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PREDISPOSING CULTURAL FACTORS AMONG AMERICAN INDIAN POPULATIONS RELATED TO CANCER OCCURRENCE

by

Theda McPheron-Alex

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STATEMENT BY AUTHOR

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Dedication

For the wind in the pines

For the water rushing over the stones.

For the blue jay and the mockingbird

For Daddy and Grandma...

I REMEMBER

ALWAYS

TABLE OF CONTENTS

ABSTRACT

Cancer during the twentieth century has become a major universal health concern. The American Indian population, too, has experienced both a dramatic rise in cancer rates and different patterns of cancer among tribal groups. The purpose of this thesis is to discuss various factors including culture that impact cancer in American Indian populations.

A literature review that provides cancer data, including rates, risk factors, and American Indian responses to cancer is presented in the opening chapters. In addition, results of a qualitative exploratory research involving a sample from the Pasqua Yaqui Tribe of Southern Arizona and a non-Indian sample from the Community Hospice Program of Tucson are presented. Data from both groups are analyzed, compared, and summarized.

INTRODUCTION

> Cancer reflects our modern sense of self; we are power gone wild, not merely an organ become ill or poisoned from without, but a literal systematic disorder of all gone wild with synthetic power metasticizing, over reaching, over powering the body itself. (Ellen Golub 1981: 723)

Central to the medical model of health is the notion that includes the absence of disease. Within this model, American medicine also has many areas of contradictions, inconsistencies and dilemmas. Primary is the definition of health versus illness. The importance of defining health rests upon the belief that the health care system is dependent on how the users of the system view health. The definition of health may therefore be seen as a key building block in theoretical development and measurement strategies, as well as policy and practice of health care (Litva and Eyles 1994). The process and ultimately the view of health itself is also embedded in the cultural system of the user. These cultural systems significantly shape the health beliefs, attitudes and behaviors we each hold. This thesis explores how the cultural systems of American Indians[1] affect and shape their health care practices and ultimately their responses to health care. Cancer is the disease process under study.

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[1]Throughout the thesis, American Indian and Alaska Natives are also referred to as Native American.

As this century draws to a close, health problems and disease patterns are changing in tribal communities nationwide. For example, in the past three decades the primary causes of mortality among American Indians have shifted away from the infectious diseases toward chronic diseases. Clearly, while infectious diseases have declined as a result of antibiotic use, sanitation and hygiene programs, and clinic access, chronic diseases have steadily increased, among them cancer. Cancer now is the third (second for Indian women) leading cause of death in Native Americans (Burhansstepanov and Dressler, 1993; Joe and Young, 1993).

Cancer continues to accelerate throughout Indian country, but is worst in Alaska and the Northern Plains states (Hahn 1985). Five specific sites for cancer have been identified as having the lowest survival rates for American Indians. These include cancer of the pancreas, liver, gallbladder, stomach and lung/bronchus (Burhansstepanov and Dressler 1993). Native Americans appear to have the lowest survival rates among racial groups stricken with these cancers, at least in select states. For example, the five-year survival rate for lung cancer among American Indians living in Arizona and New Mexico is the poorest of other racial groups in the two states (Burhansstepanov and Dressler 1993).

In general, lung cancer is exceptionally difficult to treat, with nearly 90% of the patients dying within five years of diagnosis (Burhansstepanov and Dressler 1993). The situation becomes more difficult because lung cancer rates continue to rise for both men and women and in some cases, it has surpassed the death rates of other forms of cancer, including prostate and breast cancer (Pego 1995).

Since 1970, lung cancer has been slowly and steadily rising for both American Indian and Alaska Native males and females. In regions of the northern United States, rates have also risen dramatically. Alaska, North Dakota, South Dakota, Montana, Michigan, Minnesota and Wisconsin have all seen increases. Many cancer related mortality rates for American Indians in these states exceeded the average U.S. rates, all races. The rates for males have remained high and have held steady for some time. The most significant, and one of the most alarming, increases for lung cancer has been for the Indian female. In the past, the mortality rate for Indian women was lower than for women, U.S. all races. However, now female rates in Michigan are 2.5 times higher than the U.S. rate, while the female rate in Minnesota is 1.5 times more than for women, U.S. all races. Lung cancer, therefore, was the leading cause for all cancer mortality in all regions of the Indian Health Service areas between 1984 and 1988 (Burhansstepanov and Dressler 1993).

