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Knowledge of Cardiovascular Disease  
and Risk Factors Among Hispanics  
in San Francisco  
by

Teresa C. Juarbe

THESIS

Submitted in partial satisfaction of the requirements for the degree of

MASTER OF SCIENCE

in

Nursing

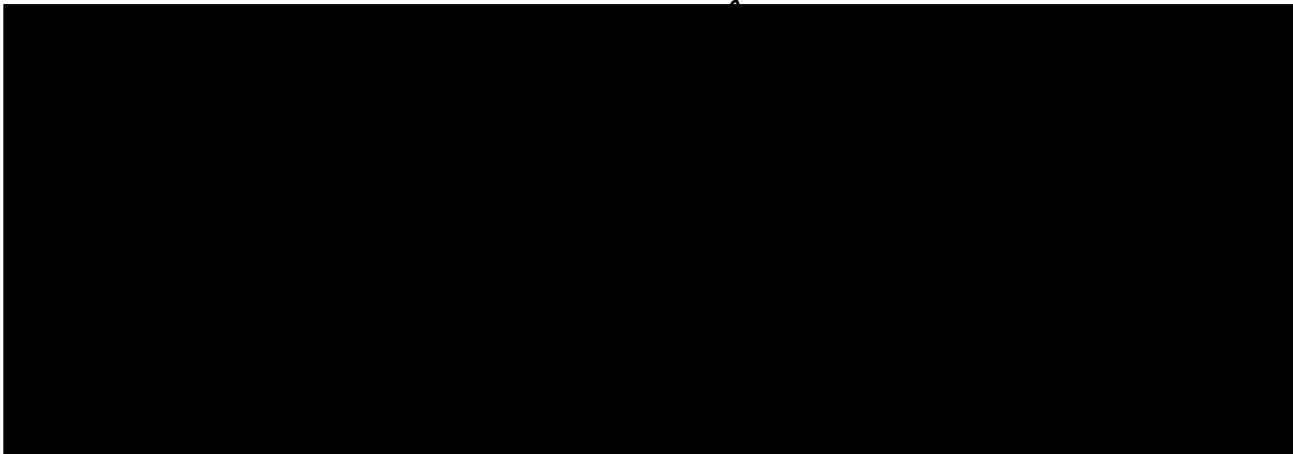
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Teresa C. Juarbe

Dedication

With gratitude and delight this thesis is dedicated to my husband, Francisco. This thesis is the result of his care, nourishment and motivation. He had been a faithful and loving husband in my roles as a Christian, wife, mother and nurse. His love has helped us and our children to grow strong in each one of the seasons of our lives.

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This thesis would not have been possible without the enthusiasm of Dr. Juliene Lipson. Her willingness to undertake such a difficult and time consuming effort, to encourage this project for a student at the master's level, and the editorial contribution of the content of this thesis, is appreciated.

I am indebted to Dr. William Holzemer and Dr. Mary Duffy—Dr. Holzemer for his support and guidance in the area of rigorous quantitative research methodology, and Dr Duffy for inspiring the critical thinking necessary for the development of appropriate health planning for our communities.

Each one provided me the opportunity to experience research as one of the most rewarding experiences in graduate study in nursing.

Lastly, I want to express my appreciation for the Hispanic community in San Francisco, especially to those people who, during the months of data collection, opened their hearts and their doors to share some of the beautiful cultural features that have always characterized the soul of the Hispanic community.

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## CHAPTER 1

### The Study Problem

Diseases of the heart are the leading cause of death in the United States (U.S.). More than one in four Americans suffer from cardiovascular disease (CVD). At least 550,000 Americans will die of a heart attack this year (American Heart Association [AHA], 1988). The annual cost of cardiovascular disease is estimated by the American Heart Association to be 83.7 billions of dollars. (AHA, 1988). Another cost is the unmeasurable suffering and fear in individuals who have become cardiac cripples, since coronary heart disease is the greatest cause of permanent disability in individuals under the age of 65 (Naughton, 1984). Although the death rate is declining, CVD continues to be the leading cause of death in the U.S. Awareness and knowledge of the disease and risk factors is the single most important factor in the prevention of CVD. The decline noted in CVD mortality during the last two decades has been attributed to prevention of the disease rather than treatment (Rice, 1985).

Heart disease is responsible for the majority of the deaths under the age of 70 in minority groups in the U.S. (United States Department of Health and Human Services, Volume II [U.S.D.H.H.S], 1985). Epidemiological studies report that Hispanics consistently have a higher number of cardiovascular disease risk factors that place them at higher risk for CVD than the general population. Cardiovascular disease was the main cause of death among Hispanics in a total of 15 reporting states in 1984 (National Center for Health Statistics, 1984). It is estimated that in California 40% of the total deaths of Hispanics are due to CVD

(National Center for Health Statistics, 1987). Despite this fact, research on the Hispanic population's knowledge of CVD and its risk factors is lacking.

Hispanics are one of the fastest growing groups in the U.S., with an estimated population size of 17 million (U.S. Bureau of the Census, 1983). California has 10.4 percent of the nation's total population and 31.1 percent of the nation's Hispanic population. In San Francisco, there was an estimated Hispanic population of 83,373 for the year 1980 (U.S. Bureau of the Census, 1980). However these 1980 data do not include the growing Latin American immigration from Central and South America in the city of San Francisco which is estimated to be greater than 80,000 thousand (Urban Institute, 1987). It is probably one of the largest undocumented populations in the U.S. More than 40% of San Francisco's population growth in the first half of this decade is due to Latin American immigrants, most of whom entered the country illegally (Hall, 1988). Nicaraguans, Salvadorans, Guatemalans and Mexican-Americans are the largest Hispanic subgroups in the city. Particularly relevant to this study is that in San Francisco Central American immigration growth was 73% in the first half of the decade, compared to 13% for Mexican-Americans. Knowledge of heart disease and the risk factors has not been well documented in these subgroups and requires extensive research and analysis.

#### The Purpose of the Study

The purpose of this study was to explore and describe the knowledge of CVD and its associated risk factors among the Hispanic population in San Francisco.

### Significance of the Study

The published literature supports that Hispanics have a high incidence of behavioral risks for cardiovascular disease, poorer understanding, less information and dangerous misconceptions related to cardiovascular disease. The incidence and prevalence of CVD risk factors among Hispanics, and the fact that San Francisco contains a significantly large proportion of Hispanics, supports the need for this study.

The significance of this study is that the findings:

(1) provide data to improve the health care delivered by nursing and other health care providers to this population;

(2) increase the awareness and understanding of the knowledge possessed by this population;

(3) provide data for the development and refinement of educational programs directed at the prevention of CVD;

(4) generate culturally sensitive information to assist Hispanic clients to change lifestyles that predispose to heart disease.

This culturally sensitive information is essential, because consideration of individual value systems and lifestyles must be included in the planning and health care for the Hispanic patient with CVD.

Therefore, the question addressed by this study is: what is the knowledge possessed by the Hispanic population about cardiovascular disease and its associated risk factors?

### Definitions

Several terms are used throughout this study. Some of the terms referred to through this study are:

acculturation - the process of changes in behavior and values by individuals that are exposed to the mainstream cultural patterns.

cardiovascular disease - chronic disease of the heart which includes ischemic heart disease and cerebrovascular disease.

familism - cultural value that represent the strong identification and attachment of individuals with their families, whether nuclear or extended, that involves feelings of loyalty, reciprocity, and solidarity. The family is a cohesive support system in which its members can find help on a regular basis (Marin, Otero-Sabogal, Perez-Stable, Sabogal, & VanOss Marin, 1987).

folk beliefs - culturally based health and illness beliefs and practices of a population.

high blood pressure - (hypertension) a chronic disease characterized by abnormal elevated arterial blood pressure.

Hispanic - Efforts to standardize and clarify the most useful term to describe this population have been extensively discussed. After evaluating the existent literature (Hayes-Bautista, 1987; Trevino, 1987; Census, 1980; Orque, 1983; Perez-Stable, 1987), it was found that disagreement about the term exists. There have been different terminologies to describe this population's culture and ethnicity: Latinos, Hispanic-Americans, Raza Latina, Latin Americans and Hispanics. The complexity of this conflict affects the data available on previous research as well as the reliability of the information provided in studies that included Hispanics. Hispanics are bilingual and monolingual; they are White, Black, Indians, and people of Spanish heritage, which is part of the confusion about how to name this

population. Hispanics are from Central America (El Salvador, Nicaragua, Guatemala, Honduras, Costa Rica and Panama), South America (Chile, Paraguay, Bolivia, Uruguay, Ecuador, Peru, Colombia, Venezuela, Argentina), Mexico, Puerto Rico, and Cuba. The Department of Health and Human Services (DHHS) utilizes the term Hispanic, which implies a heritage restricted to Spain, but the Latino term reflects the integration of Spanish, indigenous and African cultures that are part of the Latino identity (Perez-Stable, 1987). The investigator uses the term Hispanic in this study, since is the term used by the DHHS. For the purpose of this study, Hispanics are defined as those whose country of origin is Central or South America, Puerto Rico, Cuba or Mexico or whose parents were born in any of these countries.

Anglo, "Americano", white, and "gringo", are the terms frequently use by Hispanics to refer to individuals of British descent, and/or to caucasians originally from Northern Europe.

risk factors - factors that contributes to the development of CVD.

simpatia - pattern of social interactions that is characteristic of Hispanics. It is a personal quality where an individual is perceived as likeable, attractive, fun to be with, and easy going (Triandis, Betancourt, Marin, & Tisansky, 1984).

Definitions for folk diseases and traditional healers are found in Appendix A.

#### Limitations of this Study

Some of the limitations of this study are:

(1) only those Hispanics who could be reached by telephone were included in the sample;

(2) only those Hispanics whose last names are Spanish were included in the sample;

(3) the reliability coefficient was only 0.33 by the Kuder-Richardson formula 20 (KR-20);

(4) the external validity was questionable, although random procedures were used to select the sample. There is limited generalizability of the findings;

(5) one of the most significant limitations was probably an underrepresented sample of undocumented respondents, since obtaining information from members of the Hispanic community who were undocumented was difficult. Fear about the Immigration Service limited the access to many potential respondents' households.

#### Organization of the Thesis

Chapter II reviews the literature on cardiovascular disease and health in Hispanics, ethnic influences on lifestyles, beliefs and practices, and the conceptual framework for the study. The methodology is presented in Chapter III, and the results, which are based on statistical and qualitative analysis, are described in chapter IV. Chapter V presents conclusions, implications for health professionals, discussion of the limitations and suggestions for further research.

## CHAPTER II

### Literature Review

There is increasing interest in cardiovascular health because it is the major cause of death in the U.S and it accounts for the majority of the deaths in minority populations (U.S. D.H.H.S., 1986). The task of decreasing CVD mortality rates involved the development of a model to forecast the disease incidence, mortality and cost for the year 2010. In this study preventive interventions were seen to be the most relevant factor for the control of CVD (Weinstein, 1987). Despite this interest and the growing awareness of how CVD has impacted our society, efforts toward the understanding of minority groups' knowledge are lacking, particularly in the Hispanic community.

Smoking, diabetes, obesity, stress and lack of exercise have been noted as behavioral risks of CVD among Hispanics (Hazuda, Hoffner, Gardner, Gaskill, & Stern, 1983, 1984; Malina, Gaskill, Hazuda, Little, & Stern, 1983; Stern et al, 1975, 1981, 1984). However, heart health promotion and disease prevention based on Hispanic knowledge have not been given equal attention, as viewed by the U. S. Department of Health and Human Services, Volume IV (1986).

A major deficiency in epidemiologic research on CVD in the U.S. is that there has been a limited amount of reliable information published about Hispanics. The published literature on prevalence and incidence is incomplete and inconsistent (U.S. D.H.H.S., 1986). Research and issues related to CVD and its risk factors has included only a small number of Hispanic respondents, most of whom are Mexican-Americans. Large epidemiological studies have mainly included Mexican-Americans.



The definition of the term Hispanic has also been inconsistent and unclear, creating unreliable statistics and other findings. Population-based studies often include many Hispanic origin participants under the category of white, black or other, or they do not include Hispanics because of uncommon surnames. This limits the availability of information about this population.

Studies of cardiovascular disease in Hispanics have been conducted mainly in the state of Texas among Mexican-Americans (Reichly, 1984; Stern, 1975, 1978, 1981, & 1982) since this group represented 92% of the Hispanic population in this state in the years the studies were conducted (U.S. Bureau of the Census, Vital Statistic Report, 1986). A review done by the U.S. Department of Health and Human Services (1986) of recent studies among Hispanics and CVD showed that Hispanics have poorer understanding, less information, and more dangerous misconceptions of hypertension and cardiovascular diseases risk factors compared to Anglos.

Other studies (Bradshaw & Fonner, 1978; Gillium, 1982; Schoen & Nelson, 1981; Shai & Rosenwick, 1987; Stanley, Hall, Kerkson, Lindberg, & Miller, 1961; & Watkins, 1983) described the incidence and mortality of CVD among Mexican-Americans, and also compared these to other populations (Anglos and Blacks). Knowledge of CVD and risk factors among the samples studied was not described or discussed. The conclusions from some of the studies cited produced different findings in terms of CVD incidence and mortality.

Stern (AHA, 1987) described and compared diet, lifestyle and heart health of Mexican Americans and Anglos; he said that while being of this

group does not destine a person to get heart disease, group knowledge about risk factors and the need for lowering these factors lags in Hispanics. Stern considers CVD the number one killer of Mexican Americans.

