the purpose of increasing health promotion behavior and decreasing prehypertension and hypertension in this ethnic group. This could create significant social change by decreasing hypertension among this population and increasing awareness of risk factors and prevention. Premature death can be decreased by about 50% through controlling risk factors in lifestyle and health habits such as smoking, lack of exercise, and poor nutrition (Shafieyan et al., 2015). Additionally, hypertension creates a huge financial burden on any community (Shafieyan et al., 2015). Therefore, using education

and other interventions to lessen the rates of hypertension in this population and to decrease lifestyle and behavioral risk factors could have far-reaching implications in both mortality and community financial resources.

Summary

Hypertension is a significant and serious health risk that affects different populations differently. Minority and immigrant groups are uniquely affected by this phenomenon, often experiencing higher rates of hypertension and associated health complications (Go et al., 2014). In this quantitative study, I aimed to generate information regarding the health promotion behavior among Armenian Americans who have been diagnosed with hypertension and those who were normotensive in order to increase an understanding of this population among the healthcare providers who serve them. In this study, I aimed to measure the BMI of hypertensive and normotensive Armenian Americans in the Los Angeles area and also measured health promotion behavior through the six subscales of the HPLP-II. By developing a more thorough understanding of hypertension and health promotion behavior among Armenian Americans, I contribute to a foundation of data upon which future research could be based.

Chapter 2: Literature Review

Introduction

Hypertension is a serious public health problem that affects Americans of all ethnic backgrounds (Go et al., 2014). Ethnicity and immigration status have been identified as two factors relevant to the prevalence of hypertension (Tailakh et al., 2014; Yi et al., 2014). Additionally, foreign-born non-Hispanic Whites have higher rates of hypertension than U.S.-born Whites and other immigrant groups (Yi et al., 2014). This may be partially due to the high prevalence of hypertension in their countries of origin, particularly in Eastern Europe and Central Asia (Tadevosyan et al., 2013; Yi et al., 2014). The higher rates of hypertension in these areas are often attributed to the prevalence of smoking, the lack of health promotion behavior, and diets high in salt and fat (Yi et al., 2014). Researchers have suggested that health promotion behavior can be improved through education and that participation in health promotion behavior lowers the prevalence of hypertension (Shafieyan et al., 2016; Tailakh et al., 2014). As part of the White immigrant population, Armenian Americans are understudied, particularly in regards to their health promotion behavior. The purpose of this study was to use quantitative methods to establish a baseline of data regarding the relationship between health promotion behavior of hypertensive and normotensive Armenian Americans in the Los Angeles area. Generating this body of information allows researchers to address the current gap in literature regarding hypertension and the Armenian American community. This chapter includes the literature search strategy, an explanation of Pender's HPM, the conceptual framework, and the review of relevant literature.

Literature Search Strategy

For this research, the Walden University library's nursing research resource databases were used, including CINAHL Plus with Full Text, ProQuest Nursing & Allied Health Sources, MEDLINE with Full Text, ProQuest Health & Medical Complete, PubMed, Cochrane Database of Systematic Reviews, United States Census Data, and Google Scholar. The key terms for this research were *hypertension*, *high blood pressure*, *Armenia*, *Armenian American*, and *minorities*. The search term *hypertension* was combined with *Southern California*, *Armenian Americans*, *minorities*, *immigrants*, *HPLP II*, *health promotion model*, and *prevalence*, *treatment*, and *awareness and control study*. The literature review included books that were purchased through online sellers, peer reviewed academic articles, and online government reports.

Originally, the literature review began with articles published from 2012 to 2016. In order to ensure that no studies regarding Armenian Americans and hypertension had been missed, the time frame was expanded to include literature published in the 1990s. Through the search for relevant articles, many sources were available, but no research could be located specifically regarding hypertension and the Armenian American community. Due to the paucity of data regarding this population, the search was extended to other minorities or immigrant communities. This yielded a copious amount of peer reviewed articles. All of the articles that were theoretically and thematically relevant were reviewed until categorical saturation was reached. Regular searches were conducted to check for updates in the literature regarding hypertension in Armenian Americans, and eventually a poster from the 2014 Western Institute of Nursing Annual Communicating

Nursing Research Conference was located that discussed the risk factors for hypertension and diabetes in this community. When the data were combined with studies from Armenia and other relevant communities, saturation was achieved, and it became clear that no other studies about this community had been conducted.

Theoretical Foundation

Theory and Foundation

The theoretical foundation for this study was Pender's (2015) revised HPM. This theory was originally published in 1987, in an effort to explore the complexities of human biopsychosocial processes and the ways in which they interact with health. The goal was to find ways to enhance health through behavioral changes. The original HPM included seven cognitive-perceptual factors and five modifying factors in order to predict health behaviors. The cognitive-perceptual factors included importance of health, perceived control of health, definition of health, perceived health status, demographic and biologic characteristics, interpersonal influences, situational influences, and behavioral factors. The modifying factors included demographic, biological, interpersonal, situational, and behavioral factors. The HPM is unique in that threats or fear are not used as major motivational factors for health promotion behavior (Pender et al., 2015).

After the initial HPM was released, many studies were done to assess its fit. In 1996, a revision was released that added three new variables, including activity-related effects, commitment to a plan of action, and immediate competing demands and preferences (Pender et al., 2015; Tomey & Alligood, 2006). The concept map of the theory was reorganized to more accurately reflect the findings of the studies. The HPM

was developed from Pender's nursing background to integrate the social learning theory of Bandura with a holistic nursing perspective. The validity of the model has been tested many times in a variety of languages and across countries and continents worldwide. The theory contains variables under individual characteristics and experiences, behavior-specific cognitions and affect, and behavioral outcomes (Pender et al., 2015; Tomey & Alligood, 2006).

Major Theoretical Propositions

There are seven major assumptions of the HPM, all of which stem from the social science background of the theory. The assumptions include that (a) each individual seeks his or her own human health potential by creating conditions to express that potential, (b) individuals are capable of reflecting on themselves and assessing their competencies, (c) individuals value positive personal development and they seek to balance change with stability, (d) individuals will work to regulate their behavior, (e) as individuals interact with their environment, both the individuals themselves and the environment are changed, (f) healthcare professionals exist as an aspect of the social environment, and (g) individuals must reconfigure their own patterns in order to engender change (Pender et al., 2015; Tomey & Alligood, 2006). These assumptions emphasize the role of patients in their own health promotion behavior as well as the ability to change behaviors and achieve growth.

The HPM does not use fear or intimidation to achieve health promotion behavior but rather focuses on the complexities of how individuals move through the world in

regards to their personal health and well being and how they act on and are acted upon by the environment. There are fourteen theoretical assertions derived from the HPM (Pender et al., 2015; Tomey & Alligood, 2006):

1. Health promotion beliefs and the enactment of health promotion behavior are influenced both by prior behavior and inherited and acquired characteristics.
2. Individuals will commit to behaviors when they believe that some positive or valued benefit will result.
3. When an individual perceives a barrier, he or she may be less inclined to commit to action, and his or her behavior may be affected as a result.
4. Individuals are more likely to commit themselves to a certain action or behavior when they perceive higher levels of personal self-efficacy and ability.
5. Individuals who have higher levels of perceived self-efficacy tend to perceive fewer barriers to specific health promotion-related behaviors.
6. Positive attitudes toward a specific behavior will increase an individual's perceived self-efficacy, which can create further positive attitudes.
7. When an individual makes an association between a specific action and a positive feeling or attitude, that individual becomes more likely to commit to and engage in that behavior.
8. An individual is most likely to engage in health promotion behavior when he or she observes that behavior modeled by significant others who expect them to engage in that behavior and encourage them to do so.

9. Commitment to and engagement in health promoting behavior can be increased or decreased by the actions of healthcare providers, family members, and peers.
10. Commitment to and engagement in health promoting behavior can be increased or decreased by environmental or situational factors.
11. A strong commitment to a specific, measurable plan of action increases the likelihood that health promotion behaviors will be maintained over time.
12. If an individual has competing responsibilities that demand immediate attention, his or her commitment to a course of health promotion behavior will be less likely to be effective.
13. If other actions are more attractive to an individual than his or her commitment to health promotion, the individual will be less likely to engage in target behavior.
14. Individuals have the ability to change their environments, interpersonal interactions, affect, and cognitions to incentivize health promotion behavior.

Application of Theory in Literature

The HPM has been used in a variety of studies and settings to examine health promotion behavior worldwide, across all ages and genders, and throughout the range of healthcare experiences. For this reason, the number of studies that use this framework is very large. In order to narrow down the field of applicable studies, it was necessary to restrict inclusion criteria to studies that used the HPM or the HPLP-II specifically in

reference to hypertension. Studies were then narrowed down to those with methodological similarity to this research and those that studied common variables.

Kamran, Azadbakht, Sharifirad, Mahaki, and Mohebi (2015) used the HPM in a study exploring complex psychological and cognitive processes that had an impact on health promotion behavior in hypertensive patients, especially in relation to diet. According to the HPM, health promotion behavior is affected by internal cognitive processes, external situations, and human relationships. The researchers chose to focus on diet because it was easy to measure and analyze and could be compared quantitatively to the participants' scores on the HPLP-II. They used a cross-sectional design and employed the Likert scales of the HPLP-II (Kamran et al., 2015). A link was found between diet and perceived self-efficacy, specifically that higher levels of perceived self-efficacy were positively correlated with health promotion, including medication adherence (Kamran et al., 2015).

Kemppainen et al. (2011) used the HPM to measure the differences in health promotion behavior between rural populations in Japan and the United States. They specifically examined how cultural differences affected the health promotion behavior among rural populations from different cultures in an effort to create a foundation for culturally-specific interventions (Kemppainen et al., 2011). Understanding the differences between and among cultures regarding health promotion behavior allowed healthcare providers to adjust interventions based on the needs of the cultures in which they worked (Kemppainen et al., 2011). Kemppainen et al. uncovered significant differences between participants from the two cultures. The findings suggested that

different health promotion interventions may be needed when there exists a cultural or geographic divide.

In addition, El Mokadem (2013) used the HPM and the HPLP-II to examine the health promotion behaviors practiced by women who were at high risk for the development of CVD, to explore any relationships between health promotion behavior and risk levels for CVD, and to gauge the effects of demographic variables on CVD development in this population. This study was also cross-sectional, and El Mokadem used a convenience sample collected at various patient clinics. El Mokadem found that the women were not practicing health promotion behavior and that identifying the barriers experienced by women is the first step in overcoming them. Additionally, El Mokadem found no correlation between health promotion behaviors and age, marital status, education, monthly income, or family size. These findings suggest that there may be gender-based differences in health promotion that could be present in the Armenian American population as well (El Mokadem, 2013).

The HPM makes it possible to examine the often-complex associations between a wide variety of lifestyle factors and an individual's overall health, particularly in regards to the development of hypertension. Shafieyan et al. (2016) studied these connections among patients in healthcare centers in Ilam City, Iran. Shafieyan et al. used the HPLP-II to assess health promotion behavior while collecting additional information through a demographic questionnaire. The goal of this study was to improve the services provided to patients by creating a deeper understanding of their lifestyles and health promotion behavior (Shafieyan et al., 2016). Shafieyan et al. found high levels of smoking and low

levels of physical activity among the participants, as well as higher than average levels of obesity. Understanding what risk factors this population possessed and the relationship of those risk factors to health promotion behaviors allowed researchers to create a more nuanced and culturally appropriate intervention.

In a similar study done on Arab-Americans in Southern California, Tailakh et al. (2014) used the HPLP-II to measure physical activity and nutrition health promotion behaviors among participants. Tailakh et al. aimed to understand the prevalence, awareness, treatment, and control of hypertension in a minority population in Southern California as well as some of the lifestyle factors that contributed to hypertension in this population. This study was done to create a baseline that could be used for future hypertension-related research among Arab Americans. Additionally, Tailakh et al. sought to compare health promotion and lifestyle behaviors among a community sample of hypertensive, prehypertensive, and normotensive Arab Americans. Tailakh et al. concluded that there was an urgent need for community interventions to improve the detection and treatment of hypertension. In this dissertation, I drew heavily from the methodology of Tailakh et al.'s study.

Rationale for Theory

Pender's HPM was created and refined for use among vulnerable populations to capture data on groups that experience significant health disparities (Pender et al., 2015). Vulnerable populations include those who do not speak English, ethnic minority groups, and recent immigrants and refugees to the United States (Pender et al., 2015). Though not all Armenian Americans are immigrants, refugees, or non-English speakers, they all

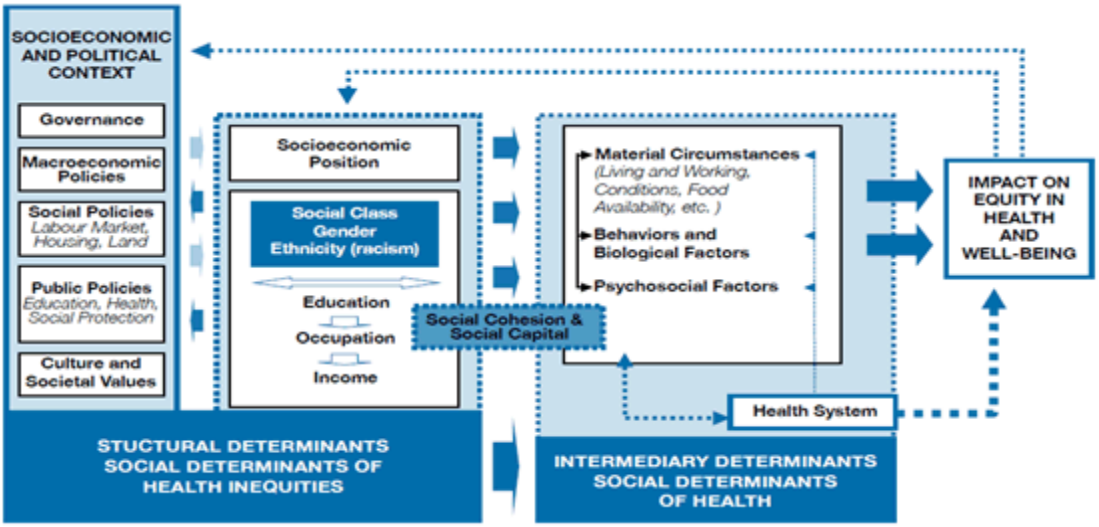
belong to an ethnic minority and could therefore be subject to health disparities that affect the incidence, prevalence, mortality, and burden of disease among this community (Pender et al., 2015). Development of empowering health promotion programs is essential among vulnerable populations, and the building blocks of those programs are inherent in the HPM's approach.