Lung cancer is the most common type of cancer by a factor of more than two. Many Inuit (Eskimos) have become heavy cigarette smokers and lung cancer has increased in this population from seven percent (1950-1966) to twenty-five percent between 1967 and 1977 (Hampton 1992). Overall, cancer has continued to become more commonplace for American Indians and has taken on a unique pattern. It can be seen that cancer is a serious problem that is rapidly affecting not only more American Indians, but also affecting them at a younger age. In Alaska, there has been a rapid increase in cancer risk starting at age forty, and clinicians are often impressed by the relatively large number of young native patients with cancer that they must treat (Lanier 1993). Efforts to understand these alarming statistics are presently underway by the National Cancer Institute, Native American researchers and other health care organizations.

Research interest has included exploratory research that examines cultural issues and cancer. Research methods utilize numerous approaches. "At its base, science is an open-ended enterprise in which conclusions are constantly being modified," states one scientist, Babbie (1986). One practical application of social research is to uncover things that would otherwise remain hidden or might be considered unimportant. For example, many areas of traditional life, such as ceremonial tobacco use, are

considered inappropriate for Native Americans to discuss. Thus, non-Native American researchers have not been privy to information on the tribal use of tobacco and/or how it relates to tribal belief systems. There is no doubt that many areas of daily life experienced by Native Americans differ, sometimes dramatically, from the non-Native population. As a result, many of the current health interventions and/or programs may be inappropriate when geared to Native American families, communities or tribal groups. As chronic diseases increase for Indian communities, cultural concerns have become one of the key elements of any health intervention or prevention aimed at Native American communities.

One of the basic underlying premises of this thesis is that Native American cultures are unique, and different from each other. Variability within each tribal system and ranges of individual beliefs expand this diversity further. In other words, there is not one all-encompassing method that is applicable to <u>all</u> tribal groups. The existing materials and methods designed for the dominant or majority population tend to be less effective, or ineffective, for tribal communities. It is necessary, therefore, to develop and implement cancer intervention strategies that are culturally relevant. Unfortunately, because of tribal differences, developing culturally relevant approaches has

been slow. Interventions that include culturally appropriate posters, videos, fliers, audio tapes, etc., are not readily available for these populations. The lack of such educational interventions probably contributes to the disproportionate numbers of Native Americans with chronic health problems.

As this study grew and developed, the notion of "cultural factors" became increasingly apparent. Instead of a focus on only one or two areas of cultural difference, an entire lifestyle and belief system became important. "The health care system of a society reflects the ways in which that society organizes to care for its sick, based on commonly held ideas about wellness and unwellness....Because illness is a sociocultural construct, illnesses are viewed differently by different cultural groups," notes Joe (1994). In other words, cultural concepts of the body frame the theoretical, as well as the research, paradigm.

Three areas or perspectives from which one can view the body are outlined by Scheper-Hughes and Lock (1987). They outline these areas as:

(1) A phenomenally experienced individual body-self;

(2) A social body, a natural symbol for thinking about relationships among nature, society and culture; and,

(3) A body politic, an artifact of social and political control.

Not only have these concepts been universally applied and structured into the American health care system, but this "system," or these perspectives, have also been applied to Native Americans, as well; i.e., via various assimilation attempts.