Ramirez, Herrick, and Weaver (1981) found that a substantial portion of the Mexican-American community in their study did not possess the fundamental knowledge necessary for adopting risk reducing behaviors. In particular, there was little knowledge about cardiovascular disease. Hazuda, Hoffner, Gardener, Gaskill, & Stern (1983) assessed the knowledge of CVD and preventive behaviors in a sample of 1,925 Mexican Americans. When controlled for three income strata, knowledge was not particularly high, but it was somewhat higher among Anglos than the Mexican Americans of similar socioeconomic background. Measures of preventive behaviors were somewhat low, but higher for Anglos than for Mexican Americans. High awareness of the need for prompt attention when coronary emergencies occur may have contributed more to the CVD mortality decline in Mexican Americans and Anglos than changes in lifestyles.

Vega, Atkins, Nadder, Patterson, Rupp, and Sallis, (1987) assessed the knowledge of CVD health-related diet and exercise behaviors in Anglos and Mexicans. The study concluded that the strongest predictor of knowledge in Mexicans was the level of acculturation. However, when compared to the general population, Mexicans were less aware of health-behavior knowledge. Particularly relevant for this project is a study done by Ailinger (1982), in which hypertension knowledge was assessed in a Hispanic community in Virginia. The study included 330 households and

a survey method was used. The study concluded that 64 percent of the sample had adequate knowledge of the disease, but the subjects had inadequate knowledge about prognosis, sequelae, definition, and etiology of hypertension. Knowledge of risk factors and treatment were adequate. This study did not describe adequately the Hispanic population represented in the sample.

Although the impact of the disease is widely acknowledged in this population, data on the knowledge of CVD and risk factors among Hispanics is lacking in the literature. Studies on cardiovascular disease risk factors (Hazuda, 1984; Schoen & Nelson, 1981), hypertension (Barrios, Chalfin, Goldstein, Iler, Mulloy, Munoz, 1987; Stern et al 1981), blood cholesterol levels (Stern et al, 1981) diabetes (Sahagun, 1983; Stern et al 1981, 1982), obesity (Stern et al 1984; Reichley, 1984), and smoking (Marcus & Crane, 1985; Marcus, 1984) imply that this population is less informed about the disease and less likely to adopt lifestyle changes aimed to reduced the disease compared to Anglos.

In conclusion, the research literature on CVD and risk factors knowledge among Hispanics is limited to Mexican Americans, and knowledge of the other subgroups is lacking. The information available is inadequate and confusing, since some study findings suggest adequate knowledge and others inadequate knowledge; in many of the studies it is not clear which subgroup of Hispanics was represented in the samples. The number of Hispanic respondents is relatively small in comparison with the total sample size, and it is not clear if the respondents who answer "other" or "black" were Hispanic.

The disparity of results in other studies and the prevalence of the risk factors among the population is a compelling reason to assess the knowledge of the Hispanic population. This inconsistency suggests the need for research that produces valid data, consistent criteria, and a clear definition of the term "Hispanic", as well as an adequate number of subjects who represent the population.

#### Lifestyles, Health Beliefs and Practices

Ethnic differences in health status and behavioral health risks have recently become of special interest in all areas of public health. A great deal of research on the lifestyles, health care beliefs, practices and values among Hispanics has been conducted, but knowledge about their health beliefs and practices, and how they vary among the different subgroups, is still very limited (Giachello, 1985). This issue is important because a variety of beliefs and practices are based on their cultures and therefore will affect health care practices and lifestyles that are risk factors for cardiovascular disease. It is important to understand the nuances within a cultural group so that culturally sensitive information can serve as a reference to health care providers. Furthermore, since Hispanics have been identified by the previously cited literature as at high risk for CVD because of lifestyles behaviors, it is important to understand these lifestyles and what influences them.

During the last three decades, many investigators have begun to examine the problems of health care, practices, beliefs and lifestyles among the Hispanic population. Initially studies were done by an anthropological approach (Clark, 1959), or surveys with small samples or

socially isolated communities (Rubel, 1966). More recently studies have utilized probability sampling techniques with large data bases to study the health attitudes and behaviors of Hispanics (Ailinger, 1982; Marin, Otero-Sabogal, Perez-Stable, Sabogal, and VanOss Marin, 1987; Marcus & Crane, 1985).

The underutilization of health care by Hispanics maintains an aura of mystique and many attempts to clarify this issue have been posited. Studies suggest that Hispanics receive less preventive care (Aday, 1984), fewer medical checkups (Andersen, et al., 1981), and fewer dental care and eye examinations (Roberts & Lee, 1980) than the general population in the U.S.

Some of the issues that affect, influence, or enhance the lifestyle behaviors of Hispanics and other minority groups as well are: (1) socio-economic issues, (2) cultural barriers, and (3) systems barriers. Some of the socioeconomic issues are: the high degree of mobility of Hispanics, low educational levels, lack of health insurance, and low income. Some of the cultural barriers are: language, familism, group cohesiveness, ethnocentrism, lack of confidence in Anglo physicians, and cultural expectations of the physicians. Some of the system barriers are: poor availability of services, shortage of bilingual health care providers, undocumented status of immigrants and the bureaucracy of the system.

Traditional medicine was identified as the prevalent health care system used by this population during the years 1950-1970; it included Curanderismo among Mexican-Americans, Central and South Americans (Maduro, 1983), Santerismo among Cubans (Pasquali, 1986), and

Espiritistas and Santiguadores for Puerto Ricans (Delgado, 1979). Use of herbalists seems to be common among most Hispanics. Hispanic health care beliefs and practices have evolved with the years, and while variations in beliefs occur, common traditional practices continue to exist.

The Hispanics' traditional healing system comes from their country of origin (Central/South America, Mexico, and the Caribbean) with a wide variety of differences by region and country. Many of these beliefs date back to the 16th Century, when there was a widespread belief in humoral pathology which originated with Hippocrates; the body was seen to be composed of four "humors" (blood, phlegm, black bile, and yellow bile). Illness was viewed as an imbalance among these humors and cure was based on the acquisition of balance (Reinert, 1985). Therapeutic interventions are based on a complex belief system involving balancing the use of "hot and cold." This system also possesses a wide range of cures depending on the ethnic and family beliefs of the group.

Such factors as immigration, language, nutritional variables, social class, and educational status have all strongly influenced the health care beliefs and practices of Hispanics, and at the same time they affect the lifestyles of this population.

As with other populations, Hispanics' perceptions of health and illness play a vital role in their attitudes towards lifestyle behaviors. Even though there has not been any research on what health means for Hispanics, these traditional practices illustrate their definitions of health, and underline many of the Hispanics' lifestyle behaviors. According to Da Silva (1984), "Hispanics define health as

the ability to work, resulting from good luck or good behavior or from a gift of God. Illness is seen as the presence of symptoms and is often accepted fatalistically."

Machismo is another value that plays a key role in some of the Hispanic subgroups and affects the diffusion of health information and health seeking behaviors. The concept of "machismo" refers to the patriarchal and authoritarian role of the male. This concept has different connotations and usages for the Hispanic population at large. Although some myths and stereotypes exist about the male dominance in the family, primarily the man is supposed to show a strong and masculine attitude that suggests virility, masculinity, strength, and sex appeal; a macho is thus a sort of "he-man" or SuperStud" (Mirande, 1979). Staples and Mirande (1980) defined machismo as a compensation for powerlessness.

Due to a machismo attitude it is believed that Hispanic males often perceive themselves as strong. Therefore, to acknowledge illness, it is feared that they will not be perceived by others as masculine and virile. This affects males' health because it delays the entrance to the health care systems, and prevents them from engaging in health care activities such as physical check-ups, dental care and others. Thus, the "macho" attitude has an impact on whether the male engages in health care activities or seeks health care.

Some of the lifestyle behaviors that affect the incidence of CVD are related to the prevalence of diabetes and obesity. In relation to obesity and diabetes in Mexican Americans, Stern (1984) stated that lifestyles, rather than purely genetic factors, are principally involved

in these two major risk factors for heart diseases. Stern said that "although they (Mexicans) are aware of prevailing cultural attitudes and tend to give the expected responses, nevertheless they harbor residual skepticism about the desirability of being lean." The study also showed that Hispanic men and women are less likely to avoid sugar and to engage in dieting behaviors; these two behaviors are seen by Hispanics as reflecting the Anglo concern about losing weight (Stern, 1984).

Therefore, diabetes and obesity seem to be more related to cultural lifestyles than other reasons. With rising affluence or acculturation to the U.S. mainstream culture, the more likely there will be changes in these lifestyles, after which obesity and diabetes levels may decrease. These same attitudes prevail for exercise patterns among Mexicans and Puerto Ricans who have been found to participate in less aerobic exercise than other groups (Costa, 1978).

A review of studies showing lack of exercise, sedentary lifestyles and obesity among Hispanics (Castro, Baezconde-Garbanati, & Beltran, 1985) concluded that, "Mexican American males and females from different regions of the country (U.S.) tend to engage in less recreational exercise, and to be more overweight when compared with Anglo American counterparts. Thus these Mexican Americans are at higher risk because of being overweight, which covaries with patterns of less aerobic activity and exercise."

In summary, it may be concluded from the studies of Mexican Americans that the ethnic differences in attitudes and behavior related to obesity, lack of exercise and diabetes played a very important role in the prevalence of obesity in Mexicans. This lifestyle has been



poorly explained and has not been related to knowledge but to lack of interest and understanding among Mexicans of both sexes.

High cholesterol levels among this population are directly related to the dietary practices of the population in combination with other lifestyles, and the marked effects of acculturation and socioeconomic status. The Hispanic subgroups are diverse in eating, dieting and exercise habits. Mainly, dietary practices can be influenced by health related food beliefs that are derived from the previously explained hot-cold dichotomy.

Diets are generally favorable from a general perspective, but in some groups there is a high intake of carbohydrate that may pose a potential risk of excess caloric intake in the meal patterns. Canned meat, sausages, fried foods and others are commonly used in combination with high sodium sauces and, most of the time, with high sodium seasonings.

Kerr (1982) found that in a Hispanic community in Houston, Texas, table salt intake was twice as high as in the Anglo community. This needs further exploration to understand how this influences lifestyle behaviors that affect CVD in comparison to the knowledge that the population possesses regarding CVD and risk factors.

Overall, the prevalence rate of smoking among Hispanics is less than in Blacks and Anglos (Menck, et al., 1975). However there are significant sex differences. Men smoke more than women, but women smoke at lower rates than Anglo females (Marcus & Crane, 1985). Marcus and Crane also reported that Hispanic young men smoke more than do the Anglo

or Black population, matching or surpassing the prevalence rates of smoking that are found in the Black and Anglo youth population.

Hispanic women's daily consumption of cigarettes is lower than men's daily consumption of cigarettes, but as acculturation increases the daily consumption of cigarettes in women increases. The smoking habits of Hispanics of both sexes have mainly been explained as part of the acculturation process to the mainstream culture (Perez-Stable, 1987).

#### Conceptual Framework

Disease prevention has been of special interest to many health care fields. The concept is related both to the individual's health beliefs and perceptions of self care. It is assumed by health care practitioners that individuals, families and communities are responsible for their own health, but personal choices of lifestyle habits that influence health outcomes are affected by many factors. These factors are commonly known as knowledge of disease, health beliefs, and socio-cultural influences.

It is also assumed that individuals are responsible for their own health promotion and prevention. From these expectations the concept of self care emerged in the 1950's. Consequently, large sectors of the American population began to focus on the gap between spoken values and practices concerning them (Andersen, 1975). As an example, the decline of the death rate in the last two decades from cardiovascular disease has been attributed to intense public interest in healthier lifestyles.

The individual's involvement in cardiovascular disease prevention and health promotion is cogently responsible for the improvement of cardiovascular disease.

The theoretical perspectives used to analyze the data obtained from this study are the Health Belief Model (1974) and Orque's conceptual framework for ethnic nursing care (1983).

#### The Health Belief Model

The Health Belief Model (HBM) addresses the cognitive components of the health seeking process. This model, based in the social and psychological sciences, emerged from Lewin's paradigms of social sciences and health in the late 1940's. It was formulated by Becker in 1958 (Becker, 1974). The Health Belief model explains behavior from four main concepts:

- (a) susceptibility to illness
- (b) seriousness or severity of a given health problem
- (c) benefits of preventive action
- (d) barriers to preventive action

One of the advantages of the HBM (see appendix B) is that it can predict or explain if clients will engage in preventive behaviors, and which of these behaviors is more likely to occur. This theoretical perspective utilizes psychological and behavioral parameters to predict preventive behaviors. The model provides a framework to assess how a client's values, health beliefs and practices will affect his/her perception of the severity of and susceptibility to the disease, as well as the perceived benefits of and barriers to the preventive action.

For example, the way in which a client perceives himself at risk for heart disease (susceptibility) affects the likelihood of taking any actions to engage in activities that are directed to the prevention of heart disease.

The model proposes modifying factors such as demographic, sociopsychologic, and structural variables. These are seen as affecting the predisposition to take preventive action by the client. For example, a modifying factor such as family support was looked upon as very important to many of the respondents of this study. The cultural aspect of familism among Hispanics is a factor that needs to be considered when planning to assist a Hispanic client in changes related to diet or exercise.

If the individual perceives he/she is at risk for CVD, and has knowledge of the disease, this will serve as a modifying factor in which he/she will be more likely to perceive some of the benefits of changing lifestyles behaviors such as a sedentary life or smoking.