Additionally, Pender's HPM has been shown to have high measures of validity and reliability across cultures, age groups, and ethnic groups (Tomey & Alligood, 2006). Because the model was created through logic and induction and refined through rigorous research, it is applicable and useful in a variety of settings across a large array of subject matter. It is broad enough to capture many different forms of health promotion behavior, but targeted enough to give a strong indication of a participant's overall health promotion activity (Tomey & Alligood, 2006). Understanding the health promotion behavior that this community sample engages in and the relationship between health promotion behavior and hypertension among this sample is fundamental to creating targeted, effective interventions (Pender et al., 2015). As no previous research captured this information, this study will be foundational in future interventional studies.

HPM and Hypertension Prevalence, Awareness, Treatment, and Control

Though creating descriptive statistics regarding the health of this community sample could have some efficacy in creating targeted interventions, it would be difficult to understand the full picture without data on the health promotion behavior of this population. Health promotion behavior plays a key role in the morbidity and mortality of any community or group; to understand how to reach this group, it was vital to create a

solid basis of information of the extent of the issue. Because this study dealt with a minority population, many of whom were immigrants and/or lacked English speaking skills, community health could be affected by biopsychosocial factors on multiple levels (Pender et al., 2015). The World Health Organization (WHO) Framework Describing Structural Determinants of Health depicts how material characteristics (neighborhood, housing, working conditions, etc), behavioral factors (nutrition, physical activity, tobacco use, etc), and psychosocial factors (stressful living conditions and relationships, social supports, etc) effect a person's health and well being on multiple levels (Pender et al., 2015).



(Figure 2. The WHO framework describing structural determinants of health. From "A Conceptual Framework for Action on the Social Determinants of Health," by O. Solar and A. Irwin, 2010, Social Determinants of Health Discussion Paper 2 (Policy and Practice). Copyright 2010 by the World Health Organization.

In order to be effective, interventions must be created with mindfulness toward these many and varied factors. Socioeconomic barriers have historically created difficulties in research and outreach toward vulnerable populations. In order to create and foster social change, it is vital to overcome the barriers and bring targeted, culturally specific healthcare to these groups (Pender et al., 2015). The lack of health literacy among vulnerable populations has been associated with worse health status, poorer health knowledge, increased hospitalization, and decreased participation in preventative activities (Pender et al., 2015). Conversely, greater health literacy can result in medical and health decisions that create better health outcomes (Pender et al., 2015). The economic burden of health disparities has been estimated at $1.24 trillion; if proper health promotion education was provided to these communities along with preventative healthcare, it is likely that this economic burden could be relieved, at least in part (Pender et al., 2015). Without data, it is impossible to know how to effectively target and assist vulnerable populations. This framework allowed for such data to be generated and interpreted.

Health promotion behavioral traditions are not uniform across cultures, and are affected by a variety of factors that include health beliefs, trust in the medical system, diet, lifestyle, and other variables. The HPM examines these variables, and provides valuable insight into many of the behaviors that effect overall health and wellness.

Definitions

Hypertension. Hypertension was defined as systolic blood pressure greater than or equal to 140 mmHg and diastolic blood pressure greater than or equal to 90 mmHg**,** or

taking blood pressure lowering medication at the time of the study (Mozaffarian et al., 2016; Yoon et al., 2015)

Health promotion behavior. In order to understand the concept of health promotion behavior, it was necessary to understand health and health promotion as part of the overall HPM. The definition of health has changed throughout the years as human beings have cultivated a more thorough understanding of the human body, disease and its process, the relationship between human wellness and the ecosystem, familial relationships, mental states, and individual/community health dynamics (Pender et al., 2015). Nightingale defined health as one being the best that they could be at a given point in time (Pender et al., 2015). In 1946, the WHO defined health as "a state of complete physical, mental, and social well-being and not merely the absence of disease and infirmary" (Pender et al., 2015). However, this definition has been criticized for being overly broad and utopian in nature. Pender et al.defined health and illness as qualitatively different concepts that remain interrelated; health and illness can coexist in the same individual, and regardless of the presence of chronic or acute disease, a person can experience health throughout the lifespan (2015). In fact, illness can either facilitate or hinder an individual's health and search for health promotion (Pender et al., 2015).

Health promotion was defined in the study as a personal process that allows an individual to improve their health through controlling their environmental factors and overcoming their personal challenges (Pender et al., 2015). Though health promotion can be practiced on the individual level, it is also dependant on environmental factors that require the cooperation and awareness of government and public health agencies. Health

promoting behavior is the ultimate outcome in the HPM, and is defined by Pender et al. as behaviors that result in improved health, enhanced functionality, and better quality of life throughout and across the lifespan (2015). The HPM assesses eight different model belief concepts, which include prior behavior, personal factors, behavioral specific cognitions, personal affect, interpersonal influences, situational influences, competing demands and preferences, and commitment to action plan (Pender et al., 2015). When healthcare providers use this model to assess an individual's overall health promotion behavior, it can provide valuable and nuanced insights into the overall picture of individual health and lifestyle factors.

Ethnic minority. Health inequalities have been shown to result from complex interactions among a variety of factors, including biological variations, health care access, personal health behaviors, social and economic resources, and culture. In particular, rates and risk factors of hypertension have been shown to vary widely based on ethnicity, nativity, immigration status, foreign born status, country of origin, socioeconomic factors, and geographic location (Morenoff et al., 2007; Yi et al., 2013). Research shows that different ethnic groups have different rates of prevalence of hypertension, and in many ethnicity-based studies, the ethnic categories include White (not Hispanic), Hispanic, Black, Asian/Pacific Islander, and Other (Yi et al., 2013). However, there is evidence that foreign born Whites have higher rates of hypertension than Whites born in the United States (Yi et al., 2013).

Primary Writings

Hypertension has been identified as one of the major public health challenges of the United States (Yoon et al., 2015). Both national and regional efforts have been made to address hypertension through prevention and control by improving the awareness of the public. The NHANES is a cross-sectional survey that examines many public health factors and concerns, with the most recent hypertension data showing that while rates of hypertension have not changed significantly in the past fifteen years, the rates of control steadily increased until they leveled out in 2009 (Yoon et al., 2015). Prevalence in the United States as a whole is about 29%, though prevalence is higher among adults aged 60 and over, and non-Hispanic black adults. Non-Hispanic Whites had lower prevalence of hypertension that non-Hispanic blacks, though Non-Hispanic Asians and Hispanic adults had lower rates. However, non-Hispanic Whites had the highest rates of controlled hypertension (Yoon et al., 2015).

A closer look at NHANES data shows that the risk factors that Americans face are formidable throughout the lifespan. For example, 29.9% of adults report engaging in no aerobic physical activity at all, and less than 1% of Americans met at least 4 of 5 healthy dietary goals, and nearly 30% of American adults are obese. Additionally, despite progress over the past few decades, 20.5% of men and 15.9% of women still smoke cigarettes. Each of these risk factors contributes significantly to mortality due to CVD, and each represent a significant burden on the resources of the American healthcare system (Mozaffarian et al., 2016).

Key Statements and Definitions

Awareness: Refers to the participant's awareness of hypertension, the risk factors and side effects, and the proper treatment (Chow et al., 2013; Tailakh et al., 2014).

Body Mass Index (BMI): Refers to a simple weight-to-height index used to assess whether an individual is under weight, normal weight, overweight, or obese (Go et al., 2014; Mozaffarian et al., 2016).

Control: Refers to whether or not a participant who has been diagnosed with hypertension has been able to control their BP through medication and lifestyle (Chow et al., 2013; Tailakh et al., 2014).

Hypertension: Refers to systolic blood pressure greater than or equal to 140 mmHg and diastolic blood pressure greater than or equal to 90 mmHg (Go et al., 2014; Mozaffarian et al., 2016; Yoon et al., 2015).

Normotension: Refers to systolic blood pressure less than or equal to 120 mmHg and diastolic blood pressure less than or equal to 90 mmHg (Mozaffarian et al., 2016).

Obesity: Is defined as BMI of 30 kg/m^2 (Go et al., 2014; Mozaffarian et al., 2016).

Overweight: Is defined as BMI of 25 to 29.9 kg/m^2 (Go et al., 2014; Mozaffarian et al., 2016).

Prevalence: Refers to the number of participants in a sample who have hypertension at a specific moment in time (Chow et al., 2013; Tailakh et al., 2014).

Treatment: Refers to the participant's course of treatment (medication and lifestyle) as recommended by a healthcare professional (Chow et al., 2013; Tailakh et al., 2014).

Previous Conceptual Applications

A review of prevalence, awareness, treatment, and control studies of hypertension offered a detailed view regarding both the existence of hypertension in a group and how that group interacted with hypertension. Understanding these factors allows researchers and healthcare professionals to approach the group in ways that are specific to their needs. Tailakh et al. (2013) used a prevalence, awareness, treatment, and control study to compare Arab Americans to both American national studies and the national studies done in Arab nations. Tailakh et al.'s data revealed that Arab Americans had statistically significantly higher prevalence and lower rates of awareness, treatment, and control (Tailakh et al., 2013).

Similarly, the NHANES uses prevalence, awareness, treatment, and control models to examine hypertension among national samples (Mozaffarian et al., 2016). Among other variables, these specific measurements provide a nuanced perspective particularly on gender, ethnic, age, and socioeconomic differences in key factors that affect morbidity and mortality (Mozaffarian et al., 2016). Social disparities that result from other factors, such as geographic locations, languages spoken, or country of origin can also be assessed using this design (Morenoff et al., 2007). Overall, the prevalence, awareness, treatment, and control of hypertension in a given community must be thoroughly understood in order to understand the role that hypertension play and the social determinants that effect it.

Literature Review of Key Concepts

Disparities in the prevalence of hypertension among minority populations in the United States prompted Tailakh et al. (2013) to conduct a study on hypertension among Arab Americans. In this study, participants were required to fill out demographics, a brief medical history, and answer a series of surveys and instruments designed to assess health promotion behavior and acculturation. Like Armenian Americans, Arab Americans are captured under the umbrella of "White, Non-Hispanic" on the NHANES and the US Census data. Therefore, Tailakh et al. encountered difficulty in finding data directly affecting this community. This study was designed to create a baseline of information regarding an understudied American minority population with a large proportion of immigrants and non-English speakers (Tailakh et al., 2013). Finally, Tailakh et al. used two of the subscales of the HPLP-II, physical activity and healthy lifestyle behaviors, and focused on acculturation. While Tailakh et al. took a broad approach to the research questions, measuring all of the subscales of the HPLP-II would have helped in crafting interventions for this community. More research will need to be done to ascertain the best methods of intervention for this population.

Tailakh et al.'s (2013) approach was influenced by Jadalla et al.'sstudy (2015), "Acculturation as a Predictor of Health Promoting and Lifestyle Practices of Arab Americans: A Descriptive Study," wherein they used the HPM as a theoretical model to explore health, health promotion, lifestyle factors, and acculturation among Arab Americans. Jadalla et al.'s study found that the HPLP-II scores were higher among their sample than the American average. The Spiritual Growth subscale scores were the

highest, while the Physical Activity subscale scores were the lowest. Additionally, those who chose to take the survey in English scored higher on the Spiritual Growth and Interpersonal Relations subscales (Jadalla et al., 2015). Higher levels of acculturation were associated with higher levels of health promotion behavior, although the difference was relatively small (Jadalla et al., 2015). More research should be done to see if this pattern holds for other non-Hispanic Whites, including Armenian Americans.

Due to the lack of research concerning Armenian Americans, specifically, Naccashian and dela Cruz gathered data at an Armenian American health fair in Glendale, California in 2011. In this descriptive, cross sectional study, Naccashian and dela Cruz (2014) measured the height and weight, waist and hip circumference, blood pressure, lipids and blood sugar results of 272 participants. They discovered 38.6% of the sample to be normotensive, with 35.7% pre-hypertensive and 24.6% hypertensive (Naccashian & dela Cruz, 2014). Additionally, 31.6% were overweight, and 39.4% were obese (Naccashian & dela Cruz, 2014). While this provides a snapshot of the population at the health fair, the results have not yet been published, and because the entire sample consisted of those attending the health fair, it cannot be generalized to the community at large. Finally, the researchers did not obtain any health promotion information from the participants; the study was entirely comprised of the health data of the participants.

Yi et al. (2014) found that foreign-born status resulted in higher rates of hypertension in non-Hispanic Whites only, mainly due to immigrants from Eastern Europe/Central Asia; this is where Armenia is located, and where many Armenian immigrants come from . Foreign-born Whites were 18% more likely to report

hypertension than US-born Whites, suggesting a very significant difference (Yi et al., 2014). Because White ethnicity is often used as a reference category for health-based research, understanding the differences in health data between US-born Whites and foreign-born Whites is especially important. This study had a very large sample size, as data from the annual Community Health Survey were used (Yi et al., 2014). However, no data were gathered on health promotion behavior or the specific reasons why foreign-born Whites had such high levels of hypertension (Yi et al., 2014). Research on the health promotion behaviors of this ethnic population is vital in creating future interventions and ultimately lowering hypertension.

Yi et al. (2014) hypothesized that the higher prevalence of hypertension among foreign-born Whites was due in part to higher prevalence among those participant's countries of origin. Though little data exists regarding the prevalence, awareness, and treatment of hypertension in Armenia, Tadevosyan et al. (2013) completed a study on the knowledge, attitude and practices regarding hypertension among the citizens of the Gavar region, Armenia. Tadevosyan et al. used phone surveys and relied on self-reported data, and found high levels of prevalence and low levels of knowledge, adherence to treatment, and control. Tadevosyan et al. revealed a need for educational interventions that would help Armenians understand the risk factors for hypertension and how to practice health promotion behavior. In this sample, rates of physical activity were high, a marked difference from many other populations with increased levels of hypertension (Tadevosyan et al., 2013). However, rates of smoking were far greater than average at 41% among males, and 71% of women and 65.4% of men did not adhere to medication

(Tadevosyan et al., 2013). More research is needed to understand how these cultural paradigms relate to Armenian Americans, especially recent immigrants.