At the core of this dilemma is the opposition between the Cartesian model (Non-Indian, Western system) and the Native American (holistic) model that is more holistic. In the Cartesian system there is a fundamental opposition between spirit and matter, mind and body, and real and unreal (Scheper-Hughes and Lock, 1987). Hippocrates, for example, sought to introduce a rational basis for clinical practice, and Descartes took this idea further by artificially separating the mind from the body. Descartes placed the mind into the realm of theology and the body into the realm of science. This separation became the Cartesian dualism that gave birth to the modern scientific biomedicine. The division of mind and body continues today, i.e., the mind belongs to psychiatry, but the body belongs to other physicians. Thus, a diagnosis of psychosomatic illness does not unify mind and body. The separation underlies this nation's health care programs.

Policies, especially federal policies, imposed on Indians since colonization have made it illegal for some to use their "traditional medicine." For example, O'Brien illustrates this when he states that:

> The Courts of Indian offenses were charged with enforcing the Code of Federal Regulations (CFR) which was written to 'civilize' and assimilate Indians. Under the code dancing, polygamy, shamanism, destroying the property of the dead and neglecting to adopt habits of industry or to engage in civilized pursuits or employment became criminal acts punishable by fines, loss of rations or imprisonment. (O'Brien, 1989)

Laws such as these continue to impact Native American health care today. The legacy left behind by these laws is evident in the struggles that Indian groups have in trying to continue their traditional medical system.

In direct opposition to the Cartesian model, the traditional Indian health care system is holistic. This means that its focus is the whole person: mind, body and soul/spirit. Joe (1994), for example, notes that "Health beliefs may be so integrated into the religion of the culture that healing is one of the primary responsibilities of the religion. Thus, religious practices may represent an important part of that culture's health care system" (p. 527). In collective healing rituals, there is a merging or communion of mind/body, self/other, individual/group that acts in largely non-verbal, or even pre-reflexive ways, to "feel" the sick person back to a state of wellness and

wholeness and to remake the social body (Scheper-Hughes and Lock 1987). An ethnomedical perspective therefore focuses on the cultural process of defining disease and describing the social response to disease (Armelegos, et al. 1992).

To examine the cultural perception or perspective on cancer, an exploratory study was conducted on one tribal group and a sample of non-Indians experiencing cancer. The background begins with a literature review of primary and secondary sources on cancer, cancer risk factors and Native Americans. And because chronic tobacco use contributes to ninety percent of lung cancer (Burhansstepanov and Dressler, 1993), material on tobacco is one of the key risk factors examined. Following are some issues noted:

(1) Native Americans hold different views and beliefs about illness, treatment and prevention than does the non-Indian population. These patterns of belief also differ from one tribe to another.

(2) As a result of some of these beliefs and behaviors, Native Americans may be adversely impacted by cancer and/or methods to prevent or treat cancer.

(3) Many psycho-social aspects of cancer have not been properly documented, addressed and/or dealt with within tribal communities.

(4) Due to the multigenerational aspect of Native American societies and the accepted extended family

patterns, chronic and/or the impact of a terminal disease goes beyond the individual to family and the community.

The increase in incidences of chronic diseases such as cancer has led to renewed interest in health care by tribes as they not only try to maintain, but to extend some elements of their traditional (holistic) medicinal practices into the Western health care system. The National Cancer Institute (NCI) and the Indian Health Service (IHS) for example, have formed an inter-agency agreement for cancer research, outreach, and data development to address increasing cancer rates of Native Americans. Other such interagency alliances have been formed to supplement the "networking" of resources, efforts, information and outreach to improve cancer awareness across Indian country.

The purpose of this thesis is to describe some of these efforts as well as examine a number of predisposing cultural factors which may lead to, increase, or contribute to the problem of cancer.

CHAPTER 1

CANCER: A HISTORICAL OVERVIEW

> Cancer fills the role of an illness experienced as a ruthless, secret invasion. (Susan Sontag 1977)

Cancer. Even the word itself evokes dread. In the past, cancer was often defined as, "anything that frets, corrodes, corrupts or consumes slowly and secretly" (Sontag 1977). The earliest descriptions of cancer describe it as a growth, lump or protuberance. The word cancer originated from the Greek and Latin words meaning crab. This reference to a crab is thought to represent the resemblance a cancer lesion has to crab legs: i.e., the swollen veins of an external tumor. It could also mean the metastasis, or spread, of the disease. The spreading of cancer was thought to occur in a crab-like crawl as the cancer creeps through the body. Cancer, therefore has been described as a disease that eventually consumes the body.