The Health Belief Model may assist us to evaluate the interactions with Hispanics and assess how a decision for prudent heart living is influenced by the individual's: a) motivation (which is influenced by the perceived susceptibility to suffering from CVD and the perceived psychological barriers); b) perceived susceptibility to illness (degree of perceived personal risk of getting heart disease); c) perceived severity of the illness; d) beliefs about the efficacy of alternative actions, interpersonal influences; and e) psychological barriers.

This perspective provides a framework to assess the components that may help Hispanics to engage in activities to prevent CVD, provide information to support preventive behaviors that might change the cues for action, and plan for specific preventive services. Therefore, this type of assessment can offer information to develop a plan of action for Hispanics.

This model is clear and simple; however, further research and evaluation to improve generalizability and applicability are needed, since previous research (Becker, Drachman, & Kirscht, 1972; Becker, Mainman, & Kirscht, 1977; Becker & Rosentock, 1978; Hockbaum, 1956; and Kegeles, 1963) has shown methodological problems with instrumentation (validity or reliability), and operational definitions and scales for measuring the concepts.

#### Orque's Conceptual Framework

Orque's conceptual framework for ethnic nursing care (see Appendix C) was developed in an attempt to identify and understand cultural differences when providing care to minority groups. This model also provides insight for understanding the activities of health prevention and health promotion. Orque's theoretical perspective originated in the 1980's with a group of nurses concerned about cross-cultural patient care. Thus, Orque's model was developed to provide a framework to solve nursing problems in a cross-cultural setting and specifically, to provide insight for nursing interventions. Orque bases this model on concepts from the social, psychological, biological, and nursing sciences; specifically Maslow's hierarchy of needs is a basic premise of the model.

Related to Orque's framework is Bloch's assessment guide for ethnic cultural assessment (1983), a guide that incorporates the nursing process. Bloch's assessment became part of the theoretical perspective, providing a conceptual framework that allows the nurse to provide culturally sensitive care and understand the most effective approach

when delivering care to a variety of ethnic groups in the United States' multicultural society.

In this perspective the basic human needs of individuals are met through each of the components of their ethnic cultural system. The individuals are defined as an open system in continuous exchange and interaction with each other; they influence each other and the entire system. For example with Hispanics, any change directed toward a preventive behavior would be affected and reflected by each part of their system (religion, diet, healing beliefs and practices, language and communication process, social group interactions patterns, and value orientation).

Basic human needs are of a cyclical nature and reflective of Hispanics' continued adaptation to their environment; this provides them with the possibility of enhancing behaviors to prevent CVD. Hispanics' lifestyle behaviors are a reflection of their cultural beliefs, and may be related to their attitudes and beliefs about CVD. Past experiences influence this population's perceptions of the seriousness of disease and benefits of the health related behavior.

The Hispanic client may be able to verbalize perceived barriers when the intercultural communication process occurs between the nurse and the patient. Each has a different cultural background and attempts to understand the other person's point of view from his/her own cultural frame of reference (Orque, 1983).

Some of the components of the model identify aspects of the patient that the nurse needs to consider during the assessment process. Health beliefs and attitudes are essential and influence the decision making

process for health prevention and maintenance from the perspective of the patient.

This model allows us to understand beliefs and subsequent behaviors from a cross-cultural perspective. Orque's theoretical perspective addresses the perceptions of the client and considers the environment as in continuous integration and balance not only for individuals, but for families and communities.

The Health Belief Model and Orque's Conceptual Framework can be useful guidelines for educational programs and in predicting health related behaviors. The use of these theoretical perspectives provides a framework to assist nurses to identify problems and subsequently intervene and provide quality care. While the Health Belief Model assists in predicting preventive behaviors, Orque's model complements it by providing us with a holistic and ethnic approach that gives nurses a framework to integrate the cultural background into the nursing process.

### CHAPTER III

#### Methodology

##### Research Design

A survey method was used to measure and assess the knowledge of CVD and risk factors among adult Hispanics in the city of San Francisco (S.F.). The Spanish-speaking investigator used face-to-face interviews since this is the most powerful method of securing survey information (Polit & Hungler, 1987); personal interview is regarded as the most useful method to collect survey data because of the depth and quality of the information obtainable. Also the Hispanic population is more likely to respond to an interview than to a mailed survey.

##### Description of Sample Selection

Respondents for the interview were randomly selected by Spanish last name from The Pacific Bell Street, Address and Telephone directory for the County of S.F., from Census tracts in areas where Hispanics are over-represented (see Figure 1). Streets from these Census tracts were placed in a sampling frame (see Appendix D) and every third street was selected. Spanish last names identified on the street selected were then placed in a sampling frame (see Appendix E), and every fifth household was contacted. If the respondent refused, the next fifth Spanish last name was contacted. If during the first call, the respondent was reluctant to participate, a second call was arranged to leave the door open for another try. Three calls were made before giving up on this household.

Respondents were contacted by telephone, told about the study, and asked if they were willing to participate. If they agreed, an interview



appointment was scheduled to conduct the interview in the respondent's home or other location chosen by the respondent. One woman and one man from each household were asked to participate. If only one in the household agreed, only that participant was interviewed. If the person who answered the telephone met the criteria for inclusion and agreed to participate, he/she was enrolled in the study and asked if any other member of the other sex in the household that met the criteria for inclusion was available at that time. The second individual was told about the study and his/her agreement to participate was obtained. If the other potential participant was not at home at that time, the call was repeated at another time when he/she was more likely to be at home.

A confidential log sheet was kept until the end of the interview to keep a record of the telephone calls, the correct address, the telephone number and any other special notes on how to reach the place for the interview (see Appendix F). The questions were asked verbally rather than asking respondents to write, because this was culturally more acceptable and some respondents were illiterate.

The data for this study was collected during the months of July through November, 1988.

#### Human Subjects

Although this study possessed few risks for the respondents, those who are undocumented immigrants or refugees may have considered themselves to be at risk of discovery. For this reason a waiver from the use of a written consent form was requested and approved by the University of California, San Francisco Committee on Human Research. The respondents were given an information form in Spanish or English

stating the purpose of the study and the care taken to protect confidentiality (see Appendix G). The form was read to the respondents before beginning the interview and verbal consent to participate was obtained. No names were used on the questionnaire, and no signature on consent forms was requested.

Respondents were assured that the investigator had no relationship with any government agency and that their names were not attached to any data. The name and address in the confidential log sheet were destroyed following the completion of each interview. Respondents were assured that they could stop the interview at any time or refuse to answer any question. They were assured of this both before and during the interview if they appeared uncomfortable. This study had no immediate benefit for the respondents. The investigator, however, is an experienced cardiovascular nurse who was willing to answer respondent's questions and provide them with informative pamphlets from the American Heart Association if they wished, following the interview.

#### Criteria for Inclusion

Criteria for inclusion were: (1) 18 years and older, (2) Hispanic, and (3) Spanish or English speaking.

#### Instrument

A non-standardized instrument was used (see Appendix H). The instrument combined a qualitative and quantitative approach for data collection and analysis. The instrument has four parts: (1) Twenty-two true/false items to measure the knowledge of the respondents about CVD and risk factors such as smoking, cholesterol, high blood pressure, diabetes, obesity, stress and exercise; (2) Five open-ended questions to

observe and describe the concept under study as expressed by the respondent's point of view; (3) an acculturation scale; and (4) demographics.

Educational material from the American Heart Association was used to develop the twenty-two true/false items in the questionnaire, as well as the open-ended questions. Hispanics' health beliefs and practices were included in these items. Open ended questions elicited information regarding the individual's (1) knowledge of behaviors to prevent heart disease, (2) perceived susceptibility to the disease, and (3) motivation to engage in activities related to the prevention of heart disease.

A standardized acculturation scale (Marin, Otero-Sabogal, Perez-Stable, Sabogal, VanOss Marin, 1987) was used since acculturation level is considered to be an important variable that influences knowledge. Previous reliabilities conducted for this scale showed a Cronbach's alpha reliability coefficient of 0.90 to 0.92 (Marin et al 1987).

The instrument was pilot tested by ten subjects to ensure that the questions were clearly worded, and that the instrument was not too long. Results were reviewed with the thesis committee and after discussion, the pertinent changes were made. Special attention was given to ensure that each item was clear and not too complex or ambiguous. Items that were not clear were deleted from the original instrument. The pilot study showed that the instrument was not too long.

A committee of three Cardiovascular Nurse Specialists and a board certified cardiologist assessed the instrument for content validity. Caution was taken to ensure that the questions were as representative as

possible of the content under study. As many questions as possible were included without causing redundancy. Spanish speaking health care providers with experience with the Hispanic population and from different nationalities assessed the instrument for language equivalency and/or meaning. Words and statements were carefully examined to avoid problems related to education.

### Interview Process

An average of forty-five minutes was spent completing the questionnaire, but this depended considerably on the respondent. After the interview was done, and the instrument was completed, the true/false items were discussed, and informative material from the American Heart Association was presented. At this time respondents asked questions regarding such topics as diet, high blood pressure, heart attacks, and others. In some instances the investigator was taken into the household kitchen to discuss the nutritional value of food and other topics.

On two occasions the interviewer was asked to join the family at dinner. Many of the interviews were done in the evening. As the interview finished and additional time was spent with the educational material of the AHA, other health care topics of interest to the respondents, such as birth control, women's health and health care services, were brought to the attention of the interviewer. As a result, the interviewer often spent an additional one to two hours in these households.

Much of the informal conversation occurred before the formal interview. This conversation served as an interpersonal encounter to help the respondents to develop trust and confidence in the interviewer.

The interviewer was aware that *simpatia* and *familism* (see Appendix A) are powerful cultural scripts that are highly valued in the Hispanic community. This awareness helped to provide a pre-interview environment that established a better rapport for the interview.

The information obtained from informal and unstructured interview was a rich source of qualitative data. This information not only supported the quantitative data, but it is significant that it provided specific traits and features about the Hispanic population studied from the subjects' view. This information provided an insight into specific cultural factors that influence behaviors for the prevention of CVD, and gave a more complete picture than using just the structured questionnaire.

In addition, this valuable information was not obtainable by the structured interview, because the respondents were more relaxed and open in an informal conversation about their diet habits and exercise patterns. Talking about such personal issues as stress and how it affects the personal life of the individual or family that had immigrated or is undocumented requires an informal and trusting environment (Lipson, & Meleis, 1989).

The interviewer is Spanish speaking, so no translator was needed. The interview was conducted in the language preferred by the respondent, which was usually Spanish. Only three interviews were conducted in English.

### Data Analysis

Information from the interview was coded and entered into the computer for data analysis. Quantitative data collected was analyzed using descriptive statistics. Raw data was systematically arranged in frequency distributions. Measures of central tendency were used to organize and arrange the respondents' characteristics.

The Kuder-Richardson formula 20 (KR-20) coefficient of reliability for the 22 true/false items was 0.33. Item scale correlation showed four items that had no correlation and no variance since 100% of the sample responded correctly to these four items (see Appendix I). The Cronbach's alpha coefficient for the 5 items of the acculturation scale was 0.85.

The information obtained from the open-ended questions of the interview was recorded by writing as it was expressed by the respondents. The verbal data collected was coded and analyzed by content analysis and comparison. Concepts identified from the data were classified, summarized and tabulated for the analysis.

Inter-rater reliability was established by asking two other researchers to check the investigator's codes and code a sample of the qualitative responses. The reliability of coding was greater than 90%.

## CHAPTER IV

### Results

The purpose of this study was to assess and describe the knowledge of cardiovascular disease and its associated risk factors among the Hispanic population in the City of San Francisco. The findings presented are only representative of the sample studied.

#### Sample Characteristics

The study group consisted of fifty-one Hispanic subjects, 29% (15) Mexicans, 25% (13) Salvadorans, 19% (10) Nicaraguans, 9% (5) Guatemalans, 5% (3) Cubans, 2% (1) Puerto Ricans, 2% (1) Costa Ricans, and 5% (3) U.S.A. born Hispanics (see Figure 2).

Demographic data are depicted in Table 1. The sample consisted of 17 men and 34 women. The age range was from 19 to 78 years, with a mean age of 40. The average weekly salary for this sample was \$175.00. Respondents had a mean of 9 years of education, ranging from no education to 20 years. Most of the respondents were educated in their homelands.

Subjects' time in the U.S.A. had a mean of 7.2 years with a range from 3 months to 30 years.

Many of the subjects 40% (20) speak and read only Spanish, 38% (19) speak or read Spanish better than English, 16% (8) speak or read both equally and only 6% (3) speak or read English better than Spanish.

Most of interviews were conducted in Spanish (only 3 interviews were conducted in English). But in many of the interviews both languages were used interchangeably. Yet, when asking questions regarding language for the acculturation scale, many of the respondents still

answered that they only speak Spanish. In interviews conducted when the English questionnaire was requested, respondents also used some Spanish words interchangeably, but it was clear that they understood and spoke English better than Spanish.

In summary this is a heterogenous sample of Hispanic subgroups, which are representative of the Hispanic population figures for San Francisco, estimated in 1988 (Hall, 1988). The sample had a low socioeconomic status (average of \$8,400 yearly) and low educational levels (mean of 9 years of education). Forty-three percent of the sample represented recent immigrants (three months to 5 years).

#### Knowledge of Cardiovascular Disease and Risk Factors

The average performance of the sample for the 22 true/false items was 17 out of the 22 correct items. The majority of the subjects (76% or 39) had a good knowledge of CVD and the risk factors associated with it (see Figure 3), scoring more than 80% in the 22 true/false items. Score distributions are shown in Table 2. Ninety-four percent (48) could identify the three major risk factors for CVD (high blood pressure, cholesterol and smoking).