Zallman et al. (2013) found that foreign-born Americans were more likely to have hypertension than US-born Americans, but it is unclear how much of this is attributable to the foreign-born Whites in the sample . However, Zallman et al. did find that insurance affected the rates of uncontrolled and undiagnosed hypertension among all ethnic groups. Due to immigrants having less access to healthcare and insurance than US-born citizens, Zallman et al. concluded that much of the disparity could be explained by the lack of insurance among the sample . Because Zallman et al. used NHANES data, their research would naturally exclude any participants who did not feel comfortable participating in the data-gathering process due to being undocumented or otherwise untrusting in the US medical or government establishments . Finally, Zallman et al. did not examine health promotion behavior and listed only insurance as a modifiable risk factor.

Shafieyan et al. (2016) conducted a study examining the difference in health promotion between patients of a clinic with hypertension and those without . Shafieyan et al. had participants in the control and case groups take the HPLP-II, and was careful to maintain symmetry among the two groups with every demographic detail aside from a diagnosis of hypertension. Between the two groups, the case groups scored significantly less on the total HPLP-II, with specific disparities in physical activity, spirituality, and stress management (Shafieyan et al., 2016). The case group participants had higher rates of smoking and obesity, and lower rates of physical activity (Shafieyan et al., 2016). There was a significant relationship between HPLP-II scores and overall hypertension

prevalence (Shafieyan et al., 2016). Shafieyan et al. concluded that educational interventions would help lower and prevent high BP .

Summary and Conclusions

Hypertension is a serious health risk that increases morbidity and mortality among people of all ethnic backgrounds (Go et al., 2014). In the US, however, it affects minority and immigrant populations disproportionately (Lukoschek, 2003; Zallman et al., 2013). Generally, White Americans are used as a health reference category, and are assumed to have better health outcomes than Hispanic and African American populations. However, White non-Hispanic foreign-born immigrants actually have higher rates of hypertension than their US-born counterparts (Yi et al., 2014). Understanding this disparity requires understanding the health promotion behavior of these communities. Health promotion behavior decreases hypertension, resulting in lower rates of morbidity and mortality and increasing health and lifespan (Jadalla et al., 2015; Pender et al., 2015; Shafieyan et al., 2015; Tailakh et al., 2014). Research was needed to understand the health promotion behavior of this population so that appropriate interventions may be developed (Chow et al., 2013).

No previous researcher examined the relationship between Armenian Americans and hypertension. Researchers in Armenia have shown high rates of hypertension and risk factors among this population including smoking and salty diets (Tadevosyan et al., 2013). Additionally, data gathered at an Armenian American health fair suggested that there were rates of hypertension and prehypertension in this population, as well as high levels of risk factors including obesity (Naccashian & dela Cruz, 2014). Due to the

paucity of data regarding hypertension in the Armenian American population, it is difficult to create any interventions that may be tested for efficacy in increasing health promotion behavior and lowering or controlling hypertension in this population.

I used a quantitative approach to examine the relationship between health promotion behavior and hypertension in the Armenian American community of Los Angeles. By using Pender's HPM and the HPLP-II, I generated a descriptive, cross-sectional look at the habits and lifestyles of both hypertensive and normotensive Armenian Americans. With this information, future researchers will be able to design and test interventions that increase health promotion behavior among this population.

Chapter 3: Research Method

Introduction

The purpose of this study was to establish a baseline of data regarding the relationship between health promotion behavior and hypertensive status in Armenian Americans in the Los Angeles area. Generating this body of information allowed me to address the current gap in literature regarding hypertension and health promotion behavior among the Armenian American community. A quantitative approach was used to gather and analyze information regarding lifestyle, behavior, and physiological factors and their relationship to hypertension in this population. The independent variable in this study was hypertensive status and was divided into the categories of hypertensive and normotensive. Dependent variables included BMI as well as the six subscales of the HPLP-II: spiritual growth, interpersonal relations, nutrition, physical activity, health responsibility, and stress management. In this chapter, I discuss the research design and rationale, methodology, and threats to validity.

Research Design and Rationale

The independent variable in this study was hypertensive status (hypertensive and normotensive). Dependant variables included the six subscales of the HPLP-II: spiritual growth, interpersonal relations, nutrition, physical activity, health responsibility, and stress management (Walker et al., 1995). The covariateanalyzed was BMI.

In this study, I explored the differences between the health promotion behaviors of hypertensive and normotensive Armenian Americans over 40 years of age in the Los Angeles area. I used a cross-sectional, descriptive design, as cross-sectional designs are

most appropriate for collecting information on a population at a fixed point in time (Polit & Beck, 2012). This design addressed the research question while providing a foundation upon which future research may be built.

This study required a moderate time commitment from participants. Consent took 3 to 5 minutes on average, and the following collection of health data (height, weight, and BP readings) took an average of 10 minutes. After the participant had been resting for 5 minutes, two BP readings were taken 1 minute apart, per American Heart Association guidelines. The demographics, brief medical history, and HPLP-II took an average of 15 minutes to complete, making the average total time commitment for each participant approximately 30 to 45 minutes. In order to recognize this time commitment, participants were provided with $10 upon completion of the study. Other necessary resources included an OMRAN HEM-705CP automatic BP monitor (HEM-705CP, Omron Corporation, Tokyo, Japan), a scale, a stadiometer, chairs, a table, and writing implements. I scheduled at least 5 hours for each instance of data collection, with 30 minutes for set up, 4 hours for active data collection, and 30 minutes for tear down. Often, I spent 8 to 10 hours completing data collection activities in order to maximize participation.

Previous to this study, no data existed regarding health promotion behavior in this population, and very little data existed regarding the health of this population. The design of this study provided necessary data regarding the health promotion behavior in this population as well as demographic and health data that could serve as a foundation for future research.

Methodology

Population

This study targeted Armenian Americans in the Los Angeles area over 40 years of age. It was difficult to ascertain the exact size of this population as the census data captured Armenian Americans under the large umbrella category of White; therefore, it was necessary to use other information to estimate this population. According to the U.S. Census' American Community Survey (ACS), the approximate population of Armenian Americans in Los Angeles county was 200,000 (U.S. Census Bureau, 2014). No data existed on the age ranges in this group; however, approximately 43% of the residents of Los Angeles County were 40 years of age or older. Therefore, the population was estimated at about 85,000 (U.S. Census Bureau, 2014).

Sample and Sampling Procedures

In this study, I used convenience and snowball sampling procedures. Convenience sampling relies on locally, readily available participants with particular characteristics that render them eligible for the study (Polit & Beck, 2012). This sampling procedure was especially useful for this population, as the inclusion criterion specified both the age and ethnicity of the sample. Snowball sampling is best used in studies where populations with specific characteristics are needed (Polit & Beck, 2012).

In order to draw the sample, flyers were posted at community gathering centers and adult day care centers. Additional participants were recruited through word of mouth. In order to be included in the study, potential participants had to self-identify as Armenian American and be 40 years of age or older and a resident of Los Angeles

County. Potential participants were excluded if they were pregnant or physically or mentally incapable of signing an informed consent.

Power Analysis and Sample Size

Because the effect size for this study was unknown, the power analysis was based on a medium effect size (Polit & Beck, 2012). Therefore, a power analysis was used to calculate the sample size with an effect size of $d = .40$ with a power of .80 and an alpha of .05 (Polit & Beck, 2012). The power analysis calculation indicated a need for 99 subjects in each group.

Procedures for Recruitment, Participation, and Data Collection

Recruitment. Flyers were made in both English and Armenian that explained to potential participants what the study regarded, where and when they could go to participate, and that there would be $10 given for participation. These flyers were posted in a local bakery and an adult healthcare center. Potential participants were also recruited through word of mouth.

Consent. Participants were screened to ensure they could understand the institutional review board (IRB)-approved consent form. Each participant was given adequate time to read the consent form, and if the participant could not read in either English or Armenian, I read the consent form aloud to them. Once the consent form was read, I asked the potential participant the purpose of the study in order to ensure clarity and understanding. If the potential participant could articulate the purpose of the study and consent to their own participation, they wereasked to sign the form.

Data collection. I took all possible precautions to avoid bias and collected BP, height, and weight data according to professional guidelines using calibrated equipment. I correctly positioned the participant to have her or her BP measurement taken accurately and ensured that the participant did not move or speak. Measurements were taken in a quiet room with a good temperature.

After the consent form was signed and I had confirmed that the participant was aware of what they had consented to, the participant was asked to sit in a comfortable position in a chair with legs uncrossed, where they rested for 5 minutes. Two separate BP readings were taken at least 1 minute apart and were averaged. If the difference between the two was >5 mmHg, a third measurement was taken (see Pickering et al., 2005). I then measured and recorded the participant's height using the stadiometer and weight using a digital scale.

Once the medical data were taken, I allowed the participant to self-administer the demographics, medical history, and HPLP-II. In the event that the participants could not read in either English or Armenian, I read the questions to them and recorded their answers. Demographics included age, gender, family size, country/state of origin, length of stay in the United States, marital status, level of education, employment status, income, insurance status, and religious affiliation. A brief medical history was also taken that included information on hypertension diagnosis, medications, lifestyle modifications, comorbidities, smoking history, and alcohol consumption. Once the participants had completed the entire demographic, medical history, and HPLP-II packet, they completed all necessary components of the study.

Exiting the study. Upon completing the study, the participants were provided with information about their BP and BMI. In the event of any extreme values, the participant was encouraged to see a healthcare provider for further testing. Additionally, the participant was provided with $10 to recognize their time.

Pilot Study

A pilot study was used to validate the translated instrument. Though the HPLP-II had been validated in English, Spanish, and other languages, no Armenian version of the instrument existed prior to this study. The pilot study was done to validate the Armenian version of the HPLP-II prior to conducting the main study.

In an effort to obtain the most accurate results, I had the instrument translated by TransPerfect, a professional translation company. Additionally, a bilingual professor at the local community college provided her own translation, and I translated the instrument as well. I reviewed all three versions for clarity and combined them to achieve the most possible clarity and accuracy. I submitted this version to an Armenian editor who ensured content was clear, well-structured, and culturally appropriate.

Once the final translation was complete, the instrument was back-translated by two bilingual community members who were unfamiliar with the HPLP-II to assure clarity and updates were made. The backtranslation was evaluated by a committee, and then five Armenian speakers were asked to read through the questions and explain what each one was asking. Finally, a panel of 9 experts evaluated the instrument for content equivalency. When all of these steps were performed, I ran Cronbach's alpha to test for internal consistency.

Instrumentation and Operationalization of Constructs

The HPLP-II was originally published in 1982, with the revised model published in 1996 by Walker et al.. The revisions reflected the changing theoretical perspectives and the results of empirical findings (Walker et al., 1995). This instrument is especially useful in vulnerable populations and maintains high levels of validity across cultures (Pender et al., 2015). As health promotion behavior has been shown to have an effect on levels of hypertension, measuring the health promotion behavior among this sample allowed me to examine the relationship between such behavior and the blood pressure and BMI of hypertensive and normotensive Armenian Americans. With this information, future studies can begin creating and testing interventions to increase health promotion and decrease hypertension in this population. Permission to use this instrument was granted by the publishers (see appendix A).

The HPM and HPLP-II have been rigorously tested throughout the years and have been used and adapted across time and cultures (Tomey & Alligood, 2006). The test-retest reliability of the HPLP-II has shown a score of .89 with a Cronbach's Alpha of .94, indicating very high levels of reliability and validity (Walker et al., 1995).

Translation procedures. First, the instrument was translated into Armenian from English by three different translators; the initial translation was done by a professor from a local college, the second by the professional translation company, TransPerfect, and the third by myself and the initial translator. The initial translator was given the HPLP-II in English and generated an Armenian translation. That translation was given to TransPerfect along with the English version of the HPLP-II, who generated an Armenian

translation. Finally, I sat down with the initial translator and used both translations to generate a final translation that was used in Step 2.

Second, two experts were given the Armenian HPLP-II, and they back translated the document into English. Neither expert had previous familiarity with the HPLP-II instrument. Both translators were native English speakers who learned Armenian later. One translator was familiar with healthcare concepts, and the other was familiar with colloquialisms and idiomatic English (see Carlson, 2000; Sousa & Rojjanasrirat, 2011). I worked with both back translators to correct any items that seemed to be losing their meaning through translation.

Third, the translation and backtranslation were brought before a committee of four experts. The committee included myself, a bilingual healthcare worker, and the two back translators from Step 2 (see Carlson, 2000; Sousa & Rojjanasrirat, 2011). The committee went over each question to ensure clarity, consistency, and translation (see Carlson, 2000; Sousa & Rojjanasrirat, 2011). The committee came to consensus on each of the 52 items.

Fourth, I had five native Armenian speakers read through the questions one at a time and verbally express what they understand the question to be asking (see Carlson, 2000; Sousa & Rojjanasrirat, 2011). This allowed me to see which items needed to be further refined due to unclear wording or cultural differences (see Carlson, 2000; Sousa & Rojjanasrirat, 2011).

Finally, I aimed to achieve content equivalence validation by 9 bilingual experts in the community (see Carlson, 2000; Sousa & Rojjanasrirat, 2011). Each expert was

asked to read through the entire survey and rate each question on a scale of 1 to 4 where 1 = *not equivalent*, 2 = *unable to assess equivalence*, 3 = *equivalent with minor alterations*, and 4 = *very equivalent and succinct* (Carlson, 2000; Sousa & Rojjanasrirat, 2011). The item content validity index (I-CVI) was assessed by the average score given by all experts, and the average was 0.90, which was greater than or equal to .78 (Carlson, 2000; Sousa & Rojjanasrirat, 2011). The scale content validity index (S-CVI) was assessed by averaging all of the responses, and was 0.96, which was greater than or equal to .90 (Carlson, 2000; Sousa & Rojjanasrirat, 2011).

Operationalization. Blood pressure referred to the ratio of systolic to diastolic pressure, where systolic referred to the pressure in the arteries when the heart muscle contracted and diastolic referred to the pressure in the arteries between contractions. Blood pressure was measured using an OMRAN HEM-705CP automatic BP monitor (HEM-705CP, Omron Corporation, Tokyo, Japan). The participant was asked to sit in a comfortable position with legs uncrossed. Two separate BP readings were taken at least 1 minute apart and were averaged. If the difference between the two was >5 mmHg, a third measurement was taken (Pickering et al., 2005). Blood pressure readings of 140/90 mmHg and above were considered high, and blood pressure readings below 140/90 mmHg were considered normal.

Hypertension has been defined by the American Heart Association as a persistent BP reading of 140/90 mmHg or greater (Pickering et al., 2005). For the purposes of this study, participants were considered hypertensive if they had been told by a doctor that they were hypertensive or had high blood pressure, and if they had been prescribed

medication or lifestyle changes. For example, a participant with any BP reading who reported taking blood pressure medication prescribed by a doctor to reduce blood pressure was considered hypertensive.