Until the twentieth century, tuberculosis and cancer were also thought to be the same disease. Both were viewed as tumor-like growths that consumed the body. In 1852, when Rudolf Virchow founded the modern science of cellular pathology, the advent of the microscope allowed for the distinction of cancer as a separate disease independent of tuberculosis. Prior to this, cancer was thought to be limited to external, or palpable, tumors.

Novalis, in his 1798 encyclopedia project, defined cancers, as quoted in Sontag, "gangrene that is a full-fledged parasite - they grow, are engendered, engender, have their own structure, secrete, etc." Cancer is a disease of growth which is incessant and steady and ultimately lethal. Cancer is believed to sap strength and vitality from its victims and to de-sexualize and destruct its victims. Cancer has been described metaphorically as not so much a disease but a pathology of space. The principle metaphors used refer to topography, such as cancer 'spreads,' 'proliferates,' or is 'diffused;' tumors are surgically excised and its most dreaded consequence, short of death, is the mutilation or amputation of part of the body. Cancer has stages and is eventually terminal (Sontag 1977).

The main symptoms of cancer are characteristically invisible until in its later stages or when it may be too late to treat it successfully. However, it is not infrequent for cancer to be discovered by chance or through a routine medical examination.

Native Americans at one time were thought to be immune to cancer. For example, A.F. Currier (1891) stated, "malignant diseases of the reproductive organs seem almost unknown among Indian women." It was also reported that Choctaw Indians born in 1865 in the Indian territory never had cancer (Hampton 1993). Other writings around the turn

of the century also claimed that American Indians were immune to cancer (Horn and Burhansstepanov, 1992).

Other reports had difficulty documenting the existence of cancer among Native Americans (Hrdlicka 1908). In 1910, Levin stated that American Indians never had cancer. In 1917, Hrdlicka also noted, "that American Indians were disappearing and that they did not require separate investigations for medical problems because only a few would exist into this century as products of miscegenation." In 1932, excavations of an Indian burial site, however, produced the skeleton of a pre-Columbian Indian man and the roentgenograms showed destructive lesions identical to those of multiple myeloma (a tumor originating in the specialized cells of bone marrow which forms multiple tumor masses) (Ritchie and Warren, 1932). Today, cancer is also viewed as a "White man's disease" by some tribal groups (Joe and Young 1993; Hampton 1956). Interestingly, most Native American languages have no word for cancer. When cancer began to increase, tribal languages began "describing" cancer rather than "naming it." For example, among the Yup'ek (Eskimos) and the Navajos, cancer is referred to as "a sore that does not heal" (Joe and Young, 1993). In other tribal languages, cancer translates into "the disease for which there is no cure" (Horn, Burhansstepanov 1992). Beliefs about "natural" occurring cancer are also present.

The Hopi's, for example, avoid red ants because the stings of the ants are thought to cause illness such as cancer (Clemmer 1995).

During the early days of the Indian Health Service (a division of the Bureau of Indian Affairs), one primary focus of health care focused on tuberculosis and treponema (Thornton 1987). Cancer was not an issue. In 1944, antibiotics were discovered and as a result, infectious disease slowly declined. Cancer, however, was not an issue.

The situation changed, however, during the mid-twentieth century, when it was noted that American Indians had the lowest incidence rates of cancer compared to other ethnic groups, but they had the least favorable survival rates (Hampton 1992). It should be noted that during this period, Native American life expectancy also lagged far behind that of the general population. By 1940 and 1950, the Native American life span was 50 years, a gap of 13 years (Black Feather 1992; Valway 1988; Agency for Health Care Policy and Research; National Medical Survey, 1991).