Seventy-six percent (39) of the sample did not know the definition of high blood pressure (see Figure 4). However, qualitative data demonstrated that many of the respondents used some correct descriptions or terminology in their attempt to define high blood pressure. Thus, these data showed that the subjects had some knowledge regarding the pathophysiology of the heart, recognition of symptoms, and medical terminology. For example, one man responded, "having high blood pressure is to have it more than the normal." Some other responses



included statements such as, "It is hypertension that damages the heart," when the blood pressure is higher than the 120/80," and "the pumping of the blood is stronger than what is suppose to be."

Other respondents were more likely to describe symptoms in terms of their own definition of high blood pressure. For example, "High blood pressure is like you are 'ahogado' (choking), you can't breath, your heart beats fast. When someone is having a lot of headaches, the chest is tightened or choke, the chest is tight, the person has "asficies" (SOB), and it feels like your head is going to blow, that is high blood pressure."

It is worthwhile to mention the definitions of two respondents,

"~~Exactly~~ I don't know how to say it, but they call it the silent disease, right? It is when the blood pumping is not right. It is the silent killer."

"That has to do with the pulse and the pressure of the blood in the hose of the heart, that means is over the normal. The veins of the heart are like a hose, that when they get stuck they blow and it doesn't work anymore."

These statements are not really the correct definitions for high blood pressure, but they connote that the respondents had some information regarding the etiology of hypertension.

Subjects were asked to tell how susceptible they thought they were to developing CVD. Men stated that they have only some (43.7% or 7) or no (56.25% or 10) probability of suffering from CVD. Women reported a higher susceptibility to the disease; 21.8% (7) stated they had high

probability, 46.8% (15) had some and 31% (10) answered that they had no probability of suffering from CVD.

Fifty percent (25) of the subjects had received information related to CVD and its risk factors during the last two years. The most frequent sources of information mentioned were television (T.V.) and radio. Less than 5% (3) of the time a nurse or a physician was mentioned as the source of information. The respondents indicated that the preferred method of receiving further information was T.V. and radio. Most of the respondents strongly desired the information in Spanish. Respondents asked that the Spanish language T.V. channels and radio station be used to diffuse information about heart disease.

One-hundred percent (51) of the subjects identified smoking as a risk behavior for heart disease and 96% (49) agreed that smokers who stop smoking could reduce their possibilities for heart disease. One-hundred percent (51) of the subjects also indicated that doing exercise regularly was important to prevent heart disease, but 25% (13) answered that people with known heart disease should exercise less.

Heart attacks were identified to be the number one cause of death in the U.S.A. by 72% (37) of the respondents. Thirty-four subjects (17) correctly identified that the first symptom of high blood pressure or high cholesterol might be a heart attack. When asked if someone with high blood pressure could feel and look fine, 78% (40) answered yes. All 51 subjects in the sample responded that the reduction of salt consumption was one of the ways to treat high blood pressure. One respondent stated, "That's the number one problem, salt."

The use of salt was frequently mentioned as a cause for high blood pressure and cardiovascular disease. The reduction in the use of salt was mentioned as one of the things the respondents would tell others to do and also as a personal behavior that needed attention.

Other risk factors identified by the respondents were cholesterol (88% or 45), obesity (100% or 51), birth control pills (68% or 35), heredity (78% or 40), age (76% or 39), and diabetes (74% or 38).

Particularly relevant for this cultural group is that 52% (27) of the sample believed that people who eat chile or "hot foods" are at higher risk of developing heart disease than people who do not. When asked about some of the causes of high blood pressure, a 77 year old female responded candidly: "Citric food and chile."

When asked about some of the things people should do to prevent heart disease, a 42 year old women reported:

"Stop eating chile, chiles are the worst thing for the stomach and the heart, they are too hot".

Some of the respondents were able to tell how some foods could cause heart disease:

"Some of the foods are so irritating to the stomach wall that the irritation goes all the way up and affects the heart... I tried not to eat pork, jalapenos and I don't drink."

Twenty-nine percent of the respondents (15) believed that changes in temperature from cold to hot may cause heart problems. One subject pointed out that:

"Oh yes, changes from cold to hot or from hot to cold are very very dangerous; it stops your circulation."

Seventeen percent (9) believed that heart disease could be caused by the evil eye. Some of the respondents knew how to define the evil eye and how it affects the individual but none could really give an explanation of how it affected the heart. These individuals were familiar with this folk belief, having learned about it through their culture. However, this did not mean that the respondent believed in the evil eye.

Alcohol consumption was frequently mentioned as a cause of heart disease. As Ailinger (1982) mentioned in her study, this is a very controversial issue that continues to be studied and it is not clear whether or not alcohol has any direct effect in the development of CVD or the risk factor high blood pressure. Regardless, qualitative data demonstrated that this Hispanic sample identified alcohol as a risk factor for heart disease.

There was lack of understanding of some of the risk factors for heart disease. When referring to birth control pills many of the respondents were very surprised and somehow skeptical about the correct answer. For example, after the interview, when discussing the 22 true/false items a Mexican lady who was on the pill was told about the risk of birth control pills to the heart. In response to the information received she stated,

"Then I really need to either stop smoking or stop taking the pills."

Q. "What would you rather do?"

"Maybe stop smoking."

A 42 year old Salvadoran stated, regarding birth control pills, "The pill is a problem for cancer in the uterus, but not a problem for the heart."

This is of extreme importance to health care providers. Most of the agencies require that any female using birth control pills should read the enclosed literature and then sign a form which verifies that the client read and understood the benefits and risks of the pills. Most of the time this information is in English and the clients sign the proper form without a clear understanding of the risks.

A t-test was performed to determine whether there was a difference between the knowledge of men and women respondents. The mean score for men was 17.8 with a SD of 1.86. The mean of the test scores for the women was 17.7 with a SD of 2.0. The range of the results of the t-test revealed no difference in the knowledge mean between men and women (see Table 3).

There was a small but not significant correlation between age and knowledge ( $r = -0.26$ ,  $p < 0.7$ ), where as age increased, the knowledge decreased. There was no correlation between time in the U.S.A. and scores in the knowledge test (see Table 4).

#### Qualitative Data

Analysis of the verbal data was categorized into three major groups, Stress, self-care behaviors, and diet.

##### Stress

It is not surprising that this community referred more than 70% of the time to stress as a cause of high blood pressure and CVD. Stress among refugees and immigrants is precipitated by the process of

adjustment to the new culture or environment. Factors such as language barriers, role conflict, role expectations, separation of family members, and loss of jobs and security produces stress and or mental health problems.

This investigator contends that the word stress is not the culturally accepted word among Hispanics that expresses the forces or pressures caused by the difficulties of life. Some of the words that people most commonly used during the interviews are listed below:

"alterada o agitada" (altered or agitated)

"penas o sufrimientos" (sorrow, suffering or grief)

"sustos" (scared)

"tensiones" (tensions)

"abatimiento" (abatement)

"nervios o estar nerviosa/o" (nervousness)

"presiones" pressures

"preocupaciones" preoccupations

"maltratos y atropellos" abuse

When respondents were asked about some of the causes for high blood pressure these words, most of the time, were the answers given by the respondents. One respondent answered that one of the causes of high blood pressure was: "our problems when we leave our families, that is very sad and painful, that abate (hurts, sorrow) the heart." The causes, results or treatments for stress, as mentioned by the respondents, are presented in Appendix J.

### Self-Care Behaviors

An important component of health promotion and disease prevention is the concept of self-care. Lifestyles and behavioral changes are related to self-care as well. Of noticeable importance is the data presented below, since it reflects findings that are related to self-care practices and behaviors that affect cardiovascular health.

The majority of the subjects (90% or 46) reported that they felt they could do something to prevent heart disease. Qualitative data that was counted (see Table 5) showed that the three most frequent personal behaviors mentioned to prevent heart disease were diet (70% or 34), exercise (54% or 26), and stress reduction (33% or 16).

Although 60% (31) of the respondents perceived that they were at risk for developing CVD, and 90% (46) believed that they could do something to prevent it, qualitative data showed that they seem to experience a lack of motivation or support to reduce stress, change eating habits or engage in regular exercise. As shown in Table 5, of those who mentioned diet, exercise and stress as behaviors to prevent heart disease, 33% (14) follow a prudent diet, 20% (6) perform exercise, and 47% (8) attempt to reduce stress.

When the respondents were asked how motivated they felt to engage in any of the behaviors mentioned as needed to prevent heart disease the statements were very interesting. For example, when interviewing a 35 year old Nicaraguan male about how motivated he felt to change his eating habits he answered;

R: "My wife cooks very good and it is very hard to say no. If I don't eat what she cooks she starts a fight."

Q. "How about doing some exercise ?"

R: "I don't know what exercise to do, and anyway who can exercise when you work 6 days a week. I have two jobs, I work from 6 am to 3 pm and then from 4 to 10 pm, that is enough exercise."

This also demonstrates that misconceptions exist about exercise in the community. Physical activities at work are not considered aerobic exercise. Aerobic exercise is that which counteracts weight gain and, when practiced regularly, reduces blood plasma triglycerides; hence one benefit of aerobic exercise is the reduction of CVD.

#### Diet

As previously mentioned subjects talked about their food selections and preparation practices during the interview. Some of the diets are similar in some respects, but there are underlying differences associated with each of the Hispanic subgroups.

Diet, and diet related issues were found to be of concern to the population studied. Thirty-five subjects mentioned that they needed to do something to either improve or change their diets to prevent heart disease. The fact that fifty subjects identified obesity as a risk factor for heart disease also supports the level of awareness of the sample regarding dietary practices. As previously mentioned, results from the true/false items showed that the fifty-one subjects also



mentioned that the reduction of salt was one of the ways we could treat high blood pressure.

Salt, a major dietary ingredient that is related to CVD, was mentioned by the subjects at least once during each interview. Salt intake was mentioned to be one of the causes of high blood pressure, as something they would tell other people to stop using to prevent heart disease or as something they needed to do something about to prevent heart disease.

When asked about the causes for high blood pressure some of the responses related to the use of salt were:

"People eats with a lot of salt."

"The number one problem is salt."

"Salt, so good and so bad."

The concerns that some of the subjects shared during the interview regarding dietary practices, obesity, and how it affects cardiovascular health explain that lack of knowledge or awareness is not a possible explanation for the prevalence of some of the risk factors for CVD among the sample studied.

Subjects mentioned that avoiding overeating and avoiding eating certain foods were ways to improve their dietary practices. Some of the things to avoid were: alcohol, fried food, fast food, salt, pork and pork products, fried fat, and chile. Also some subjects mentioned avoiding what they considered to be "hot or cold" foods. Weight reduction was frequently mentioned as one thing respondents needed to do

to improve their cardiovascular health or to prevent heart disease. High blood pressure, high cholesterol, diabetes and obesity were mentioned as results of overeating or inadequate dietary practices. Empacho was only mentioned once as a result of the above and that consequently was felt to be able to cause chest pain. The treatment mentioned for this was a folk remedy that is sold over the counter, called "desempacho." This product has antacid and laxative effects.

Other themes emerged at least once from the verbal data. These were not related in most of the time to cardiovascular disease. For example, some of the respondents mentioned the use of teas for nervousness or stomach illness, the use or access of the health care system, and health and folk beliefs. A list of other themes are presented in Appendix K.

In summary, quantitative and qualitative data results were presented to describe the knowledge of cardiovascular disease and the associated risk factors of a random sample of fifty-one Hispanics in San Francisco. The Hispanic subjects studied had adequate knowledge about cardiovascular disease and the risk factors associated.

## CHAPTER V

### Discussion

#### Conclusion and Significance

This exploratory and descriptive study provides relevant data about the knowledge of cardiovascular disease and the associated risk factors of a random sample of fifty-one Hispanics in San Francisco. The study also reveals significant data for increasing the awareness and understanding about the knowledge possessed by the Hispanic population studied. It further provides data for the development and refinement of educational programs directed at the prevention of CVD, and last, it provides culturally relevant data to assist Hispanic clients to change lifestyles that predispose to heart disease.

#### Sample Characteristics

The study consisted of a heterogeneous Hispanic population sample, which is one of the significant characteristics of this population of San Francisco. The Hispanic subgroups in the sample are very much representative of the estimated distribution of the Hispanic population in San Francisco when compared to the immigration to the Bay Area report from Hall in 1988. The report indicated: "In San Francisco, the numerical center of this community, 53 percent of the Central Americans are Salvadorans, 31 percent are Nicaraguans and 10 percent are Guatemalans. Others are from Honduras, Costa Rica and Panama." The author believes that fear regarding their undocumented status was the reason that such Hispanic subgroups such as Salvadorans or Nicaraguans did not outnumber the Mexican respondents.

The mean age of the sample does not represent the mean age of the Hispanic population in the U.S. (24 years). This is probably due to the fact that older people in the sample households were unemployed or retired and were more likely to be willing to participate in the study and to spend time with the interviewer.

Although results of the analysis revealed a small but not significant relationship between age and knowledge (as age increased, the knowledge decreased), qualitative data supported the fact that the older the individual, the less knowledge and awareness of CVD he/she possessed. Older people were also more likely to be less acculturated, and have less education.

The socioeconomic status of the sample compares with previous research in which Hispanics were considered to be at the bottom of the socioeconomic structure in the U.S. Being of low socioeconomic status does not necessarily imply that the sample has a low educational level. Qualitative data demonstrated that many of the respondents, mostly those from Nicaragua and El Salvador, had been college educated or attained professional status. For example, a 43 year old man from El Salvador, who has been in S.F. for approximately six years stated:

"I was a professional in El Salvador, here you need to do what comes to hand. Here you are a 'fregao'." (derogatory expression about someone who is a nobody).