Normotension has been defined by the American Heart Association as a persistent BP reading of 120/80 mmHg or less (Pickering et al., 2005). For the purposes of this study, participants were considered normotensive if they had never been prescribed lifestyle changes or medications to treat hypertension and their BP readings were within the normal range. For example, a participant with any BP reading below 140/90 mmHg who had never been prescribed hypertension medication by a doctor was considered normotensive.

BMI was measured in kilograms per meters squared and was calculated by multiplying an individual's weight (in pounds) by 703, then dividing their weight by their height (in inches) squared or by dividing weight (in kilograms) by their height (in meters) squared (Lewis, 2007). Height was measured with the participant's shoes off using a standing stadiometer, and weight was measured with participant's shoes off using an Omron scale. BMI was considered underweight if it was less than 18.5 kg/m^2, healthy weight if it was 18.5 to 24.9 kg/m^2, overweight if it was 25 to 29.9 kg/m^2, and obese if it was 30 or greater kg/m^2 (Lewis, 2007). For example, a participant of any gender who was 63 inches tall and weighed 130 pounds would have a BMI of 23, which would be considered a healthy weight.

Health promotion behavior referred to the way an individual actualizes well-being, personal fulfillment, and productive living in their own life, while lifestyle referred

to discretionary activities that comprise an individual's daily activities and influence their health (Pender et al., 2015). Overall health promotion behavior was measured using the total score on the HPLP-II, which ranged from 1 to 4, and was calculated by the mean score of the recipient's responses to 52 questions on a four point Likert scale. For example, a score of 3.42 would indicate that the participant answered mostly "often" and "routinely" to the questions regarding a health promotion lifestyle (Walker et al., 1995). The HPLP-II measured health promotion behaviors using six subscales: *health responsibility*, *physical activity*, *nutrition*, *interpersonal relations*, *spiritual growth*, and *stress management*.

Health responsibility referred to an individual's sense of accountability for the status of their own health and well-being. Aspects of this included attention to one's own health, self-education regarding health, and information-gathering before seeking professional guidance in health-related matters (Walker et al., 1995). This variable was measured using the mean score of nine items of the HPLP-II, including, "Get a second opinion when I question my health care provider's advice," with possible responses being never, sometimes, often, or routinely (Walker et al., 1995).

Physical Activity referred to regular participation in activity, including light, moderate, and/or vigorous activity occurring in both planned or spontaneous ways (Walker et al., 1995). In other words, physical activity could include formal sporting events or informal activities with friends. This variable was measured using the mean score of 8 items on the HPLP-II, including "Follow a planned exercise program," with possible responses being never, sometimes, often, or routinely (Walker et al., 1995).

Nutrition referred to the mindful and knowledgeable selection and consumption of foods essential to an individual's health and well-being, and included the selection of a healthy and nutritionally adequate diet for day-to-day consumption (Walker et al., 1995). This variable was measured using the mean score of 9 items on the HPLP-II, including "Eat 24 servings of fruit each day," with possible responses being never, sometimes, often, or routinely (Walker et al., 1995).

Interpersonal relations referred to using skilled communication to foster intimacy and closeness in deep relationships with others (Walker et al., 1995). This type of communication included the sharing of both thoughts and feelings through modes of communication that were both verbal and non-verbal (Walker et al., 1995). This variable was measured using the mean score of 9 items on the HPLP-II, including "Praise other people easily for their achievements," with possible responses being never, sometimes, often, or routinely (Walker et al., 1995).

Spiritual growth referred to an individual's development of inner resources and was achieved through three processes: transcending, connecting, and developing (Walker et al., 1995). Transcending referred to going beyond what we are in order to achieve our most balanced selves. Connecting referred to personal feelings of harmony, wholeness, and connection to the larger world. Developing referred to the maximization of one's wellness potential through a sense of purpose and the achievement of goals (Walker et al., 1995). This variable was measured using the mean score of 9 items on the HPLP-II, including "Feel like I am growing and changing in positive ways," with possible responses being never, sometimes, often, or routinely (Walker et al., 1995).

Stress management referred to the participant's ability to use psychological or physical resources to control or reduce their tension (Walker et al., 1995). This variable was measured using the mean score of 8 items on the HPLP-II, including "Get enough sleep," with possible responses being never, sometimes, often, or routinely (Walker et al., 1995).

Data analysis plan. I used SPSS version 23.0 to analyze all data. Data was screened for outliers, wild codes, and consistency (Polit & Beck, 2012). Frequency distributions were obtained in order to assess whether or not outliers were true outliers or just mistakes in data entry. Then the data were checked for wild codes, or codes that were entered by mistake (Polit & Beck, 2012). Finally, internal data consistency wwere checked by assessing answers to questions measuring a similar concept or construct. For example, if a participant answered that they were not taking medication, but then listed medications, the answer was verified through referring to the original questionnaire (Polit & Beck, 2012).

I sought to answer the following research question: what is the difference between the health promotion behaviors among a community sample of Armenian Americans in the Los Angeles area who have been diagnosed with hypertension and health promotion behavior among those who do not have hypertension?

Alternative hypothesis: There is a difference between the health promotion behaviors among a community sample of Armenian Americans in the Los Angeles area who have been diagnosed with hypertension and health promotion behavior among those who do not have hypertension.

Null hypothesis: There is no difference between the health promotion behaviors among a community sample of Armenian Americans in the Los Angeles area who have been diagnosed with hypertension and health promotion behavior among those who do not have hypertension.

The first step of the statistical analysis was to create descriptive statistics of all of the demographics and other selected characteristics including age, gender, marital status, education, employment, income, health insurance, smoking, drinking, BMI, and systolic blood pressure measured during the interview for the total sample and for each group (hypertensive vs. normotensive). Chi-square and t-tests were performed to examine for statistically significance differences across the categorical and continuous variables between the two groups. For all the categories with a cell size of 5 or less, Fisher's exact test was applied.

The BMI values of participants were categorized using the World Health Organization's (WHO) suggested cutoffs to further investigate the BMI differences between the two groups (hypertensive vs normotensive). Similarly, after comparing continuous systolic blood pressure readings of participants between different groups using t-tests, systolic blood pressure readings were categorized by applying the hypertension classification of the American Heart Association (AHA, 2016). Consequently, Chi square tests were used to evaluate any differences in BMI categories and measured BP categories between the two groups.

Descriptive statistics variables about participant's lifestyles were obtained and summarized in a table. The HPLP-II total mean scores (from all items) and the mean

scores for each subscale among the two groups were calculated and compared using ANOVA. The total mean score was calculated by summing responses to all HPLP-II items and dividing them by 52, the total number of items. The possible response options to each item were 1 = *never*, 2 = *sometimes*, 3 = *often*, 4 = *routinely*. The HPLP-II subscales were *health responsibility* (Items 3, 9, 15, 21, 27, 33, 39, 45, 51), *physical activity* (Items 4, 10, 16, 22, 28, 34, 40, 46), *nutrition* (Items 2, 8, 14, 20, 26, 32, 38, 44, 50), *spiritual growth* (Items 6, 12, 18, 24, 30, 36, 42, 48, 52), *interpersonal relations* (Items 1, 7, 13, 19, 25, 31, 37, 43, 49), *stress management* (Items 5, 11, 17, 23, 29, 35, 41, 47).

Finally, ANCOVA analysis was used to compare the HPLP-II mean scores from all items and the mean scores from each subscale among the two groups with BMI as the covariate, or mediating variable. All the assumptions for ANCOVA including assumption of normality, linearity, homogeneity of regression slopes, homogeneity of variances and equality of covariance, and homoscedasticity (equal variance of residuals) were assessed and verified.

The analysis examined the relationship between health promotion behavior as measured by the HPLP-II and hypertension status, while controlling for BMI. It was important to control for BMI due to a strong relationship between BMI and hypertension (Go et al., 2014). This analysis also revealed the relationship between various demographic variables and other selected characteristics and hypertension status in the sample. Statistically significant relationships were determined by p-values less than .05 on t-test, chi-square, ANOVA, or ANCOVA analysis.

Threats to Validity

Because this sample was comprised only of Armenian Americans in Los Angeles County, the results were not generalizable to the other cultures or populations. Because the sampling method was convenience, it may not be generalizable to other sub-groups of Armenian Americans.

Internal Validity

Because I used a convenience sample of non-randomized participants, the greatest threat to the internal validity of this study was selection bias. Because the groups were not assigned randomly, they may be non-equivalent in ways that were not captured in the demographics and other aspects of the study (Polit & Beck). Differences in the outcomes of the two groups may be group differences and not actual differences. In order to account for this, the sample was drawn in two different locations and at different times to ensure variation. Because the sample was drawn over a period of weeks, history could present a threat to internal validity. The knowledge that participants gain regarding hypertension cannot be controlled, and this could have affected the results of the study.

Statistical Validity

Because hypertension can be affected by factors aside from health promotion behavior, multiple statistical tests were run. Each of the demographic variables was run in a t-test with the independent variable (hypertension status). Statistical tests controlled for BMI, which has been shown to have a statistically significant effect on the independent variable.

Ethical Procedures

This research carried very low risk for any participants. Though there was a chance that participants could experience minor discomfort from the application of the blood pressure cuff for a short period of time, there was no risk of bodily harm or significant distress. However, since data was collected from live participants, it was necessary to obtain IRB approval from Walden University, IRB approval # 02-10-17-0429102. The main ethical concerns of this research were informed consent, data collection, and data storage.

Treatment of human participants. It was important to ensure informed consent and to provide informed consent documents in both English and Armenian, as appropriate. I did not connect the names of participants on consent forms to data collection forms to ensure privacy and anonymity of results. The participant read through the consent form, verbally confirmed their understanding of the study and their consent to me, then demonstrated their consent by signing the consent form. All recruitment materials were IRB approved and carefully worded so as to avoid misleading language. Participants who elected not to participate or who withdrew from the study without completing it did not suffer any adverse consequences. There were no foreseeable adverse events that could occur as a part of data collection.

Treatment of data. Data collected were anonymous, and were not attached to names, phone numbers, addresses, or participant's other identifying data. Each participant was assigned a random number which was used to identify their data in lieu of names or other identifiers. Data were collected on paper forms due to the age of participants. I

entered all data from paper surveys were into excel spreadsheets. All data were stored on my computer located in my home office with a locking door, and backed up to an external hard drive kept in the same room. No data were stored with identifying details of any kind.

Other ethical issues. Because the data gathering process took 30-45 minutes, it was important to recognize the participant's time through a monetary honorarium. I offered $10 to recognize the time of those who participated. Only participants who complete the entire study were eligible for the $10. I added information to the consent document that not all participants would be selected for participation to reflect age inclusion criteria and the need for similarly sized hypertensive and normotensive groups. In order to avoid taking too much participant time, I screened for inclusion criteria before collecting any other information.

Summary

This study used quantitative methodology to explore the relationship between health promotion behavior and hypertension status in Armenian Americans in the Los Angeles area. The research used a cross-sectional, descriptive design and used documents in both English and Armenian. Because this was the first time that the HPLP-II was translated into Armenian, a pilot study was completed to ensure translation accuracy and content equivalence. The sample was gathered using both convenience and snowball methodology due to the specificity of participants needed and the insular nature of this ethnic minority. Once data were gathered, it was analyzed using t-tests, ANOVA, and ANCOVA to allow for BMI as a covariate. Ethical issues and risk were minimal, and I

conducted all aspects of the research with IRB approval. Once the data were gathered and analyzed, procedures and results were reported in chapter four.

Chapter 4: Results

Introduction

The purpose of this study was to establish a baseline of data regarding the relationship between health promotion behaviors of hypertensive and normotensive Armenian Americans in the Los Angeles area. The research question was as follows: What is the difference between the health promotion behaviors among a community sample of Armenian Americans in the Los Angeles area who have been diagnosed with hypertension and health promotion behavior among those who do not have hypertension? Quantitative methods were determined to be the most appropriate for addressing the research question, and the HPLP-II was chosen to measure health promotion behavior among participants (Walker et al.,1995). The independent variable in this study was hypertensive status, which was divided into categories of hypertensive and normotensive. Dependent variables were the six subscales of the HPLP-II: *spiritual growth*, *interpersonal relations*, *nutrition*, *physical activity*, *health responsibility*, and *stress management* (Walker et al. 1995). The descriptive variable in this study was BMI.

The alternative hypothesis was that there would be a difference between the health promotion behavior in the normotensive and hypertensive groups in the community sample taken in the Los Angeles area. The null hypothesis stated that there would be no difference between the health promotion behavior in the normotensive and hypertensive groups in the community sample taken in the Los Angeles area. In this chapter, I address the results of the pilot study that was used to translate and validate the instrument, the data collection process, and the results of the study.

Pilot Study

After the HPLP-II was translated from English into Armenian, back translated into English, corrected, adjusted by a committee of four experts, and assessed for clarity with community members, I gave the instrument to nine bilingual experts in the community. These experts read through the entire survey and rated each question on a scale of 1 to 4 where 1 = *not equivalent*, 2 = *unable to assess equivalence*, 3 = *equivalent with minor alterations*, and 4 = *very equivalent and succinct* (Carlson, 2000; Sousa & Rojjanasrirat, 2011). The item I-CVI was assessed through the average score given to each item by all the experts. The I-CVI score was 0.90, which exceeded the required score of 0.78. The S-CVI was assessed by averaging all responses to all questions, with a total score of 0.96, which exceeded the required score of 0.90. Finally, I tested for internal consistency using Cronbach's alpha, which returned a score of 0.936, reflecting a high level of internal consistency.

The pilot study was used to translate and validate the Armenian version of the HPLP-II, which can now be used in future studies with Armenian or Armenian-American participants. The high I-CVI, S-CVI, and Cronbach's alpha supported that this instrument was valid, while the community participation and feedback have helped to create a clear, legible survey. Though this study was open to all Armenian Americans (not just immigrants), the entire sample was comprised of Armenians who had immigrated to the United States. Therefore, having the survey in Armenian was vital to the collection of this data.

Data Collection

Data collection occurred over the course of 2.5 weeks in early March, 2017. Though I had originally planned to conduct data collection at community centers, churches, adult day care centers, grocery stores, and other public locations, ultimately data were collected at a local Armenian bakery and an adult daycare facility. Though 206 participants were recruited, one was excluded due to age (38 years old), and the other because the potential participant was a tourist from Armenia. Although I provided the English version of the survey to all participants, the majority of the participants chose to complete the study in Armenian, with 10 completed in English. All those who completed the study were given $10 to recognize their time.