In 1955, the federal health care responsibility for American Indians was transferred from the Bureau of Indian Affairs to the federal Indian Health Service (IHS), a division of the Public Health Service under the Department of Health, Education and Welfare (HEW). The IHS listed

broad-spectrum programs that promoted prevention, curative, rehabilitative and environmental services (Rhodes 1992).

After the 1955 transfer, there was a dramatic reduction of deaths due to tuberculosis and gastrointestinal disease. Maternal and infant mortality rates dropped also. The life expectancy for Indians rose to 70 years, only a three-year gap compared to the general population (Rhodes 1991).

Cancer, sequela of alcoholism, diabetes and unintentional injury are now important Indian health problems (Rhodes, et al. 1987). Other reports have begun to note that in the past three decades, the primary causes of mortality among American Indians have shifted away from infectious diseases to chronic diseases. However, the mortality rate among American Indians due to injuries and lifestyle behaviors, i.e., cancers, chronic liver disease, and diabetes mellitus are much higher than for the total U.S. population (Robert Wood Johnson Foundation, 1990). Clearly, while infectious diseases have declined as a result of antibiotic use, sanitation and hygiene programs and clinic access, chronic disease have steadily increased, among them, cancer!

CHAPTER 2

CHANGING CANCER PATTERNS AND RATES DURING THE TWENTIETH CENTURY

> The survival of the almost two million indigenous people on the North American continent after 500 years of decimation by European diseases is now threatened by cancer. (Hampton 1992: 301)

As stated before, cancer is the third (second in women) leading cause of death for Native Americans (Burhansstepanov and Dressler 1993; Joe and Young 1993). For example, in Alaska, cancer is not only the leading cause of death for Alaska Native women, cancer is also the second leading cause of death for Alaska Native men. According to Lanier (1993), cancer mortality rates among Alaska Natives and Indians in the northern plains of the U.S. now exceed the national average. Thus, as this century draws to a close, cancer continues to grow as a major health problem for many tribal communities.

It is interesting to note that prior to the 1950s, cancer was rarely mentioned as a health problem for American Indians and Alaskan Natives. In a bibliography on cancer and American Indians, Joe and Justice (1993) found only 16 citations on the subject prior to 1969 and only 74 after 1970. Justice, in particular, states that:

> Of the total 84 articles published about cancer in Native Americans less than twelve have presented a total view of the cancer experience of a specific tribal group. (Joe and Justice 1993:12).

Cancer demographics or examination of the cancer patterns for American Indians and Alaskan Natives have not routinely been done. At best, the cancer data and materials reviewed by Joe and Justice (1993) indicate that the information was scarce and/or failed to provide tribal specific or state specific cancer information.

In an attempt to address some of these problems, a national conference on Native Americans and cancer was held in Tucson in 1989. The conference, supported by the National Cancer Institute, was instrumental in launching a number of subsequent cancer research studies and cancer data bases for American Indians.

From these studies and other new cancer mortality and morbidity information, findings indicate that cancer patterns of American Indians differ, sometimes greatly, from the general population. Although the cancer patterns differ somewhat, health behaviors or risks that contribute to cancer were similar to those of the rest of the general population of the United States. The unhealthy lifestyles or habits and poverty combined often contributed to or served to accelerate cancer rates among Native Americans.

Patterns of cancer mortality have not been well described for all tribes. Valway (1990) compiled a comprehensive report on cancer data on Native Americans between 1968 and 1987. The report not only reflected

regional differences (differences between tribes), but also gender and age differences. The report provided new information that was not visible when cancer data for the Indian population was hidden under the category of "other" in national cancer data sets. The new data also illustrated the severity of the low cancer survival rates for this population. This approach clearly demonstrated that when Indian cancer data are combined with the general U.S. data, the results do not adequately describe cancer mortality or cancer survival for American Indians.

To explore in more detail the various types of cancer and their prevalence in the Indian population, the following section covers four types of cancer: colorectal, lung, breast, and cervical cancer among American Indians and Alaska Natives. These four cancers are "preventable" and, when diagnosed early, can be cured.