A young Nicaraguan lawyer who had come to the U.S. as a political exile, at the time of the interview, was earning \$200.00 a week, collecting cans and papers to sell and cleaning houses.

### Knowledge of Cardiovascular Disease

Results from this study differ from some of the studies cited earlier (Ramirez, Herrick and Weaver, 1981; U.S. D.H.H.S., 1986; Hazuda, Gardner, Haffner, Gaskill, and Stern, 1983; Sterns, 1987), in which Hispanics were found to lack knowledge about CVD and the risk factors. Some of the reasons for this might be that the populations studied were homogenous samples of Mexican Americans, Hispanics in Texas or other isolated communities. In addition, previous research utilized different methods and samples from different geographical settings which contrast markedly with those in San Francisco. Many of these previous research settings were low-income rural and urban areas. The investigator surveyed an urban area in San Francisco known for its mixed socio-economic and educational levels, not only of Hispanics but of the population at large.

While the results of this study differ from most of the studies cited, the findings are consistent to those found by Ailinger (1982). Ailinger's results showed that the sample had adequate knowledge of CVD (64%), and only 28% knew how to define high blood pressure, compared to 76% and 24% respectively in this study. In terms of diagnosis, 86% of Ailinger's sample answered correctly that a person could have high blood pressure without knowing it. In this study, 78% of the sample responded that someone with high blood pressure may feel fine and look fine. The assessment of knowledge about the risk factors was also significantly similar to those in Ailinger's study.

The results of both this study and Ailinger's are consistent with the Harris (1981) survey, which showed that the general public had

inadequate knowledge about hypertension. This study demonstrated that the sample had adequate knowledge about CVD and its associated risk factors. There are several explanations why the Hispanic population studied here possessed such good knowledge at the time of survey.

During the months preceding the study the San Francisco Chapter of the American Heart Association conducted a special campaign directed for the prevention of CVD among the population at large. This campaign included the Spanish speaking media. During the month of February the only Spanish T.V. station conducted a campaign called "Heart week". This included 3 to 6 minute presentations by Spanish speaking health care providers about risk factors for heart disease, heart disease and heart disease prevention. The investigator was part of this media series promotion.

The "Programa Latino para dejar de fumar" (Latin program to stop smoking) had several radio announcements directed to the Hispanic community to assist them to stop smoking. This Spanish-speaking program is culturally directed to the Hispanic values of *simpatia*, collectivism, familism and time orientation. The program had one of the best media campaigns for Hispanics, since it portrays special traits of the Hispanics that attract the eye of the community. Pictures of a Hispanic family are on the front page of the "Guia para dejar de Fumar" magazine that it is distributed through one of the most frequently visited health care centers. The material included in the magazine mentions how smoking affects the general health of the individual.

In addition, Dr. Eliseo Perez-Stable was the main speaker for the Spanish language radio station at one of the peak listening hours. This

radio speech provided information about smoking and provided the opportunity for people from the audience to call and ask questions about smoking.

Additionally, the Bayer company started a campaign to advertise aspirin as a preventive measure against CVD. The Spanish advertisement included information about heart disease.

It is also relevant to mention that 50%(25) of the sample stated that they had received some information prior to the interview. In addition, 60%(31) of the sample stated that they had a close relative or friend that suffered from CVD. Having a close relative or friend with CVD contributes to an individual's knowledge.

This study provides data about beliefs regarding the nature of cardiovascular health and the causes of heart disease. These beliefs, however, are frequently misinterpreted, stereotyped and generalized to the Hispanic population at large. Beliefs related to the "hot and cold theory " are helpful to the health care provider who has some understanding of the health behaviors of some Hispanics.

These cultural data can increase the health care provider's understanding of how to educate members of the Hispanic community by using an approach that is based on individual Hispanic practices that are culturally acceptable.

#### Instrument Reliability

As mentioned in results section the Kuder-Richardson formula 20 (KR-20) coefficient of reliability for the 22 true/false items was 0.33. Item scale correlation showed four items that had no correlation and no

variance since 100% of the sample responded correctly to these four items. These four items are shown in Appendix J.

Low reliability can be explained by the fact that the average performance of the sample was 17 out of 22 correct items, hence the low variance depressed the reliability coefficient. To the surprise of the investigator this randomly selected sample had more knowledge of CVD than anticipated, suggesting that lack of knowledge might not be a significant explanation for CVD in the Hispanic community studied.

#### Implications for nursing

Although the results of this study have limited generalizability, they have implications for nursing education, practice and research. This study contributes to an understanding of the knowledge of cardiovascular disease and its risk factors among Hispanics in San Francisco. Information regarding this population knowledge about CVD and some of the cultural features revealed from the study provide a framework for developing educational programs directed to the prevention of cardiovascular disease.

A major implication for nursing practice resulting from this study might be that current educational programs for cardiac patients can be targeted to the Hispanic patient who suffers from CVD. Further, few programs exist to assist the Hispanic patient to engage in self-care behaviors for the prevention of cardiovascular disease. There is a need to develop programs to assist Hispanics client to engage in self-care behaviors that promote cardiovascular health. For example, weight reduction programs must include meals that are culturally acceptable and that regularly are part of the Hispanic diet.



Nurses, as well as other health care providers, may benefit from this information, so as to more effectively assist patients in clinical settings with educational programs that are culturally appropriate and which includes culturally relevant information. Information regarding the self-care issues can enable the nurse to more effectively provide essential information that attends to the specific needs of the Hispanic client. For example, when counselling adults to engage in regular exercise, the nurse can suggest including family members or a friend in this activity. Further, this cultural information regarding health care beliefs and practices is essential for nursing since changes in individual lifestyle behaviors involves both cognitive and affective areas of the individual.

Much has been discussed regarding the non compliance of Hispanic patients, and few answers have been given to this. These data about health care practices and beliefs can be incorporated into the care of Hispanic patients.

If these data were integrated into nursing practice, nurses could better provide support and encouragement for patients needing behavior and lifestyles changes. Perhaps if this information could be incorporated into nursing practice it would lead to higher levels of compliance and action for self-care behaviors that are directed for the prevention of CVD among Hispanic patients. It can be anticipated that patients approached with such nursing interventions would take a more active role in efforts for the prevention and the promotion of cardiovascular health, and may have the ability to achieve successful outcomes.

### Further Research Recommendations

The most evident implication of this study is the need for further research that may address gaps in what is known concerning knowledge about cardiovascular disease and self-care behaviors of the Hispanic population in the United States.

This study includes a very heterogenous sample of Hispanics. More homogenous samples with larger number of subjects are needed before it is possible to generalize about these significant findings. Such studies should be population-based and include an adequate number of subjects.

Further research is needed to determine which factors influence individuals' desire and motivation to engage in self-care behaviors for the prevention of CVD. More information is needed about what nursing approaches support the individuals who are willing to make changes in their lifestyles.

Methodological work is needed to develop tools for assessing CVD and risk factors knowledge that have relevant validity and reliability. Although the reliability of the non-standardized instrument used for this study was very low (0.33), it would be important to test this instrument in other random samples that have less influences from historical events which threaten the internal validity of the design.

In addition, the data also indicate some areas for study that are probably the most significant recommendations for research. These include the area of self-care behaviors related to the prevention of cardiovascular disease and the promotion of heart health. Some of the questions to be addressed for further research in nursing practice and education include:

1. What is an appropriate definition of health for the Hispanic community?
2. What are some of the most effective teaching strategies for teaching this community about self-care?
3. What are the motivational forces that can inspire this community to engage in cardiovascular health promoting activities?
4. How can this community be empowered to use their own resources to actively participate in self-care behaviors?
5. What Hispanic knowledge, attitudes, and practices can health care providers use when assisting Hispanic clients to engage in activities that are directed for the prevention of heart disease and the promotion of heart health?

Mental health care is particularly relevant among the Hispanic community. Hence, another question for further research would be:

What are some of the interventions needed to improve mental health (stress related issues) which serve as a risk factor for heart disease?

The answers to some of these questions may increase the knowledge and awareness on how to assist Hispanics in the prevention of cardiovascular disease.

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## Appendix A

Definition of Terms

Empacho (blocked intestine or surfeit) - is believed to be caused by a bolus of food that became stuck to the abdominal lining or by overeating certain foods. It is believed to cause indigestion, colic, weight and appetite loss. Individuals of any age can be affected but infants and adolescents are more affected.

"Hot and Cold theory" - complex belief system involving balancing the use of "hot and cold" in the body. Illness is viewed as an imbalance among the four body humors and cure is based on the acquisition of balance (Reinert, 1985).

Mal de Ojo (evil eye) - can affect people of all ages, but pregnant women and young children are more susceptible; of magical origin. A person with certain powers can cause the disease or misfortune by gazing admiringly or enviously at others.

Susto (Fright Sickness or Magical Fright) - affects people of all ages and is caused by a frightening or upsetting experience. The individual exhibits symptoms such as restlessness and exhaustion.

Traditional Health Personnel

Curanderos/as - are some of the most frequently utilized folk healers who believe that their power comes from God. They are generally a member of the nuclear family or of the extended family network.

Espiritistas (or medium) - primary healers for Puerto Ricans. They do metaphysical healing and have an impressive therapeutic arsenal using the power of suggestion and action-oriented treatment. It is a type of folk psychiatry.

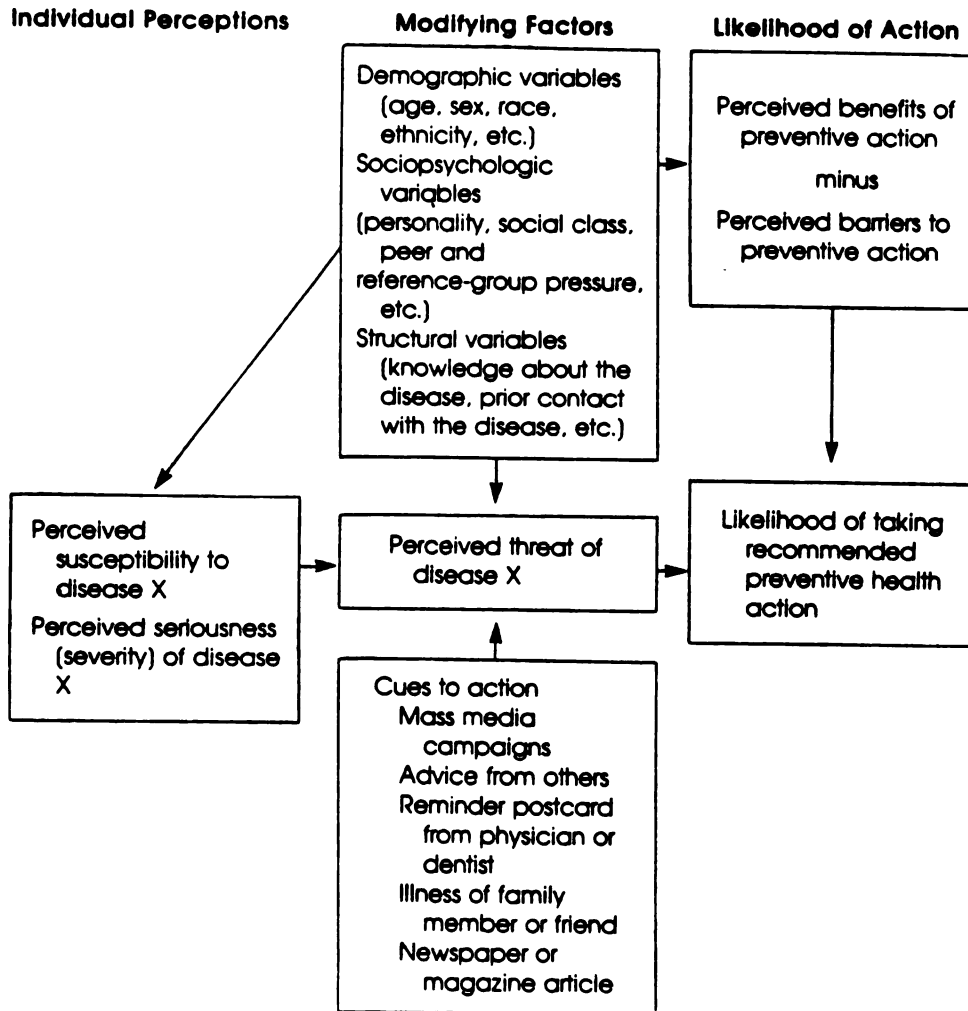
Herbalist - believes that certain diseases and ailments result not from metaphysical causes, but from naturalistic causes. However, herbalists can prescribe for metaphysical causes; in fact they are used sometimes by mediums, santeros or santiguadores in implementing plans or treatments. They believe that their curative powers are a gift from God and their mythology is generally based on the hot-cold belief system. They require extensive knowledge of plants and curative agents of medicine.

Santeros - is a syncretism of African and Catholic religious beliefs, that is manifested through the representation of Yoruba deities in the form of Catholic saints. Metaphysical forces are involved and their training and practices are ritualistic. This type of healer is somehow discouraged within the culture. It is more common among Cubans.

Santiguador - folk healers that fulfill multiple roles within the Puerto Rican culture, but they specialize in treating chronic and intestinal diseases, dislocated bones and curing various forms of muscles and body aches. In many instances they believe that the cure can only be achieved if it is God's Will and requires the faith of the patient. They are widely accepted by the community because they share all the positive attributes ascribed to folk healers without any negative aspects. They also prescribe medications, herbs and baths.