Participants

The total number of participants in the study was $N = 204$. The mean age among participants was 68.5 ($SD = 13.0$) and more than half were female (59.8%). All participants identified themselves as Armenian and had immigrated to the United States. Due to the lack of census data on this population, it was difficult to estimate the total population, but on the U.S. Census' ACS, the population over 40 years of age who spoke Armenian was estimated to be 85,000. Though the ACS did not provide a gender breakdown, the census does show a larger proportion of females in the U.S. population, which is consistent with the participants of the study. Finally, because of the strong relationship between BMI and hypertension, BMI was classified as a covariate in this research (Go et al., 2014).

Results

Descriptive Statistics

Of the 204 participants, 70.6% were married, and 71.1% were not employed at the point of data collection. Slightly less than a quarter of the study sample was comprised of full time employees (22.1%). Twenty seven percent of the participants reported post high school education, while two out of five participants had less than a high school education. The majority of the study participants were never smokers (68.2%) and never drinkers (60.2%). The average systolic blood pressure measured during the interview was 136.2 (*SD* = 18.04). Participants had an average weight of 163.3 (*SD* = 31.70) pounds and an average BMI of 31.5 (*SD* = 5.80).

Tables 1 and 2 provide further detail about study participants and their selected characteristics. All the study participants were Armenians who immigrated to the United States, and on average, they had been living in the United States for 16.65 years (*SD* = 9.86).

Table 1

Sociodemographic and Other Selected Characteristics of Participants (Categorical Variables)

Characteristics	*N*	%
Gender		
Male	82	40.2%
Female	122	59.8%
Marital status		
Single	8	3.9%
Married	144	70.6%
Divorced	9	4.4%
Widowed	43	21.1%
Education		
Less than high school	82	40.2%
High school	67	32.8%
Associate degree	26	12.7%
Bachelor's degree	25	12.3%
Post graduate	4	2.0%
Employment		
Employed full time	45	22.1%
Employed part time	13	6.4%
Self employed	1	.5%
Not employed	145	71.1%
Monthly salary/income		
less than $2500	135	66.2%
$2500 to $5000	14	6.9%
$5001 to $7500	4	2.0%
$7501 to $10000	4	2.0%
More than $10,000	1	.5%
Prefer not to say	46	22.5%
Health insurance		
Yes	195	95.6%
No	9	4.4%
Smoking		
Current smoker[1]	51	25.4%
Recent smoker[2]	1	0.5%
Former smoker[3]	12	6.0%
Never smoker	137	68.2%
Drinking		
Never	121	60.2%
0-1 drinks per week	70	34.8%
2-7 drinks per week	7	3.5%
>7 drinks per week	3	1.5%

Note. [1] Someone who smoked within the last month
[2] Someone who stopped smoking between one month and one year ago
[3] Someone who stopped smoking more than one year ago

Table 2

Sociodemographic and Other Selected Characteristics of Participants (Continuous Variables)

Characteristics	*M*	*SD*
Age in years	68.49	13.07
Years living in the United States	16.65	9.86
Total household member	2.67	1.23
Systolic blood pressure	136.25	18.04
Diastolic blood pressure	74.33	10.10
Weight in lbs	163.34	31.70
BMI	31.53	5.80

Table 3 provides descriptive statistics on sociodemographic and other selected characteristics of the study sample by hypertension status. Almost half of hypertensive participants (49.5%) were male, while less than a third of the nonhypertensive group (29%) were male. The gender difference across groups was statistically significant (*p* = 0.004). Similarly, the two groups (those with hypertension and those without) had significantly different marital status (*p* = 0.025). The frequency of widows in the hypertensive group was almost twice as high as that of the normotensive group (27% vs. 14%). Hypertensive individuals had lower educational attainment, with more than half of them (55%) reporting less than a high school education. The difference in education categories between groups was significant (*p* = 0.001). Most hypertensive participants were not employed (88%), while only half of the normotensive participants were not employed. There was no significant difference between the drinking and smoking habits of the hypertensive and normotensive groups.

Table 3

Sociodemographic and Other Selected Characteristics of Participants by Hypertension Status (Categorical Variables)

	Hypertension status					
	Hypertensive		Normotensive			
Characteristics	*N*	%	*N*	%	χ^2 (*df*)	*p*-value
Gender					8.9 (1)	0.004
Male	55	49.5%	27	29.0%		
Female	56	50.5%	66	71.0%		
Marital Status					8.9 (3)	0.025
Single	3	2.7%	5	5.4%		
Married	76	68.5%	68	73.1%		
Divorced	2	1.8%	7	7.5%		
Widow	30	27.0%	13	14.0%		
Education					30.4 (4)	<0.001
Less than high school	62	55.9%	20	21.5%		
High school	31	27.9%	36	38.7%		
Associate degree	7	6.3%	19	20.4%		
Bachelor's degree	11	9.9%	14	15.1%		
Post graduate	0	0.0%	4	4.3%		
Employment						
Employed full time	10	9.0%	35	37.6%	35.3 (3)	<0.001
Employed part time	3	2.7%	10	10.8%		
Self employed	0	.0%	1	1.1%		
Not employed	98	88.3%	47	50.5%		
Monthly salary/income					14.9 (5)	0.004
Less than $2500	84	75.7%	51	54.8%		
$2500 to $5000	4	3.6%	10	10.8%		
$5001 to $7500	0	0.0%	4	4.3%		
$7501 to $10000	2	1.8%	2	2.2%		
More than $10,000	1	.9%	0	.0%		
Prefer not to say	20	18.0%	26	28.0%		
Health insurance					0.38 (1)	0.735*
Yes	107	96.4%	88	94.6%		
No	4	3.6%	5	5.4%		
Smoking					1.88 (3)	0.672*
Current smoker[1]	25	23.1%	26	28.0%		
Recent smoker[2]	0	.0%	1	1.1%		
Former smoker[3]	7	6.5%	5	5.4%		
Never smoker	76	70.4%	61	65.6%		
Drinking					3.12 (3)	0.373*
Never	67	61.5%	54	58.7%		
0-1 drinks per week	35	32.1%	35	38.0%		
2-7 drinks per week	4	3.7%	3	3.3%		
>7 drinks per week	3	2.8%	0	0.0%		

Note. [1] Someone who smoked within the last month

[2] Someone who stopped smoking between one month and one year ago

[3] Someone who stopped smoking more than one year ago

*NS

As noted in Table 4, the average systolic blood pressure reading among the hypertensive group at the time of data collection (M = 143.3mmHg, SD = 18.09) was statistically different than the average systolic blood pressure of the normotensive group (M = 127.8 mmHg, SD = 13.99; p = <0.001). The average diastolic blood pressure reading among the hypertensive groups at the time of data collection (M = 73.59mmHg, SD = 11.21) was statistically significantly lower than the average diastolic blood pressure reading of the normotensive group (75.22mmHg, SD = 8.57). While the average body weight did not differ between groups, the hypertensive group had statistically significantly higher average BMI than the normotensive group (32.6 vs. 30.2, p = 0.003).

Table 4

Sociodemographic and Other Selected Characteristics of Participants by Hypertension Status (Continuous Variables)

	Hypertension status					
	Hypertensive		Normotensive			
Characteristics	Mean	Standard deviation	Mean	Standard deviation	*t*-statistic	*p*-value
Systolic blood pressure	143.29	18.09	127.84	13.99	6.721	<0.001
Diastolic blood pressure	73.59	11.21	75.22	8.57	-1.142	0.047
Total household member	2.46	1.28	2.90	1.11	-3.248	<0.001
Weight in lbs	164.93	29.82	161.45	33.88	0.780	0.436*
BMI	32.61	6.02	30.23	5.28	2.970	0.003

Note. *NS

To further explore participants' blood pressure readings during data collection and their hypertension status, I categorized their systolic blood pressure readings into 90 to119mmHg (normal), 120 to 139 mmHg (prehypertension), 140 to 159 mmHg (Stage 1 hypertension), and 160mmhg or higher (Stage 2 hypertension), according to the criteria set forth by the American Heart Association (2016). There were no participants with an

average systolic blood pressure reading above 179 mmHg. Table 5 shows that about 7% of the hypertensive group had a systolic blood pressure reading of less than 120 mmHg. Slightly more than a quarter of individuals (25.8%) in the normotensive group had a systolic blood pressure reading of less than 120mmHg. Almost a fifth of participants in the hypertensive group (18.9%) had a systolic blood pressure reading of 160 mmHg or higher, while only 1.1% of the normotensive group had a blood pressure reading that fell in the Stage 2 hypertension category. A chi-square test revealed a significant difference in systolic blood pressure categories between the hypertensive and normotensive groups (p = <0.001). Table 5 presents further details about distribution of blood pressure readings across groups.

Table 5

Actual Blood Pressure Reading During Interview by Hypertension Diagnosis Status

	Hypertension status					
	Hypertensive		Normotensive			
Systolic BP reading during interview	*N*	%	*N*	%	χ 2 (df)	*p-value*
					32.12(3)	<0.001
90-119 mmHg	8	7.2%	24	25.8%		
120-139 mmHg	43	38.7%	49	52.7%		
140-159 mmHg	39	35.1%	19	20.4%		
≥160 mmHg	21	18.9%	1	1.1%		

I applied the WHO-suggested BMI cutoffs to categorize BMI among the two groups. Table 6 presents details of cross tabulation and chi square statistics of the BMI category distribution of study participants by their hypertension status. Only 5.4% of those within the hypertensive group had a BMI that fell in the normal weight category. Among normotensive individuals, 11.8% of participants had a BMI that fell in the normal

weight category. Overall, those with hypertension had higher rates of obesity; however, there was no statistically significant difference in the distribution of BMI categories between groups ($p = 0.226$).

Table 6

BMI Category Distribution of Participants by Hypertension Diagnosis Status

	Hypertension status					
	Hypertensive		Normotensive			
BMI category	*N*	%	*N*	%	χ^2 (*df*)	*p-value*
					5.66 (4)	0.226
Underweight (<18.5)	0	0.0%	0	0.0%		
Normal weight (18.5–24.9)	6	5.4%	11	11.8%		
Overweight (25.0–29.9)	36	32.4%	35	37.6%		
Class I obesity (30.0–34.9)	42	37.8%	33	35.5%		
Class II obesity (35.0–39.9)	14	12.6%	9	9.7%		
Class III obesity (≥40)	13	11.7%	5	5.4%		

Co-existing diseases were observed in the hypertensive group at a higher frequency than in the normotensive group. The results revealed that there were no statistically significant differences in renal, thyroid, heart failure or and poor circulation in the peripheries between the hypertensive and normotensive groups. However, the prevalence of endocrine disease (diabetes mellitus) was statistically significantly different between the groups ($p = 0.006$), with 16.2% of individuals with hypertension reporting such a problem while the prevalence among normotensive individuals was only 4.3%. Table 7 provides further details about the frequency and proportion of individuals with those diseases in each group.

Table 7

Prevalence of Selected Diseases by Hypertension Status

	Hypertension status					
	Hypertensive		Normotensive			
Characteristics	*N*	%	*N*	%	*χ 2 (df)*	*p-value*
Renal disease					1.35	0.379
Yes	4	3.6%	1	1.1%		
No	107	96.4%	92	98.9%		
Endocrine disease					7.47	0.006
Yes	18	16.2%	4	4.3%		
No	93	83.8%	89	95.7%		
Thyroid problems					0.38	0.735
Yes	4	3.6%	5	5.4%		
No	107	96.4%	88	94.6%		
Heart failure congestive heart failure					2.34	0.179
Yes	11	9.9%	4	4.3%		
No	100	90.1%	89	95.7%		
Poor circulation in the peripheries					1.42	0.295
Yes	6	5.4%	2	2.2%		
No	105	94.6%	91	97.8%		

Table 8 summarizes health behavior, blood pressure medication use, and whether participants had been recommended to do life style modifications to control their blood pressure. Most individuals in the hypertensive group reported that they maintained a normal body weight (64.0%) and followed a low salt diet (56.8%). More than three out of five participants (64.9%) reported increasing the amount of fresh fruit and vegetables in their daily diet while slightly less than half of the group reported exercising at least three times a week (47.7%). Limiting total and saturated fat intake (46.8%), and limiting alcohol consumption (42.3%) were also reported by less than half of the participants with hypertension. Most of the participants were recommended to do life style modifications (92.7%). At the time of interview, 86.5% reported that they took blood pressure control medication.

Table 8

Hypertension Management Strategies Followed by Hypertensive Participants

Health behaviors and recommendations	*N*	%
Maintaining normal body weight		
Yes	71	64.0%
No	40	36.0%
Eating low salt diet		
Yes	63	56.8%
No	48	43.2%
Limiting alcohol consumption		
Yes	47	42.3%
No	64	57.7%
Reducing intake of saturated and total fat, and cholesterol		
Yes	52	46.8%
No	59	53.2%
Increasing amount of fresh fruit and vegetables in your daily diet		
Yes	72	64.9%
No	39	35.1%
Exercising at least 30 minutes at least three times a week		
Yes	53	47.7%
No	58	52.3%
Have been recommended life style modifications		
Yes	101	92.7%
No	8	7.3%
Taking blood pressure medication		
Yes	96	86.5%
No	15	13.5%

Statistical Analysis of Health Promotion Behavior

To determine if there was a difference between the health promotion behavior in the normotensive and hypertensive groups in the sample, an ANOVA was calculated first for the overall total items mean score (known as the health-promoting lifestyle subscale), and then for each individual subscale. The ANOVA results presented in Table 9 confirmed that there was no statistically significant difference in the total items mean score between the two groups ($p = 0.496$).

Table 9

One-Way Analysis of Variance of Health-Promoting Lifestyle (All Items) by Hypertension Status

Source	*df*	Sum of squares	Mean Square	*F*	*p-value*
Between groups	1	.082	.082	.465	.496
Within groups	196	34.540	.176		
Total	197	34.622			

Overall, the hypertensive group mean score on the health-promoting lifestyle subscale (all items) was 3.21, while the normotensive group mean score was 3.25. The results of the analysis of subscales can be found in Table 10.