Appendix B

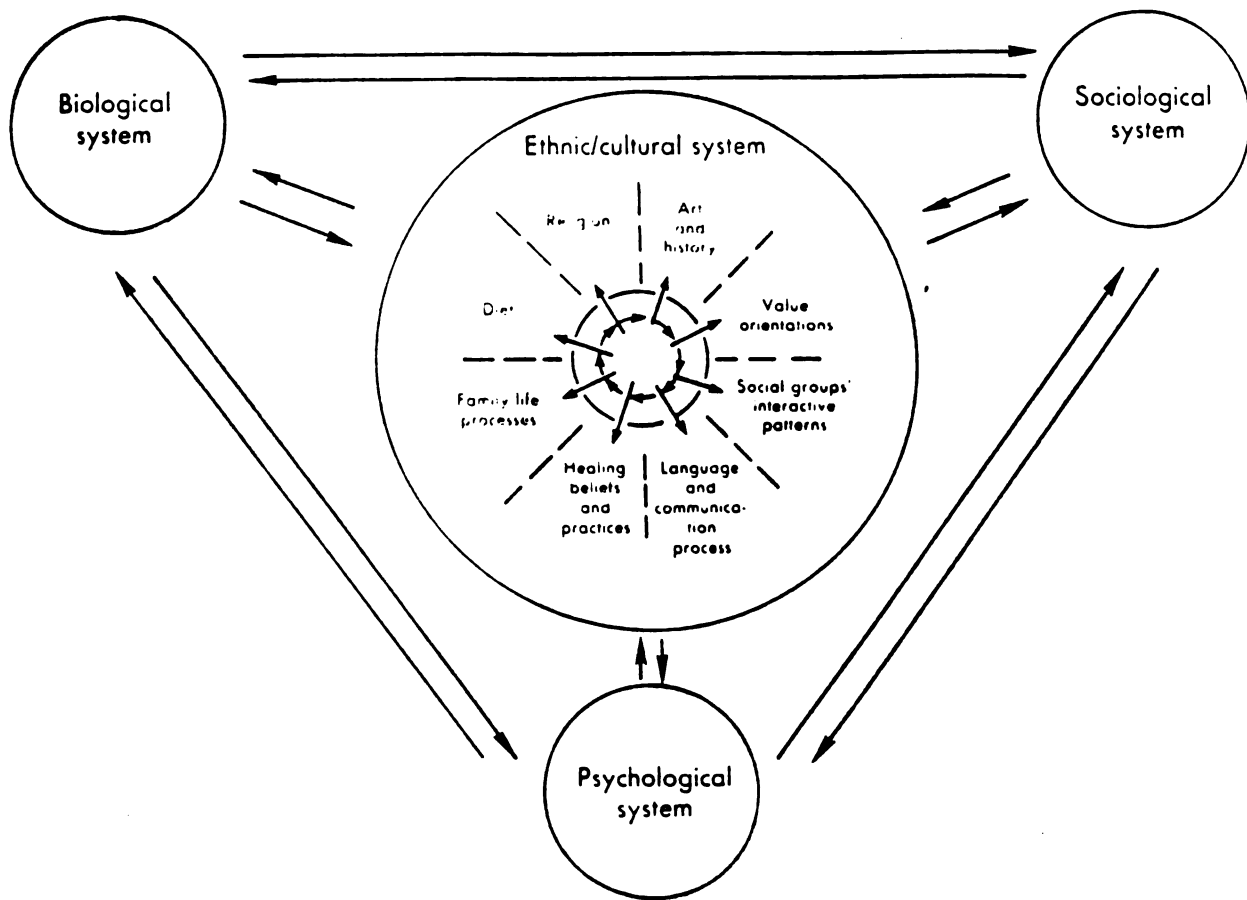
The Health Belief Model





Appendix C

Orque's Conceptual Framework  
For Ethnic Nursing Care



## Appendix D

Sampling Frame for Streets

Track No. 260

Hispanic population 4,352

Street's Name

House's Number

|                |           |
|----------------|-----------|
| Amazon Ave.    | 1-999     |
| Army St.       | 2600-3298 |
| Athens St.     | 1-898     |
| Avalon St.     | E.S.      |
| Brazil Ave.    | E.S.      |
| Burrows St.    | 1900-2098 |
| Dublin St.     | E.S.      |
| Edinburgh St.  | 1-898     |
| Excelsior Ave. | E.S.      |
| Felton St.     | 1800-1899 |
| France Ave.    | E.S.      |
| Ina Court      | E.S.      |
| Italy Ave.     | E.S.      |
| Kenny Alley    | E.S.      |
| La Grande Ave. | 1-698     |
| Lisbon St.     | 1-798     |
| London St.     | 1-798     |
| Madison St.    | 2-398     |
| Madrid St.     | 1-898     |
| Mansfield St.  | E.S.      |
| Mission St.    | 4301-5099 |
| Moscow St.     | 1-898     |
| Munich St.     | 201-598   |
| Naples St.     | 1-898     |
| Persia         | E.S.      |
| Peru           | E.S.      |
| Prague St.     | 1-398     |
| Russia Ave.    | E.S.      |
| Silliman St.   | 1801-1898 |
| Silver Ave.    | 300-598   |
| Valmar Terrace | E.S.      |
| Vienna St.     | 1-898     |

E.S. = entire street

## Appendix E

Sampling Frame of Names by Street

Track 260

| NAME         | ATHENS | PHONE NUMBER |
|--------------|--------|--------------|
| Tam. . . . . | 1250   | . . . - 7845 |
| Gir. . . . . | 956    | . . . - 0195 |
| Ced. . . . . | 928    | . . . - 7453 |
| Med. . . . . | 811    | . . . - 3887 |
| Car. . . . . | 803    | . . . - 4799 |
| Mir. . . . . | 789    | . . . - 7446 |
| Gua. . . . . | 714    | . . . - 5535 |
| Gar. . . . . | 679    | . . . - 6675 |
| Lop. . . . . | 643    | . . . - 9825 |
| Lau. . . . . | 631    | . . . - 4871 |
| Tal. . . . . | 627    | . . . - 9448 |
| Oli. . . . . | 583    | . . . - 7645 |
| Alt. . . . . | 568    | . . . - 0521 |
| Alt. . . . . | 554A   | . . . - 4151 |
| Cru. . . . . | 442    | . . . - 3385 |
| Bel. . . . . | 373    | . . . - 2227 |
| Gon. . . . . | 358    | . . . - 4962 |
| Gar. . . . . | 358    | . . . - 2072 |
| Jim. . . . . | 315    | . . . - 2357 |
| Riv. . . . . | 312    | . . . - 8497 |
| Per. . . . . | 307    | . . . - 2437 |
| Alf. . . . . | 271    | . . . - 3730 |
| Dom. . . . . | 267    | . . . - 2607 |
| Del. . . . . | 251    | . . . - 1213 |
| Del. . . . . | 162    | . . . - 5901 |
| Per. . . . . | 162    | . . . - 4769 |
| Del. . . . . | 154    | . . . - 7594 |
| Sol. . . . . | 135    | . . . - 9452 |
| Esc. . . . . | 44B    | . . . - 1763 |
| Des. . . . . | 14     | . . . - 0304 |

Appendix F

Confidential Log Sheet

PHONE NUMBER \_\_\_\_\_

DATE \_\_\_\_\_

OUTCOME \_\_\_\_\_

FOLLOW UP: Respondents name : \_\_\_\_\_

Preffered Language: \_\_\_\_\_

Best time and date to call: \_\_\_\_\_

CALL LOG

| DAY | DATE | TIME | COMMENTS |
|-----|------|------|----------|
| 1.  |      |      |          |
| 2.  |      |      |          |
| 3.  |      |      |          |

DATE FOR INTERVIEW \_\_\_\_\_

ADDRESS \_\_\_\_\_

ANY SPECIAL INSTRUCTIONS \_\_\_\_\_

## Appendix G

Information Sheet

University of California  
San Francisco  
Research Study

Knowledge of Cardiovascular Disease and Risk Factors  
Among Hispanics in San Francisco


The purpose of this study is to describe San Francisco Hispanic's knowledge of heart disease and risk factors. I am a registered nurse and a graduate student in the School of Nursing at the University of California, San Francisco. I am interested in learning more about the knowledge that Hispanics have on this topic.

Your participation in this study is totally voluntary. you can choose not to answer any question I ask you or to stop the interview at any time you wish. You would not be reimbursed for your participation in the study, but you may benefit from information in heart disease that I can provide at the end of the interview if you have questions. Your participation in this study may help health care providers to assist Hispanics with heart disease and to help improve educational programs to prevent heart disease.

The interview will take from 45 minutes to over one hour of your time. It will be held in the place you choose. All information you give me will be kept as confidential as possible by law. The interview form would be identified only with a number, and I will not keep your name and address after we finish the interview. You do not need to sign anything. I have no relationship with any goverment agency.

If you have any questions or concern about this study, you can call me at (415) 992-7456 at any time, or the principal investigator, Juliene Lipson, at (415) 476-3981. If you prefer you can write to the Committee on Human Research at the University of California, San Francisco, Box 0616, San Francisco, California, 94143, or telephone (415) 476-1814, monday to friday, 8 a.m. to 5 p.m.

Thank you for your help.

  
Teresa Juarbe, R.N., BSN  
(415) 992-7456

## Appendix H

Instrument

(English Version)

Code \_\_\_\_\_

Date \_\_\_\_\_

Time \_\_\_\_\_

Knowledge of Cardiovascular Disease and Risk Factor Among  
Hispanics in San Francisco

My name is Teresa Juarbe, I'm a registered nurse and also a graduate student at the University of California, San Francisco. I'm doing a study of knowledge about cardiovascular disease and risk factors among Hispanics in San Francisco. Any information you give me will be kept as confidential as possible and is only for this study. If you have any questions I will be glad to answer them at the end of the questionnaire (Give written information on the study read aloud).

I. I will be reading a number of statements, please answer True or False to each statement.

- \_\_\_ 1) Heart attack is the leading cause of death in the U.S. today.
- \_\_\_ 2) Regular exercise may decreases the risk of heart disease.
- \_\_\_ 3) People with high cholesterol are at risk for heart disease.
- \_\_\_ 4) A heart attack might be one of the first symptoms of high blood pressure or high cholesterol.
- \_\_\_ 5) People that eat chiles and hot foods are more likely to develop heart disease than are people who eat cold foods.
- \_\_\_ 6) Smoking is a risk factor for heart disease.
- \_\_\_ 7) A person that has heart disease is susceptible to have stroke.
- \_\_\_ 8) People who smoke can reduce their risk for heart disease if they quit smoking.
- \_\_\_ 9) A person with high blood pressure may feel fine and look fine.
- \_\_\_ 10) Heart disease can be caused by the evil eye.

- 11) Smoking, high blood pressure and high cholesterol are the three most important risk factors for heart disease.
- 12) Having diabetes increases the risk of having a heart attack.
- 13) Women have a lower incidence of heart disease than men.
- 14) Changes in temperature from cold to hot can cause heart problems.
- 15) Overweight people are at greater risk for heart disease.
- 16) People with known heart disease should exercise less.
- 17) Birth control pills can increase the chances for heart disease.
- 18) Reducing salt intake is one of the ways we can treat high blood pressure.
- 19) Food products can be low in cholesterol and still be high in fat.
- 20) Heart problems might be hereditary.
- 21) The older the individual the higher the risk of suffering of heart problems.
- 22) Stress is considered a risk factor for heart disease.

Now we are finished with the True and False part.

---

23) Tell me in your own words: "What does high blood pressure mean?"

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24) In your opinion, What are some of the causes of high blood pressure?

---

---

---

25) Do you have any close friends or relatives that had or have heart problems?

yes (1)                       no (2)

26) As best as you understand tell me in your own words why it is important to know about heart disease?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

27) What are some of the things people can do to prevent heart disease?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

28) Do you think you can do anything to reduce your risk for heart disease or prevent it?

\_\_\_ 1) yes (continue with Q. # 29)

\_\_\_ 2) no (continue with Q. # 32)

29) Tell me at least three things that you can do?

1) \_\_\_\_\_  
2) \_\_\_\_\_  
3) \_\_\_\_\_

30) Do you do these things?

- 1) \_\_\_ yes \_\_\_ no
- 2) \_\_\_ yes \_\_\_ no
- 3) \_\_\_ yes \_\_\_ no

31) How motivated do you feel to do these things that helps to prevent heart disease?

\_\_\_ 1) very motivated \_\_\_\_\_  
\_\_\_ 2) somehow motivated \_\_\_\_\_  
\_\_\_ 3) not motivated \_\_\_\_\_



32) Tell me what possibilities do you have to suffer of heart disease during the next years.

- 1) many
- 2) some
- 3) none
- 4) Don't know

33) Have you received any information on what is heart disease?

- 1) yes
- 2) no

34) How long ago?

- 1) last six months
- 2) last year
- 3) last two years
- 4) more than two years
- 5) can't remember

35) Where did you hear or read that information?

- 1) T.V (channel \_\_\_\_\_)
- 2) radio (station \_\_\_\_\_)
- 3) newspapers
- 4) doctor
- 5) community nurse
- 6) other nurses
- 7) friends or family
- 8) pharmacist
- 9) health clinics
- 10) at work
- 11) American Heart Association
- 12) Red Cross
- 13) at school
- 14) folk healer
- 15) others

36) How would you like to receive information or learn more about heart disease and risk factors?

- 1) radio
- 2) T.V.
- 3) brochures
- 4) personal health talks
- 5) in community events
- 6) other

\_\_\_ 7) not interested

III. I'd like to end with some questions about you so I can understand more about the people who are part of this study. Remember, this information will only have a number on it, no name.

37) In general, what language(s) do you read and speak?

|                 |                              |                 |                              |              |
|-----------------|------------------------------|-----------------|------------------------------|--------------|
| 1               | 2                            | 3               | 4                            | 5            |
| : _____ :       | : _____ :                    | : _____ :       | : _____ :                    | : _____ :    |
| Only<br>Spanish | More Spanish<br>than English | Both<br>Equally | More English<br>than Spanish | Only English |

38) What was the language(s) you used as a child?

|                 |                              |                 |                              |              |
|-----------------|------------------------------|-----------------|------------------------------|--------------|
| 1               | 2                            | 3               | 4                            | 5            |
| : _____ :       | : _____ :                    | : _____ :       | : _____ :                    | : _____ :    |
| Only<br>Spanish | More Spanish<br>than English | Both<br>Equally | More English<br>than Spanish | Only English |

39) What language(s) do you speak at home?

|                 |                              |                 |                              |                 |
|-----------------|------------------------------|-----------------|------------------------------|-----------------|
| 1               | 2                            | 3               | 4                            | 5               |
| : _____ :       | : _____ :                    | : _____ :       | : _____ :                    | : _____ :       |
| Only<br>Spanish | More Spanish<br>than English | Both<br>Equally | More English<br>than Spanish | Only<br>English |

40) In which language(s) do you usually think?

|                 |                              |                 |                              |                 |
|-----------------|------------------------------|-----------------|------------------------------|-----------------|
| 1               | 2                            | 3               | 4                            | 5               |
| : _____ :       | : _____ :                    | : _____ :       | : _____ :                    | : _____ :       |
| Only<br>Spanish | More Spanish<br>than English | Both<br>Equally | More English<br>than Spanish | Only<br>English |

41) What language(s) do you usually speak with your friends?

|                 |                              |                 |                              |                 |
|-----------------|------------------------------|-----------------|------------------------------|-----------------|
| 1               | 2                            | 3               | 4                            | 5               |
| : _____ :       | : _____ :                    | : _____ :       | : _____ :                    | : _____ :       |
| Only<br>Spanish | More Spanish<br>than English | Both<br>Equally | More English<br>than Spanish | Only<br>English |

42) How old are you right now?

\_\_\_\_\_

43) sex

\_\_\_ 1) Male

\_\_\_ 2) female

44) Are you actually

- 1) single
- 2) married
- 3) divorced
- 4) widowed
- 5) living together

45) In total, how many years of education have you completed including your elementary school?

\_\_\_\_\_ years

46) How much is your approximate weekly income?

\_\_\_\_\_

47) Where were you born?

- (1) Costa Rica
- (2) Cuba
- (3) Mexico
- (4) Nicaragua
- (5) Puerto Rico
- (6) Santo Domingo
- (7) El Salvador
- (8) Guatemala
- (9) U.S.A.
- (10) other

48) If in U.S.A. Ask : Where were your parents born?

\_\_\_\_\_ father

\_\_\_\_\_ mother

49) How long have you live in the USA?

\_\_\_\_\_ weeks

\_\_\_\_\_ months

\_\_\_\_\_ years

50) Time at end of interview

\_\_\_\_\_

This is all, Thank you very much for your help, and the information you gave me would be very useful for my study.

(Spanish Version)

Codigo \_\_\_\_\_

Fecha \_\_\_\_\_

Hora \_\_\_\_\_

Conocimiento de las Enfermedades del Corazon y los Factores de Riesgo entre los Hispanos en San Francisco

Mi nombre es Teresa Juarbe, soy una enfermera graduada y un estudiante de la Escuela de Enfermeria de la Universidad de California, San Francisco. Yo estoy haciendo un estudio sobre el conocimiento que tienen los Hispanos en San Francisco sobre las enfermedades del corazon y los factores de riesgo. Toda informacion que usted de sera mantenida lo mas confidencialmente posible y sera solo para el uso de este estudio. Si usted tiene alguna pregunta, yo estare dispuesta a contestarsela al final de la entrevista (Dar y leer la informacion escrita sobre el estudio).

- I. Voy a leer una serie de frases, por favor conteste si la frase es cierta o falsa.
- \_\_\_ 1) Los ataques del corazon son la causa numero uno de muerte en los Estados Unidos.
  - \_\_\_ 2) El hacer ejercicios regularmente puede disminuir el riesgo de las enfermedades del corazon.
  - \_\_\_ 3) Las personas que tienen un alto colesterol pueden padecer de enfermedades del corazon.
  - \_\_\_ 4) Un ataque al corazon puede ser el primer sintoma de que una persona tiene presion alta o alto colesterol.
  - \_\_\_ 5) Las personas que comen chiles y comidas calientes, padecen mas de enfermedades del corazon, que aquellas personas que comen comidas frias.
  - \_\_\_ 6) El fumar puede causar problemas del corazon.
  - \_\_\_ 7) Una persona que padece del corazon esta propensa a padecer de un derrame cerebral.
  - \_\_\_ 8) Las personas que fuman pueden reducir su posibilidad de padecer de enfermedades del corazon si dejan de fumar.
  - \_\_\_ 9) Una persona con presion alta puede sentirse bien y verse bien.
  - \_\_\_ 10) Las enfermedades del corazon pueden ser causadas por mal de ojo.

- \_\_\_ 11) El fumar, la alta presion y el alto colesterol, son los tres factores mas importantes para causar enfermedades del corazon.
- \_\_\_ 12) El tener diabetes aumenta la posibilidad de sufrir un ataque al corazon.
- \_\_\_ 13) Las mujeres padecen menos de los problemas del corazon que los hombres.
- \_\_\_ 14) Cambios en temperatura de lo frio a lo caliente pueden causar problemas del corazon.
- \_\_\_ 15) Las personas obesas estan mas propensas a padecer de enfermedades del corazon.
- \_\_\_ 16) Las personas que saben que padecen del corazon deben hacer menos ejercicios.
- \_\_\_ 17) Las pildoras anticonceptivas pueden aumentar el riesgo de padecer de enfermedades del corazon.
- \_\_\_ 18) El reducir el consumo de sal es una de las formas que podemos tratar la presion alta.
- \_\_\_ 19) Algunas comidas pueden ser bajas en colesterol pero aun asi, ser altos en otras grasas.
- \_\_\_ 20) El padecer de enfermedades del corazon puede ser hereditario.
- \_\_\_ 21) Mientras mas vieja es la persona mas propensa esta a padecer del corazon.
- \_\_\_ 22) La tension ("stress"), puede causar enfermedades del corazon.

Este es el final de las preguntas Ciertas y Falsas

-----  
23) Digame en sus propias palabras: Que significa Presion Alta?

---

---

---

24) En su propia opinion, "Cuales son algunas de las causas de la la presion alta?"

---

---

---

25) Tiene usted algun amigo o familiar que padezca o haya padecido de enfermedades del corazon?

\_\_\_ 1) si                    \_\_\_ 2) no

26) Como usted mejor lo entienda digame en sus propias palabras: Porque es importante el saber sobre las enfermedades del corazon?

---

---

---

27) Cuales son algunas de las cosas que la gente puede hacer para prevenir las enfermedades del corazon?

---

---

28) Usted cree que puede hacer algo para reducir su riesgo a padecer o prevenir las enfermedades del corazon.

\_\_\_ 1) si    (continue en la pregunta # 29)

\_\_\_ 2) no    (continue en la pregunta #32)

29) Mencioneme por lo menos 3 cosas que usted podria hacer

1) \_\_\_\_\_

2) \_\_\_\_\_

3) \_\_\_\_\_

30) Usted hace estas cosas?

1) \_\_\_ si                    \_\_\_ no

2) \_\_\_ si                    \_\_\_ no

- 3) \_\_\_\_\_ si \_\_\_\_\_ no
- 31) Que tan motivado se siente usted para hacer estas cosas que ayudan a prevenir las enfermedades del corazon ?
- \_\_\_\_\_ 1) muy motivado/a \_\_\_\_\_
- \_\_\_\_\_ 2) algo motivado/a \_\_\_\_\_
- \_\_\_\_\_ 3) no motivado/a \_\_\_\_\_
- 32) Digame que posibilidades cree usted que tiene de padecer de enfermedades del corazon en los proximos anos.
- \_\_\_\_\_ 1) muchas
- \_\_\_\_\_ 2) alguna
- \_\_\_\_\_ 3) ninguna
- \_\_\_\_\_ 4) no se
- 33) Ha recibido usted alguna informacion sobre lo que son las enfermedades del corazon?
- \_\_\_\_\_ 1) si \_\_\_\_\_ 2) no
- 34) Hace cuanto tiempo?
- \_\_\_\_\_ 1) en los ultimos seis meses
- \_\_\_\_\_ 2) en el ultimo ano
- \_\_\_\_\_ 3) en los ultimos dos anos
- \_\_\_\_\_ 4) mas de dos anos
- \_\_\_\_\_ 5) no recuerda
- 35) Donde escucho o recibio esta inforamcion?
- \_\_\_\_\_ 1) T.V. (canal \_\_\_\_\_)
- \_\_\_\_\_ 2) radio (estacion \_\_\_\_\_)
- \_\_\_\_\_ 3) periodicos
- \_\_\_\_\_ 4) medico o doctor
- \_\_\_\_\_ 5) enfermera de la comunidad
- \_\_\_\_\_ 6) otras enfermeras
- \_\_\_\_\_ 7) amigo o familiar
- \_\_\_\_\_ 8) farmaceutico
- \_\_\_\_\_ 9) clinicas de Salud
- \_\_\_\_\_ 10) en el trabajo



- 11) Asociacion Americana del Corazon  
 12) Cruz Roja  
 13) en la escuela  
 14) curandero u otro practicante de medicina tradicional  
 15) otro

36) Como le gustaria a usted recibir mas informacion o aprender mas sobre las enfermedades del corazon y sus factores de riesgos?

- 1) radio  
 3) panfletos  
 4) charlas educativas personales  
 5) en eventos de la comunidad  
 6) otro

III. Me gustaria terminar con algunas preguntas sobre usted, para yo poder entender un poco mas sobre las personas que son parte del estudio. Recuerdese que esta informacion solo tendra un numero en y no su nombre.

37) Por lo general, que idioma(s) lee y habla usted?

|                 |                             |                    |                             |             |
|-----------------|-----------------------------|--------------------|-----------------------------|-------------|
| 1               | 2                           | 3                  | 4                           | 5           |
| : _____ :       | : _____ :                   | : _____ :          | : _____ :                   | : _____ :   |
| Solo<br>Espanol | Espanol mejor<br>que Ingles | Ambos<br>por igual | Ingles mejor<br>que Espanol | Solo Ingles |

38) Cual fue el idioma(s) que hablo cuando era nino(a)?

|                 |                           |                    |                           |             |
|-----------------|---------------------------|--------------------|---------------------------|-------------|
| 1               | 2                         | 3                  | 4                         | 5           |
| : _____ :       | : _____ :                 | : _____ :          | : _____ :                 | : _____ :   |
| Solo<br>Espanol | Mas Espanol<br>que Ingles | Ambos por<br>igual | Mas Ingles<br>que Espanol | Solo Ingles |

39) Por lo general, en que idioma(s) habla en su casa?

|                 |                           |                    |                           |             |
|-----------------|---------------------------|--------------------|---------------------------|-------------|
| 1               | 2                         | 3                  | 4                         | 5           |
| : _____ :       | : _____ :                 | : _____ :          | : _____ :                 | : _____ :   |
| Solo<br>Espanol | Mas Espanol<br>que Ingles | Ambos por<br>igual | Mas Ingles<br>que Espanol | Solo Ingles |

40) Por lo general, en que idioma(s) piensa?

|                 |                           |                    |                           |             |
|-----------------|---------------------------|--------------------|---------------------------|-------------|
| 1               | 2                         | 3                  | 4                         | 5           |
| : _____ :       | : _____ :                 | : _____ :          | : _____ :                 | : _____ :   |
| Solo<br>Espanol | Mas Espanol<br>que Ingles | Ambos por<br>igual | Mas Ingles<br>que Espanol | Solo Ingles |

41) Por lo general en que idioma(s) habla con sus amigos(as) ?

|                 |                           |                    |                           |             |
|-----------------|---------------------------|--------------------|---------------------------|-------------|
| 1               | 2                         | 3                  | 4                         | 5           |
| :_____:         | :_____:                   | :_____:            | :_____:                   | :_____:     |
| Solo<br>Espanol | Mas Espanol<br>que Ingles | Ambos por<br>igual | Mas Ingles<br>que Espanol | Solo Ingles |

42) Cual es su edad al dia de hoy?

\_\_\_\_\_

43) Sexo

\_\_\_ 1) masculino

\_\_\_ 2) femenino

44) Actualmente usted es

\_\_\_ 1) soltera/o

\_\_\_ 2) casada/o

\_\_\_ 3) divorciada/o

\_\_\_ 4) viuda/o

\_\_\_ 5) viviendo juntos

45) En total, cuantos anos de educacion usted ha completado, incluyendo su escuela elemental?

\_\_\_\_\_ anos

46) Cuanto es aproximadamente su salario semanal?

\_\_\_\_\_

47) Donde usted nacio?