Table 10

Descriptive Statistics of the Health Promoting Lifestyle Profile Subscales and its Total by Hypertension Status

Health-Promoting Lifestyle Profile sub-scales	Hypertension status					
	Hypertensive			Normotensive		
	Median	Mean	95% CI	Median	Mean	95% CI
Health responsibility	3.38	3.38	(3.27, 3.48)	3.30	3.29	(3.14, 3.43)
Physical activity	2.34	2.33	(2.22, 2.45)	2.59	2.64	(2.49, 2.79)
Nutrition	3.01	2.99	(2.91, 3.07)	3.08	3.05	(2.95, 3.14)
Spiritual growth	3.62	3.60	(3.54, 3.67)	3.57	3.55	(3.44, 3.66)
Interpersonal relations	3.71	3.66	(3.59, 3.74)	3.67	3.60	(3.50, 3.71)
Stress management	3.00	2.98	(2.89, 3.07)	3.25	3.21	(3.07, 3.34)

Post-Hoc Analyses

Tables 11 through 16 present ANOVA models comparing the mean of each HPLP-II subscale between the hypertensive and normotensive groups. There was no

significant difference between the groups in the mean response on the health responsibility subscale ($p = 0.297$) as presented in Table 11.

Table 11

One-Way Analysis of Variance of Health Responsibility Subscale by Hypertension Status

Source	*df*	Sum of squares	Mean Square	*F*	*p-value*
Between groups	1	.409	.409	1.094	.297
Within groups	197	73.604	.374		
Total	198	74.012			

As presented in table 12, the ANOVA model for comparing the physical activity subscale mean scores between the two groups yielded a *p*-value of 0.001, indicating a statistically significant difference between the groups.

Table 12

One-Way Analysis of Variance of Physical Activity Subscale by Hypertension Status

Source	*df*	Sum of squares	Mean Square	*F*	*p-value*
Between groups	1	4.664	4.664	10.875	.001
Within groups	198	84.926	.429		
Total	199	89.590			

The nutrition subscale mean response was similar across groups and the ANOVA yielded a *p*-value of 0.363. Table 13 provides further details on the results from that analysis.

Table 13

One-Way Analysis of Variance of Nutrition Subscale by Hypertension Status

Source	*df*	Sum of squares	Mean Square	*F*	*p-value*
Between groups	1	.169	.169	.830	.363
Within groups	199	40.407	.203		
Total	200	40.576			

The ANOVA model presented in Table 14 showed no statistically significant difference in the spiritual growth subscale mean score between the hypertensive and normotensive groups.

Table 14

One-Way Analysis of Variance of Spiritual Growth Subscale by Hypertension Status

Source	*df*	Sum of squares	Mean Square	*F*	*p-value*
Between groups	1	.129	.129	.665	.416
Within groups	197	38.297	.194		
Total	198	38.427			

As presented in table 15, there was no difference in the interpersonal relations subscale mean score between the hypertensive and normotensive groups, with ANOVA yielding a *p*-value of 0.346.

Table 15

One-Way Analysis of Variance of Interpersonal Relations Subscale by Hypertension Status

Source	*df*	Sum of squares	Mean Square	*F*	*p-value*
Between groups	1	.180	.180	.891	.346
Within groups	199	40.260	.202		
Total	200	40.441			

Table 16 presents the ANOVA results comparing the stress management subscale mean score between the two groups which reveals a statistically significant difference ($p = 0.004$).

Table 16

One-Way Analysis of Variance of Stress Management Subscale by Hypertension Status

Source	*df*	Sum of squares	Mean Square	*F*	*p-value*
Between groups	1	2.590	2.590	8.288	.004
Within groups	198	61.867	.312		
Total	199	64.456			

ANCOVA Analysis of BMI as Covariate

ANCOVA was applied to examine for possible differences in subscales mean scores by group, while controlling for the potential confounding or mediating effect of BMI. Each HPLP-II subscale served as a dependent variable in a separate ANCOVA model. Hypertension status was included as the independent variable (groups variable), while a continuous measure of BMI was treated as a covariate. All the models were assessed for the required assumptions for ANCOVA. Applying the cutoff values for skewness (-1, ~1); (Hildebrand, 1986) and kurtosis (-2, ~2); (George & Mallory, 2010), the dependent variables were all normally distributed. The relation of each dependent variable (HPLP-II subscales) with the covariate (BMI) was linear. Homogeneity of regression slopes were evaluated by including an interaction term between the independent variable (hypertension status) and the covariate (BMI) in ANCOVA models. The interaction terms for all outcomes, namely health responsibility ($p = 0.870$), physical

activity ($p = 0.269$), nutrition ($p = 0.670$), spiritual growth ($p = 0.182$), interpersonal relations ($p = 0.615$), and stress management ($p = 0.307$), and the total items mean ($p = 0.611$) were statistically non-significant, hence were omitted in the final models. Levene's test of homogeneity from each model indicated a non-significant difference in error variance between the groups.

Table 17 presents the results of ANCOVA for the health responsibility subscale. Adjusting for BMI, the model indicated no statistically significant difference in the health responsibility subscale mean score between the groups ($p = 0.130$).

Table 17

One-Way Analysis of Covariance of Health Responsibility Subscale by Hypertension Status Controlling for BMI

Source	*df*	Sum of Squares	Mean Square	*F*	*p-value*	Partial Eta Squared
BMI	1	2.095	2.095	5.742	.018	.028
Hypertension status	1	.843	.843	2.311	.130	.012
Error	196	71.509	.365			

a. $R^2 = .034$ (Adjusted $R^2 = .024$)

After adjustment for BMI, shown in Table 18, there was a statistically significant difference in the physical activity subscale score between the hypertensive and normotensive groups ($p = 0.007$). The model had an adjusted R^2 of 0.078.

Table 18

One-Way Analysis of Covariance of Physical Activity Subscale by Hypertension Status Controlling for BMI

Source	*df*	Sum of Squares	Mean Square	*F*	*p-value*	Partial Eta Squared
BMI	1	3.119	3.119	7.511	.007	.037
Hypertension status	1	3.099	3.099	7.463	.007	.037
Error	197	81.806	.415			

a. R^2 = .087 (Adjusted R^2 = .078)

The BMI adjusted ANCOVA model did not reveal any significant difference in the nutrition subscale score between the groups (p = 0.535). Table 19 provides further details of the model.

Table 19

One-Way Analysis of Covariance of Nutrition Subscale by Hypertension Status Controlling for BMI

Source	*df*	Sum of Squares	Mean Square	*F*	*p-value*	Partial Eta^2
BMI	1	0.342	0.342	1.688	.195	.008
Hypertension status	1	.078	.078	0.387	.535	.002
Error	198	40.066	.202			

a. R^2 = .013 (Adjusted R^2 = .003)

The ANCOVA model for spiritual growth by hypertension status controlling for BMI, as presented in table 20, did not find any significant difference (p = 0.164) in the spiritual growth score between groups. The model had an adjusted R^2 of 0.32.

Table 20

One-Way Analysis of Covariance of Spiritual Growth Subscale by Hypertension Status Controlling for BMI

Source	*df*	Sum of Squares	Mean Square	*F*	*p-value*	Partial Eta^2
BMI	1	1.483	1.483	7.895	.005	.039
Hypertension status	1	.366	.366	1.951	.164	.010
Error	196	36.814	.188			

a. R^2 = .042 (Adjusted R^2 = .032)

Similarly, there was no difference in the interpersonal relation subscale score between hypertension groups (p = 0.220), after adjusting for BMI. The model had a relatively low adjusted R^2 (0.005). Table 21 shows the results from that ANCOVA model.

Table 21

One-Way Analysis of Covariance of Interpersonal Relations Subscale by Hypertension Status Controlling for BMI

Source	*df*	Sum of Squares	Mean Square	*F*	*p-value*	Partial Eta^2
Between groups	1	0.428	0.428	2.130	.146	.011
	1	.304	.304	1.513	.220	.008
Within groups	198	39.832	.201			

a. R^2 = .015 (Adjusted R^2 = .005)

After adjusting for BMI, the stress management subscale score was significantly different across hypertension groups. Partial eta square for the independent variable (hypertension group) was 0.032, with the adjusted R^2 from the ANCOVA model reaching 0.04.

Table 22

One-Way Analysis of Covariance of Stress Management Subscale by Hypertension Status Controlling for BMI

Source	*df*	Sum of Squares	Mean Square	*F*	*p-value*	Partial Eta Squared
BMI	1	0.591	0.591	1.901	.170	.010
Hypertension status	1	2.021	2.021	6.498	.012	.032
Error	197	61.275	.311			

a. R^2 = .049 (Adjusted R^2 = .040)

An ANCOVA model treating HPLP-II total items mean as the dependent variable, hypertension status as the independent variable, and BMI as a covariate showed that the mean score of all items is significantly different across the hypertensive and normotensive groups. Table 23 provides results of the ANCOVA model.

Table 23

One-Way Analysis of Covariance of Health-Promoting Lifestyle (All Items) By Hypertension Status Controlling for BMI

Source	*df*	Sum of Squares	Mean Square	*F*	*p-value*	Partial Eta^2
BMI	1	1.208	1.208	7.065	.009	.035
Hypertension status	1	.003	.003	0.015	.903	.000
Error	195	33.332	.171			

a. R^2 = .037 (Adjusted R^2 = .027)

Table 24 presents estimated marginal means of all HPLP-II subscales for each group, adjusted for BMI. The estimated marginal mean of the physical activity subscale among the normotensive group was 2.61, significantly higher than the estimated marginal mean among the hypertensive group (2.36). Similarly, the estimated marginal mean of the stress management subscale among the normotensive group (3.19) was significantly

greater than the mean in the hypertensive group (2.99). As described above, there were no statistically significant differences in other subscales between groups.

Table 24

Estimated Marginal Means for Subscales of Health-Promoting Lifestyle Profile by Hypertension Status ontrolling for BMI

	Hypertensive				Normotensive			
	Mean	*SD*	95% CI		Mean	*SD*	95% CI	
Health responsibility	3.40[1]	0.06	3.28	3.51	3.26[1]	0.06	3.14	3.39
Physical activity	2.36[2]	0.06	2.23	2.48	2.61[2]	0.07	2.48	2.74
Nutrition	3.00[3]	0.04	2.91	3.08	3.04[3]	0.05	2.94	3.13
Spiritual growth	3.62[4]	0.04	3.54	3.70	3.53[4]	0.05	3.44	3.62
Interpersonal relations	3.67[5]	0.04	3.59	3.76	3.59[5]	0.05	3.50	3.68
Stress management	2.99[6]	0.05	2.88	3.09	3.19[6]	0.06	3.08	3.31
Health-promoting lifestyle (all items)	3.22[7]	0.04	3.15	3.30	3.23[7]	0.04	3.15	3.32

1. Means were estimated the following value of BMI = 31.4504
2. Means were estimated the following value of BMI = 31.4487
3. Means were estimated the following value of BMI = 31.5133
4. Means were estimated the following value of BMI = 31.4175
5. Means were estimated the following value of BMI = 31.5133
6. Means were estimated the following value of BMI = 31.4487
7. Means were estimated the following value of BMI = 31.4190

Summary

This study sought to answer the following question: what is the difference between the health promotion behaviors among a community sample of Armenian Americans in the Los Angeles area who have been diagnosed with hypertension and health promotion behavior among those who do not have hypertension? Given the data above, there are statistically significant differences on two of the subscales (*physical activity* and *stress management*) between the hypertensive and normotensive groups. This difference remained statistically significant in post-hoc analysis and when controlling for

BMI. However, there was no statistically significant difference between the overall HPLP-II mean scores between the two groups. In the next chapter, I will examine and interpret the key findings from this research and provide recommendations for further research.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

This study was conducted in an effort to examine the relationship between health promotion behavior and hypertension status among a community sample of Armenian Americans in the Los Angeles area of Southern California. This study was quantitative in nature and was created to begin filling in the gaps in the literature regarding hypertension among Armenian American populations. By creating a foundation of data regarding health promotion behavior in this community, this study contributes to future research that can create culturally specific interventions to prevent and control hypertension. I gathered descriptive data through demographics and health promotion behavior data through the HPLP-II. Additionally, this study included the translation of the HPLP-II from English to Armenian. The Armenian version was edited and validated through a rigorous, literature based process that involved bilingual Armenian Americans from a variety of backgrounds.

The key findings of this study include both demographic and health promotion behavioral factors. The sample size was $N = 204$ with a mean age of 68.49 years and a higher proportion of females (59.8%) than males (40.2%). Though the smoking rate for the White population in Los Angeles is around 12%, the rate of current smokers in this study was more than double (25.4%). The majority of this sample was insured (95.6%) and made less than $2,500 monthly. The hypertensive group had lived in the United States for an average of 14.65 years, while the normotensive group had lived in the United States for an average of 19.05 years. The average weight between the two groups

did not differ significantly; however, the BMI of the hypertensive group (32.61) was statistically significantly higher than the normotensive group (30.23). Though the normotensive group had never been diagnosed with hypertension by definition, when BP readings were taken, 52.7% were prehypertensive, 20.4% were at Stage 1 hypertension, and 1.1% were at Stage 2 hypertension, according to the American Heart Association's (2016) guidelines. Though the purpose of this study was not to diagnose, these findings suggest that participants who thought that they were normotensive may have had undiagnosed hypertension.

There was no statistically significant difference between the two groups' overall health promotion behavior scores. However, there were statistically significant differences between the two groups on the *physical activity* and the *stress management* subscales. On the *physical activity* subscale, the difference between hypertensive and normotensive groups had a p value of 0.001. The difference in *stress management* subscale scores between the normotensive group and the hypertensive group were significant as well, with a p value of 0.004. The differences on these two subscales were also statistically significant in post-hoc analysis and when controlling for BMI as a covariate (*physical activity* $p = 0.007$; *stress management* $p = 0.012$).

Interpretation of Findings

The results of this study are in line with much of the literature regarding hypertension in both immigrant and Armenian communities. For example, Jadalla et al. (2015) and Yi et al. (2014) both discussed the relationship between foreign born status and hypertension. Yi et al. specifically discussed the higher prevalence of hypertension

among White, foreign-born, immigrant populations due to risk factors specific to their country of origin. Additionally, Naccashian and dela Cruz (2014) found high levels of risk factors among the Armenian population of Southern California, including high BMI scores, waist circumference, and BP readings higher than national averages. However, very little literature specifically regards Armenian Americans, and there are some key findings that are worth exploration.

In this study, the lowest HPLP-II subscale scores among the hypertensive sample were *physical activity* and *stress management*, each of which were significantly lower than the normotensive group's scores. This was similar to Jadalla et al.'s (2015) study on Arab Americans, which found HPLP-II scores that were lowest in *physical activity* and highest in *spiritual growth*. Yi et al. (2014) found that foreign-born Whites who immigrated to the United States had higher levels of hypertension than native-born Whites, largely due to the higher levels of hypertension in their countries of origin. This is supported by the findings of this study, which suggest that those who have spent more time living in the United States have a lower prevalence of hypertension. Tadevosyan et al. (2013) found low levels of both awareness and control of hypertension in Armenians, which was also supported in this sample; approximately 73% of the normotensive sample had BP readings in the prehypertensive and hypertensive ranges, showing a potential lack of awareness of hypertensive status. Approximately 93% of the hypertensive sample had BP readings at prehypertensive or higher, showing a potential lack of BP control.

The risk factors for hypertension were present in the hypertensive sample. The hypertensive participants were more likely to be widowed than the normotensive group

(27% vs. 14%; $p = 0.025$) and more likely to live on less than $2,500 per month (75.7% vs. 54.8%; $p = 0.004$). The hypertensive group also had lower levels of education, with 55.9% possessing a less than high school education, as opposed to 21.5% of the normotensive sample ($p = <0.001$). Though the levels of drinking and smoking were not significantly different between the groups, the level of smoking was approximately twice the average for U.S.-born Whites in Los Angeles (Los Angeles County Department of Health, 2015). On average, hypertensive participants were older ($M = 74.8$) than the normotensive participants ($M = 60.96$) and had significantly higher BMI ($M = 32.61$) than the normotensive participants ($M = 30.23$). Despite the difference in BMI among the two groups, the mean BMI of the entire sample was 31.53, which is considered obese. Almost the entire sample was insured, in contrast to Zallman et al.'s study (2013), which suggested that the disparity in hypertension status between immigrants and native-born Americans was due to insurance coverage.

Theoretical Findings

It has been theorized that the detection and treatment of hypertension in ethnic minority communities could be improved through the use of culturally specific interventions (Shafieyan et al., 2016; Tailakh et al., 2014). One way to identify areas of need is to examine the different subscales of the HPLP-II to identify the areas of need for a given community. Though there was no significant difference between the hypertensive and normotensive groups in HPLP-II analysis of all items, there were significant differences in the subscales of *physical activity* and *stress management*. Further, these were the lowest-scoring items for the hypertensive group. As both physical activity and

stress management are recommended as lifestyle changes for those diagnosed with hypertension, this finding suggests that a targeted, culturally appropriate intervention may be helpful for this community. Additionally, both groups' highest scores were in *interpersonal relations* and *spiritual growth*, which reflects the tightly-knit community culture of Armenian Americans. This community prioritizes social gatherings in private homes, community centers, and churches, and uses these spaces to facilitate and maintain social connection.

Limitations

The generalizability of this study is limited by the convenience sampling strategy. The data were gathered from recipients at two locations throughout 2.5 weeks in early March, 2017. The study included only Armenian American immigrants; therefore, results should not be generalized to other ethnic minority groups. Additionally, this study did not include any intervention, but rather aimed to create a baseline of data for future interventional studies. Though I am a member of the community, the instrument used was translated into Armenian and validated independently to avoid bias. This study did not provide statistics on the prevalence of hypertension among this community. This study included only those 40 years of age and older who were not pregnant. Finally, the results may not be generalizable to similar groups in other geographical areas due to the specific demographics of this population.

Recommendations

In order to strengthen the available research regarding this population, it would be advisable to conduct a similar study in Armenia. Because those who had spent less time

in the United States typically had higher levels of hypertension, creating a baseline of health promotion data in Armenia could hold interesting implications regarding acculturation for those who immigrate from Armenia to the United States. Additionally, because the census does not capture Armenian Americans as a distinct minority group, it would be useful to gather hypertension prevalence information to inform future studies. Though the sample size of this study was chosen through a power analysis with medium power, a follow up study with a significantly larger sample size could provide more nuance to the findings. It would also be useful to gather more thorough health data.

With regard to the findings of this study, future studies should focus on interventions that are sensitive to the cultural factors of Armenian Americans. For example, interventions should focus on increasing physical activity and stress management and could do so by using the strong interpersonal relationships and spiritual focus of this ethnic minority group. It may be useful to create interventions in both the interpersonal realm (churches and community centers) and the medical realm (doctor's offices and clinics). Because many of those in the normotensive sample had BP readings that were prehypertensive and higher, it would be advisable to conduct a follow-up study that measures awareness and an intervention that increases both awareness and treatment for hypertension.

Implications

Positive Social Change

On the individual level, this research affected positive social change through providing health data (height, weight, BP readings) to all participants. In the event that

participants had high values, they were advised to see a healthcare professional. Since many of those who reported never having been diagnosed with hypertension had BP readings that reflected hypertension or prehypertension, if they see a healthcare professional and they are diagnosed, this could increase their health. At the organizational/academic level, this study affected positive social change by translating and validating an Armenian version of the HPLP-II, which can be used in future studies regarding the Armenian American community. Finally, this study affects positive social change by beginning to close gaps in the research regarding the Armenian American community, addressing the paucity of data on this ethnic minority.

Methodological Implications

Previous to this study, no research existed on the health promotion behavior of Armenian Americans, and very little health data for Armenian Americans could be found. This study was designed to provide a baseline of information about these topics so that future interventional studies could be created that reflected evidence-based, empirically supported practices. The specific culture of Armenian Americans affects the types of health promotion behavior in which they engage and should be taken into consideration by future researchers as well as healthcare providers. Having access to a valid tool in Armenian that can measure health promotion behavior will be vital for researchers and healthcare professionals who work with Armenian-speaking, immigrant communities. Additionally, similar studies can be done in other Armenian-American communities and in Armenia itself to measure regional differences.

Conclusion

Though it has been well established in the literature that hypertension is related to a wide variety of diseases and health complications and that rates of hypertension vary widely among different ethnic groups, there was a paucity of data regarding hypertension in Armenian American communities. The development of hypertension is caused by both modifiable and nonmodifiable risk factors and can be treated through a combination of lifestyle, medication, and health promotion behavior. In this study, I sought to understand the differences in health promotion behavior in a community sample of Armenian Americans, some of whom had been diagnosed with hypertension and others who had not. Though the two groups had very similar overall scores on the HPLP-II, interesting differences emerged in the subscales, with the normotensive groups scoring significantly higher in *physical activity* and *stress management*. With the results of this study, future researchers may develop targeted interventions that address these disparities, ultimately lowering the rates of uncontrolled hypertension among the Armenian American community.

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Appendix A: Permission to Translate Instrument

Permission to translate HPLP-II into Armenian
2 messages

zoya minasyan [redacted] Sat, Mar 19, 2016 at 9:30 AM
To: [redacted]

Dr. Walker,

My name is Zoya Minasyan, and I am a PhD in Nursing student with Walden University. I am preparing to conduct research regarding hypertension awareness, prevalence, control, and treatment among Armenian Americans in Southern California. I would like to use the HPLP II as on of my instruments, however, the population I am studying speaks Armenian more often than English. I would like to gain permission to translate the instrument into Armenian and validate the translated instrument. I will be using the English version as well, which I understand is covered under the current license.

If there is any documentation that you need, or anyone else that I may need to contact, please let me know.

Thank you for your time and consideration,

Zoya Minasyan

Walker, Susan [redacted] Sun, Mar 20, 2016 at 12:44 PM
To: zoya minasyan [redacted]

Dear Zoya,

You may translate the HPLPII into Armenian and validate it. Best wishes with your research.

Susan Noble Walker

From: zoya minasyan [redacted]
Sent: Saturday, March 19, 2016 12:30 PM
To: Walker, Susan Noble
Subject: Permission to translate HPLP-II into Armenian

[Quoted text hidden]

Appendix B: HPLP II English Version

LIFESTYLE PROFILE II

DIRECTIONS: This questionnaire contains statements about your *present* way of life or personal habits. Please respond to each item as accurately as possible, and try not to skip any item. Indicate the frequency with which you engage in each behavior by circling:

N for never, **S** for sometimes, **O** for often, or **R** for routinely

		NEVER	SOMETIMES	OFTEN	ROUTINELY
1.	Discuss my problems and concerns with people close to me.	N	S	O	R
2.	Choose a diet low in fat, saturated fat, and cholesterol.	N	S	O	R
3.	Report any unusual signs or symptoms to a physician or other health professional.	N	S	O	R
4.	Follow a planned exercise program.	N	S	O	R
5.	Get enough sleep.	N	S	O	R
6.	Feel I am growing and changing in positive ways.	**N**	S	O	R
7.	Praise other people easily for their achievements.	N	S	O	R
8.	Limit use of sugars and food containing sugar (sweets).	N	S	O	R
9.	Read or watch TV programs about improving health.	N	S	O	R
10.	Exercise vigorously for 20 or more minutes at least three times a week (such as brisk walking, bicycling, aerobic dancing, using a stair climber).	N	S	O	R
11.	Take some time for relaxation each day.	N	S	O	R
12.	Believe that my life has purpose.	N	S	O	R
13.	Maintain meaningful and fulfilling relationships with others.	N	S	O	R
14.	Eat 6-11 servings of bread, cereal, rice and pasta each day.	N	S	O	R
15.	Question health professionals in order to understand their instructions.	N	S	O	R
16.	Take part in light to moderate physical activity (such as sustained walking 30-40 minutes 5 or more times a week).	N	S	O	R
17.	Accept those things in my life which I can not change.	N	S	O	R
18.	Look forward to the future.	N	S	O	R
19.	Spend time with close friends.	N	S	O	R
20.	Eat 2-4 servings of fruit each day.	N	S	O	R
21.	Get a second opinion when I question my health care provider's advice.	N	S	O	R
22.	Take part in leisure-time (recreational) physical activities (such as swimming, dancing, bicycling).	N	S	O	R
23.	Concentrate on pleasant thoughts at bedtime.	N	S	O	R
24.	Feel content and at peace with myself.	N	S	O	R
25.	Find it easy to show concern, love and warmth to others.	N	S	O	R

	NEVER	SOMETIMES	OFTEN	ROUTINELY
26. Eat 3-5 servings of vegetables each day.	N	S	O	R
27. Discuss my health concerns with health professionals.	N	S	O	R
28. Do stretching exercises at least 3 times per week.	N	S	O	R
29. Use specific methods to control my stress.	N	S	O	R
30. Work toward long-term goals in my life.	N	S	O	R
31. Touch and am touched by people I care about.	N	S	O	R
32. Eat 2-3 servings of milk, yogurt or cheese each day.	N	S	O	R
33. Inspect my body at least monthly for physical changes/danger signs.	N	S	O	R
34. Get exercise during usual daily activities (such as walking during lunch, using stairs instead of elevators, parking car away from destination and walking).	N	S	O	R
35. Balance time between work and play.	N	S	O	R
36. Find each day interesting and challenging.	N	S	O	R
37. Find ways to meet my needs for intimacy.	N	S	O	R
38. Eat only 2-3 servings from the meat, poultry, fish, dried beans, eggs, and nuts group each day.	N	S	O	R
39. Ask for information from health professionals about how to take good care of myself.	N	S	O	R
40. Check my pulse rate when exercising.	N	S	O	R
41. Practice relaxation or meditation for 15-20 minutes daily.	N	S	O	R
42. Am aware of what is important to me in life.	N	S	O	R
43. Get support from a network of caring people.	N	S	O	R
44. Read labels to identify nutrients, fats, and sodium content in packaged food.	N	S	O	R
45. Attend educational programs on personal health care.	N	S	O	R
46. Reach my target heart rate when exercising.	N	S	O	R
47. Pace myself to prevent tiredness.	N	S	O	R
48. Feel connected with some force greater than myself.	N	S	O	R
49. Settle conflicts with others through discussion and compromise.	N	S	O	R
50. Eat breakfast.	N	S	O	R
51. Seek guidance or counseling when necessary.	N	S	O	R
52. Expose myself to new experiences and challenges.	N	S	O	R

Demographic Data

Directions: The following are questions about you. Please fill in the blank or check the answer that best describes you.

1. What is your age?_____
2. What is your gender?

☐1 Male ☐2 Female

3. How many family members live in your household including you?_____
4. From which country and state are you from?_____
5. How long have you been in the United States?_____Years_____Months
6. What is your marital status?

☐1 Single ☐2 Married ☐3 Divorced/Separated ☐4 Widowed

7. What is the highest level of education you have completed?

☐1 Less than high school ☐2 High School ☐3 Associate Degree

☐4 Bachelor's Degree ☐5 Post Graduate

8. Which one of the following best describes your employment status?

☐1 Employed Full Time ☐2 Employed Part Time

☐3 Self Employed ☐4 Not Employed

9. What is your monthly income?

☐1 Less than $2,500 ☐2 $2,500 - 5,000 ☐3 $5,001 - $7500

☐4 $7,501 - 10,000 ☐5 More than $10,000 ☐6 Prefer not to answer

10. Do you have health insurance?

☐1 Yes ☐2 No

11. What is your religious affiliation?

☐1 Armenian Apostolic ☐2 Protestant ☐3 Armenian Catholic ☐4 Other

12. Has a doctor or other health care provider ever told you that you have high blood pressure?

☐1 Yes ☐2 No ⟶ **If no, skip to question 18**

13. Are you now taking any medications to control your high blood pressure?

☐1 Yes ☐2 No

14. If yes, please list your medication:

1._____ 2. _____ 3._____

4._____

15. Did your health care provider recommend life style modifications (such as: lose weight, reduce salt and fat intake, exercise at least three times a week, and/or quit smoking) to reduce your blood pressure before he or she prescribed any medications for blood pressure?

☐1 Yes ☐2 No ☐3 Don't know

16. Please circle applicable answers. Are you currently:
    1. Maintaining normal body weight
    2. Eating low salt diet
    3. Limiting your alcohol consumption
    4. Reducing your intake of saturated and total fat, and cholesterol
    5. Increasing amount of fresh fruit and vegetables in your daily diet
    6. Exercising at least 30 minutes at least three times a week

17. How long ago were you diagnosed with high blood pressure? _____ Years _____ Months

18. Has a doctor ever told you that you have any of the following diseases (check only those conditions which are applicable)?
    1. Renal disease
    2. Endocrine disease
    3. Thyroid problems
    4. Heart failure or congestive heart failure
    5. Poor circulation in the legs (peripheral vascular disease)

19. Smoking history (includes cigars, cigarettes, and hookah):

    ☐1 Current smoker (have you smoked within the last month?)