\_\_\_ 1) Costa Rica

\_\_\_ 2) Cuba

\_\_\_ 3) Mejico

\_\_\_ 4) Nicaragua

\_\_\_ 5) Puerto Rico

\_\_\_ 6) Santo Domingo

- \_\_\_ 7) El Salvador
- \_\_\_ 8) Guatemala
- \_\_\_ 9) U. S. A.
- \_\_\_ 10) otro \_\_\_\_\_

48) Si nacido en los E. U. : Donde nacieron sus padres?

\_\_\_\_\_ padre

\_\_\_\_\_ madre

49) Cuanto tiempo ha vivido usted en los E. U.?

\_\_\_\_\_ semanas

\_\_\_\_\_ meses

\_\_\_\_\_ anos

50) Hora al final de la entrevista

\_\_\_\_\_

Esto es todo, muchas gracias por su informacion y ayuda. Esta me va a ser muy util para mi estudio.

## Appendix I

Items Affecting Instrument Reliability

Four questions had a :

Mean = 1.000      Standard Deviation = 0.000

Median = 1.000      Variance = 0.000

1. Smoking is a risk factor for heart disease.
2. Regular exercise may decreases the risk of heart disease.
3. Reducing salt intake is one of the ways we can treat high blood pressure.
4. Overweight people are at greater risk for heart disease.

Appendix J

Causes, Results and Treatments for Stress as Stated  
By the Respondents

CAUSES

Altered or agitated (alterada/agitada)

Sorrow or grief (penas y sufrimientos)

Scared (sustos)

Tensions (tensiones)

Sorrow (abatimiento)

Upset (colera o corajes)

Nervousness (nervios)

Pressures (presiones)

Preoccupations (preocupaciones)

RESULTS OF STRESS

High blood pressure

Heart disease

Headaches

Shortness of breath  
"Sofoque "

Chest tightness

Chest pain "dolores de pecho"

"Get sick"

Mental disorders  
"get crazy"

"Kills people "

Tachycardia

Pressure in head

TREATMENTS FOR STRESS

Have the appropriate rest

Stay calm without pressures

Do not get upset or preoccupied

Live in peace

Take it easy

Avoid nervousness

Sleep more

Avoid tensions

Use of significant others, talk

Have more rest

Have an outlet to decrease stress

Reduce stress sources

Appendix K

Themes

I. Use of teas

- A. Tilo
- B. Manzanilla
- C. Azahar

II. Health care services

- A. access to,
- B. use of,

III. Cultural features

- 1. familism
- 2. sympatia
- 3. fatalism

IV. Motivation

V. Lack of support to engage in self-care activities

VI. Machismo

VII. Womens' health

VIII. Smoking

IX. Lack of confidence in physicians

X. Health beliefs

- A. disease causation
- B. general health
- C. disease treatments
- D. use of medications

XI. Folk beliefs

- A. hot and cold beliefs
- B. evil eye
- C. empacho

XII. Use of alcoholic beverages

XIII. Language barriers

XIV. Information dissemination

- A. T.V.
- B. radio
- C. newspaper
- D. health care providers



Table 1

Demographic Data

---

| N = 51             | Mean     | Range         |
|--------------------|----------|---------------|
| Age                | 40       | 19 - 78       |
| Years of Education | 9        | 0 - 20        |
| Weekly Salary      | \$175.00 | 0 - \$700.00  |
| Time in the U.S.A. | 7yrs.    | 3mo - 30 yrs. |

---

N = 51

Table 2

Score Distributions for the 22 True/False Items

| Scores | Frequency | Cumulative<br>Frequency | Percent | Cumulative<br>Percent |
|--------|-----------|-------------------------|---------|-----------------------|
| 13     | 1         | 1                       | 1.96    | 1.96                  |
| 14     | 2         | 3                       | 3.92    | 5.88                  |
| 15     | 3         | 6                       | 5.88    | 11.76                 |
| 16     | 6         | 12                      | 11.76   | 23.53                 |
| 17     | 10        | 22                      | 19.61   | 43.14                 |
| 18     | 10        | 32                      | 19.61   | 62.75                 |
| 19     | 9         | 41                      | 17.65   | 80.39                 |
| 20     | 6         | 47                      | 11.76   | 92.16                 |
| 21     | 3         | 50                      | 5.88    | 98.04                 |
| 22     | 1         | 51                      | 1.96    | 100.00                |

N = 51

Mean = 17.804

Standard Deviation = 1.960

Median = 18.00

Variance = 3.841

Table 3

T-test Performed for Test Scores in Men and Women

|      | Male  | Female | Separate<br>Variance | Pooled<br>Variance |
|------|-------|--------|----------------------|--------------------|
| N    | 17    | 34     | t 0.21               | 0.20               |
| Mean | 17.88 | 17.76  | df 34.65             | 49.00              |
| S.D. | 1.867 | 2.031  | p 0.83               | 0.84               |

Table 4

Correlation Relating Two Demographic Variables with Scores on  
Knowledge Test

|    | Age   | Time in the U.S.A. |
|----|-------|--------------------|
| r  | -0.26 | -0.18              |
| p< | 0.70  | 0.22               |
| N  | (51)  | (50)               |

Table 5

Preventive Behaviors

| <b>Behavior</b> | <b>Stated<br/>Should Do</b> | <b>Felt<br/>Motivated</b> | <b>Actually<br/>Do</b> |
|-----------------|-----------------------------|---------------------------|------------------------|
| <b>Diet</b>     | <b>70% (34)</b>             | <b>65% (22)</b>           | <b>33% (14)</b>        |
| <b>Exercise</b> | <b>54% (26)</b>             | <b>58% (15)</b>           | <b>20% (6)</b>         |
| <b>Stress</b>   | <b>33% (16)</b>             | <b>64% (10)</b>           | <b>47% (8)</b>         |

**N = 51**

Figure 1

Census Tract of San Francisco  
Areas where Hispanics are Concentrated

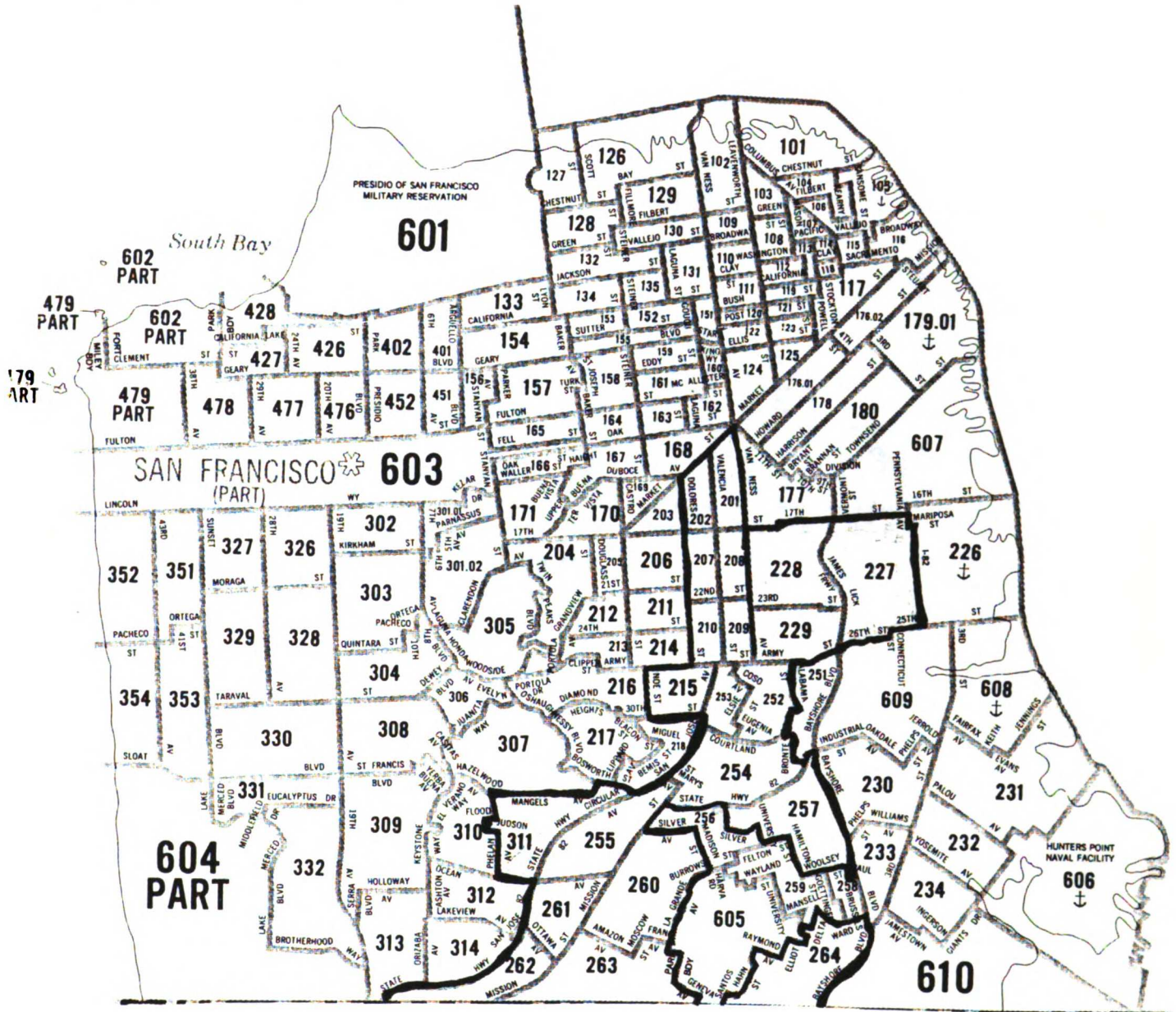


Figure 2

Sample Country of Origin

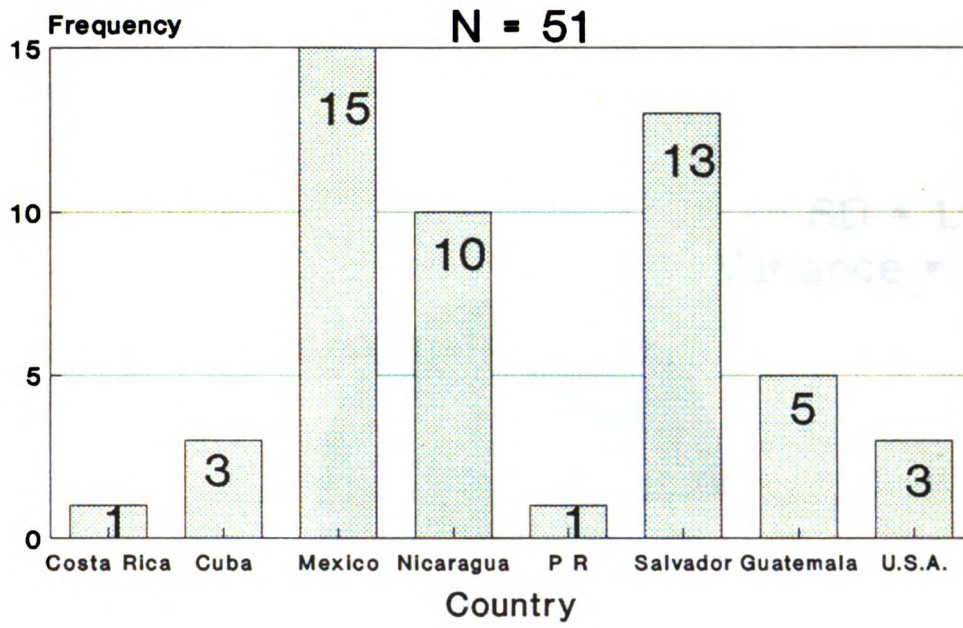


Figure 3

Knowledge Results

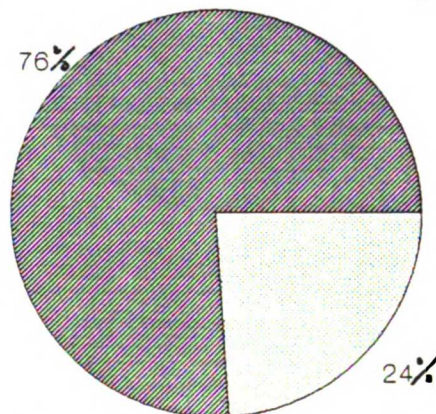
N = 51

76% = 39 subjects

24% = 12 subjects

Mean = 17.8  
Median = 18.0

SD = 1.96  
Variance = 3.84



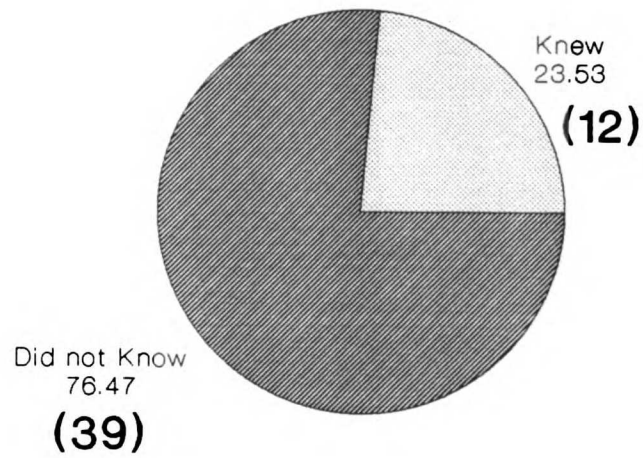
The sample had adequate knowledge of CVD and the risk factors associated.



Figure 4

Knowledge of Hypertension Definition

N = 51





**FOR REFERENCE**

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**NOT TO BE TAKEN FROM THE ROOM**



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