    ☐2 Recent (stopped smoking between one month and one year ago)

    ☐3 Former (stopped smoking more than one year ago)

    ☐4 Never smoked

20. If you smoke, on average how many cigarettes do you smoke per day?
    _____ number of cigarettes

21. On average, how often do you drink alcoholic beverages (beer, wine, or liquor)? (Note: 1 drink is equal to 1.5 ounces of liquor, 12 ounces of beer, or 5 ounces of wine)

    ☐1 Never

    ☐2 One or fewer alcoholic drinks per week

    ☐3 Two to seven drinks per week

    ☐4 More than seven alcoholic drinks per week

Thank you

Appendix C: HPLP II Armenian Version

Ապրելակերպի Տվյալներ II

ՀՐԱՀԱՆԳՆԵՐ: Այս հարցաշարը պարունակում է տվյալներ ձեր ներկա ապրելակերպի և առօրյա սովորությունների մասին: Պատասխանեք յուրաքանչյուր հարցին որքան հնարավոր է ճշգրիտ և աշխատեք ոչ մի հարց բաց չթողնել: Համապատասխան քառակուսու մեջ նշեք ձեր գործողությունների հաճախականությունը:

		Երբեք	Երբեմն	Հաճախ	Միշտ/Պես
1.	Քննարկում եմ իմ մտահոգությունները և խնդիրները ինձ մտերիմ մարդկանց հետ:	□	□	□	□
2.	Ընտրում եմ ճարպերի, հագեցած ճարպերի և խոլեստերինի ցածր պարունակությամբ սննդակարգ:	□	□	□	□
3.	Հայտնում եմ անսովոր նշանները և ախտանիշները իմ բժշկին կամ առողջապահության այլ մասնագետին:	□	□	□	□
4.	Հետևում եմ պլանավորված ֆիզիկական վարժությունների ծրագրին:	□	□	□	□
5.	Քնում եմ բավարար:	□	□	□	□
6.	Զգում եմ, որ աճում և փոփոխվում եմ դրական ուղղությամբ:	□	□	□	□
7.	Հեշտությամբ եմ մարդկանց գովաբանում իրենց նվաճումների համար:	□	□	□	□
8.	Սահմանափակում եմ շաքարի և շաքար պարունակող ուտելիքների օգտագործումը:	□	□	□	□
9.	Կարդում կամ դիտում եմ հեռուստածրագրեր առողջության բարելավման վերաբերյալ:	□	□	□	□
10.	Ամենաքիչը շաբաթը երեք անգամ, 20 րոպե կամ ավել տևողությամբ ակտիվ ֆիզիկական վարժություններ եմ անում, ինչպես օրինակ՝ արագ քայլք, հեծանիվ քշել, աերոբիկա, աստիճանների բարձրացում:	□	□	□	□

11.	Ամեն օր հանգստին տրամադրում եմ որոշակի ժամանակ:	□	□	□	□
12.	Հավատում եմ, որ կյանքս իմաստ ունի:	□	□	□	□
13.	Մարդկանց հետ պահպանում եմ իմաստալից և հաճելի հարաբերություններ:	□	□	□	□
14.	Ամեն օր ուտում եմ հացի, հացահատիկի, բրնձի և մակարոնեղենի 6-ից 11 կերակրաբաժին:	□	□	□	□
15.	Առողջապահության մասնագետների ցուցումները հասկանալու համար ես նրանց հարցեր եմ տալիս :	□	□	□	□
16.	Մասնակցում եմ թեթևից մինչև միջին ծանրության ֆիզիկական վարժությունների կատարմանը, ինչպես օրինակ շաբաթը 5 կամ ավելի անգամ 30-ից 40 րոպե առանց դադարի քայլում եմ:	□	□	□	□
17.	Ընդունում եմ այն երևույթները, որոնք չեմ կարող փոխել իմ կյանքում:	□	□	□	□
18.	Ակնկալիքներ ունեմ ապագայից:	□	□	□	□
19.	Ժամանակ եմ անցկացնում մտերիմ ընկերներիս հետ:	□	□	□	□
20.	Ամեն օր ուտում եմ մրգերի 2-ից 4 կերակրաբաժին:	□	□	□	□
21.	Երբ կասկածում եմ իմ առողջապահության մասնագետի տված խորհուրդը, փնտրում եմ երկրորդ կարծիք:	□	□	□	□
22.	Ազատ ժամանցի դեպքում, մասնակցում եմ ֆիզիկական միջոցառումներին, ինչպիսիք են՝ լողը, պարը և հեծանիվ քշելը:	□	□	□	□
23.	Քնելիս կենտրոնանում եմ հաճելի մտքերի վրա:	□	□	□	□
24.	Ինքս ինձ հետ խաղաղության և ներդաշնակության մեջ եմ:	□	□	□	□
25.	Այլ մարդկանց նկատմամբ հեշտությամբ եմ ցուցաբերում մտահոգություն, սեր և ջերմություն:	□	□	□	□
26.	Ամեն օր ուտում եմ 3-ից 5 կերակրաբաժին բանջարեղեն:	□	□	□	□
27.	Իմ առողջության մասին մտահոգություններս քննարկում եմ առողջապահության մասնագետների հետ:	□	□	□	□
28.	Ամենաքիչը շաբաթը երեք անգամ կատարում եմ	□	□	□	□

	մարմնի ձգման վարժություններ:				
29.	Լարվածությունս կանխելու համար օգտագործում եմ հատուկ մեթոդներ:	□	□	□	□
30.	Աշխատում եմ իրականացնել ապագա նպատակներս:	□	□	□	□
31.	Ես շոյում և շոյված եմ այն մարդկանցով, ում նկատմամբ հոգ եմ տանում:	□	□	□	□
32.	Ամեն օր ուտում եմ 2-ից 3 կերակրաբաժին կաթ, մածուն, կամ պանիր:	□	□	□	□
33.	Ամենաքիչը ամիսը մեկ անգամ հետազոտում եմ իմ մարմինը ֆիզիկական փոփոխությունների և վտանգավոր ախտանշանների համար:	□	□	□	□
34.	Իմ առօրյայի ընթացքում կատարում եմ ֆիզիկական վարժություններ (ինչպես օրինակ՝ քայլում եմ կեսօրյա ճաշին, վերելակի փոխարեն օգտագործում եմ աստիճաններ, մեքենան կայանում եմ հեռու և քայլում դեպի նշված վայրը):	□	□	□	□
35.	Հավասարաչափ բաշխում եմ իմ աշխատանքի և խաղի ժամերը:	□	□	□	□
36.	Յուրաքանչյուր օրվա մեջ գտնում եմ հետաքրքրություններ և փորձառություններ :	□	□	□	□
37.	Փորձում եմ գտնել ուղիներ մտերմական հարաբերությունների բավարարման համար:	□	□	□	□
38.	Ամեն օր ուտում եմ միայն 2-ից 3 կերակրաբաժին միս, հավ, ձուկ, չոր լոբու տեսակներ, ձու և ընկուզեղեն:	□	□	□	□
39.	Ինքս իմ նկատմամբ ճիշտ խնամք տանելու համար տեղեկություններ եմ հարցնում առողջապահության մասնագետներից:	□	□	□	□
40.	Ֆիզիկական վարժություններ կատարելիս ստուգում եմ անոթազարկս:	□	□	□	□
41.	Ամեն օր, 15-ից 20 րոպե, կատարում եմ մեդիտացիա կամ լարվածության թուլացում:	□	□	□	□
42.	Ես գիտակցում եմ թե ինչն է կարևոր իմ կյանքում:	□	□	□	□
43.	Ստանում եմ հոգատար մարդկանց աջակցությունը:	□	□	□	□
44.	Կարդում եմ սննդի պիտակները՝ որոշելու համար նրանց սննդարար նյութերի, ճարպերի և աղերի	□	□	□	□

	բաղադրությունները:				
45.	**Մասնակցում եմ անձնական առողջության մասին ուսուցողական ծրագրերին:**	□	□	□	□
46.	**Ֆիզիկական վարժությունների ժամանակ պահպանում եմ իմ սրտի աշխատանքի անհրաժեշտ ռիթմը:**	□	□	□	□
47.	**Բաշխում եմ իմ ուժերն այնպես, որ կանխեմ հոգնածությունս:**	□	□	□	□
48.	**Կապ եմ զգում գերբնական ուժերի հետ:**	□	□	□	□
49.	**Ուրիշների հետ լուծում եմ իմ տարաձայնությունները փոխհամաձայնության և քննարկումների միջոցով:**	□	□	□	□
50.	**Նախաճաշում եմ:**	□	□	□	□
51.	**Անհրաժեշտության դեպքում փնտրում եմ ուղղորդում և խորհրդատվություն**	□	□	□	□
52.	**Բացահայտում եմ ինձ համար նոր փորձառություններ և խոչնդոտներ:**	□	□	□	□

Ժողովրդագրական Հարցեր

<u>Յուգումներ:</u> Հետևյալ հարցերը Ձեր մասին են: Խնդրվում է լրացնել բաց թողնված տարածքը կամ նշել Ձեզ համապատասխան տարբերակը:

1. Ձեր տարիքը _____

2. Սեռը

☐$_1$ Արական ☐$_2$ Իգական

3. Ներառյալ Ձեզ, քանի՞ հոգի է ապրում Ձեր տանը: _____

4. Ո՞ր երկրից և ո՞ր նահանգից եք դուք:_____ _____

5. Որքա՞ն ժամանակ է գտնվում եք ԱՄՆ-ում:_____տարիներ_____ամիսներ

6. Ձեր ամուսնական կարգավիճակը:

☐$_1$ Չամուսնացած ☐$_2$ Ամուսնացած ☐$_3$ Բաժանված ☐$_4$ Այրի

7. Նշե՛ք Ձեր կրթության ամենաբարձր աստիճանը:

☐$_1$ Թերի միջնակարգ ☐$_2$ Միջնակարգ ☐$_3$ Երկամյա բարձրագույն (associate)

☐4 Բակալավր ☐5 Բակալավրից բարձր (մագիստրոս, դոկտոր)

8. Նշե՛ք այն տարբերակը որը ներկայացնում է Ձեր աշխատանքային կարգավիճակը:

☐1 Ամբողջական դրույք ☐2 Կես դրույք

☐3 Անհատ ձեռներեց ☐4 Առանց աշխատանքի

9. Որքա՞ն է Ձեր ամսեկան աշխատավարձը:

☐1 $2,500-ից քիչ ☐2 $2,500 - 5,000 ☐3 $5,001 - $7500

☐4 $7,501 - 10,000 ☐5 $10,000-ից ավել ☐6 Գերադասում եմ չպատասխանել

10. Դուք ունե՞ք բժշկական ապահովագրություն:

☐1 Այո ☐2 Ոչ

11. Ո՞րն է Ձեր կրոնական ուղղվածությունը:

□1 Առաքելական □2 Բողոքական □3 Կաթոլիկ □4 Այլ

12. Բժիշկը կամ բժշկական օգնություն ցույց տվող որևէ անձ Ձեզ հայտնե՞լ է Ձեր արյան բարձր ճնշման մասին:

☐1 Այո ☐2 Ոչ ⟶ **Եթե պատասխանը ոչ է, պատասխանեք հարց 18-ից**

13. Դուք այժմ ընդունու՞մ եք արյան ճնշումը կարգավորող որևէ դեղորայք:

☐1 Այո ☐2 Ոչ

14. Եթե այո, խնդրում եմ նշել Ձեր դեղերի անունները:

1._____ 2. _____ 3._____ 4._____

15. Ձեզ բժշկական օգնություն ցույց տվող անձը, նախքան որևէ դեղորայք նշանակելը Ձեր արյան ճնշումը իջեցնելու համար, արդյոք առաջարկե՞լ է ձեր կենսակերպի փոփոխություն (օրինակ՝ քաշի իջեցում, աղ և ճարպ պարունակող ուտելիքների նվազեցում, առնվազն շաբաթը երեք անգամ մարզանք, և/կամ դադարել ծխել):

☐1 Այո ☐2 Ոչ ☐3 Չգիտեմ

16. Խնդրում ենք նշել համապատասխան տարբերակը: Դուք ներկայում

1. Պահպանում եք մարմնի նորմալ քաշը
2. Ուտում եք ցածր աղ պարունակող ուտելիքներ
3. Սահմանափակում եք ալկոհոլային ըմպելիքների ընդունումը
4. Սահմանափակում եք խոլեստերինի, հագեցած ճարպերի և ընդհանուր յուղայնություն պարունակող ուտելիքների քանակը

5. Ձեր ամենօրյա կերակրացանկում ավելացնում եք թարմ մրգերի և բանջարեղենի քանակը

6. Մարզվում եք շաբաթը առնվազն երեք անգամ, ամենաքիչը 30 րոպե

17. Որքա՞ն ժամանակ է դուք ախտորոշված եք արյան բարձր ճնշմամբ, _____ տարիներ, _____ ամիսներ:

18. Բժիշկը երբևէ Ձեզ ասե՞լ է, որ ունեք նշված հիվանդություններից որևէ մեկը (նշել միայն Ձեզ վերաբերող պատասխանը)

1. Երիկամային հիվանդություն
2. Ներքնահոս գեղձի հիվանդություն (endocrine disease)
3. Վահանաձև գեղձի խնդիրներ (Thyroid problems)
4. Սրտի անբավարարություն կամ սրտի կաթված
5. Արյան թույլ շրջանառություն ոտքերում (peripheral vascular disease)

19. Ծխախոտի օգտագործումը (ներառյալ սիգար, սխախոտ, հուկա):

☐1 Ծխող եմ (Վերջին մեկ ամսվա ընթացքում օգտագործե՞լ եք ծխախոտ)

☐2 Մինչ վերջին ժամանակներս եղել եմ ծխող (դադարել եմ ծխել մեկ ամսից մինչև մեկ տարի առաջ)

☐3 Նախկին ծխող եմ (մեկ տարուց ավել է դադարել եմ ծխել)

☐4 Երբեք ծխող չեմ եղել

20. Եթե Դուք ծխող եք, քանի՞ հատ ծխախոտ եք ծխում օրվա մեջ:_____

21. Միջին հաշվով, որքա՞ն հաճախակի եք օգտագործում ալկոհոլային խմիչքներ (գարեջուր, գինի կամ սպիրտային խմիչքներ) (նկատի առեք, որ մեկ խմիչքի չափաբաժինը կազմում է 1.5 առնս սպիրտային խմիչք, 12 առնս գարեջուր կամ 5 առնս գինի):

☐1 Երբեք

☐2 Շաբաթական մեկ կամ ավելի քիչ չափաբաժին

☐3 Շաբաթական 2-7 չափաբաժին

☐4 Շաբաթը 7 չափաբաժնից ավել

Շնորհակալություն