Between 1968 and 1987, American Indians living in Alaska, North Dakota, South Dakota, and Montana had cancer morbidity rates (both sexes combined) that were consistently at or greater than the U.S. average (Valway 1990). As stated before, there was also marked variation in cancer types and cancer patterns among tribes within the twelve IHS regions or service areas in the United States. Some of the variation was also noted by the Agency for Health Care Policy Research (AHCPR) (1991) when it reported that, in

1987, Indian women aged 19-44 had a higher rate of cancer than Indian men. The Valway (1990) and AHCPR (1991) data for the period between 1984 and 1988 showed the following facts:

*Colorectal - The mortality rate for colorectal cancer for Alaska was higher than the U.S. rate. The highest rate, however, was among Alaska Native women. Compared to Alaska, the lowest rates were reported for American Indians in the states of Arizona and New Mexico, about one-fourth of the U.S. rate.

*Breast - Although American Indian females have consistently had lower mortality rates due to breast cancer, the rate, however, is on the increase in some IHS regions of the United States. For example, breast cancer mortality in the IHS areas of Aberdeen and Nashville are approaching the U.S. rates.

*Cervical - For a number of years, cervical cancer mortality rates for Native American women have been consistently higher than the U.S. rates. The areas of high breast cancer mortality rates for Indian women include the states of North Dakota, South Dakota, and Montana. Although there has been a 50 percent reduction in breast cancer, the rate is still three times the U.S. rate. Breast cancer mortality rates for Indian women are lowest in the states of

Michigan, Minnesota, and Wisconsin. These rates are similar to the U.S., all races.

*Lung - Since 1970, lung cancer has been slowly and steadily rising for Native American males and females. In the regions of the northern U.S., however, the rates have risen dramatically. Alaska, North Dakota, South Dakota, Montana, Michigan, Minnesota, and Wisconsin all report increases. Data from these states exceed the U.S. rates, and/or have patterns that are equal to the U.S. rates.

In contrast to Indian women, lung cancer death rates for Indian men have held steady. Indian women, on the other hand, have witnessed the most significant and alarming increases in lung cancer deaths. At one time, the Indian female cancer mortality rate was lower than the U.S. rate, but some states like Michigan now report that lung cancer mortality rates for Indian women are 2.5 times higher than the U.S., all races. For example, Indian women in Minnesota are 1.5 times more likely than other women in that state to die from lung cancer. Again, Arizona and New Mexico report fewer Indian women with lung cancer. Despite regional differences, lung cancer is the leading cause of cancer mortality reported by IHS during 1984-1988.

In the following, some recent changes in cancer patterns and mortality rates between 1988 and 1993 are noted:

*Colorectal - Variation in occurrences among the Indian population continues to be noted. Of all the IHS regional areas, Alaska and Aberdeen continue to have the highest rate of colorectal cancer, both areas exceeding the U.S., all races (Hampton 1992).

*Breast - Breast cancer morbidity rates for Indian women remain the same, in that it occurs less frequently among American Indian women than the U.S. average. Survival rates, however, remain low (Hampton 1992).

*Cervical - The IHS Aberdeen area reports that cervical cancer is a significant cause of mortality for American Indian women in that region, greater than four times the national average (Raur 1993). The Alaska area continues to have high cervical cancer rates, as well (Lanier 1993).

*Lung - Hampton (1992) describes lung cancer as the most common type of cancer for Native Americans by a factor of more than two. He also notes that many Inuits (Eskimos) have become heavy cigarette smokers and as a result, lung cancer has increased in this population from seven percent between 1950 and 1966 to 25 percent between 1967 and 1974 (42). Lung cancer, however, also remains high for all races.

Other noteworthy cancer rates and cancer sites that are prevalent among American Indians are:

*Stomach and Gallbladder cancer is found ten times more frequent among Native Americans than the general population (Joe 1992).

*Melanoma cancer, however, is seven times less frequent among Native Americans than in the Anglo population (Joe 1992).

*Prostate cancer mortality rates for American Indian men is twice as high as for the non-Indian population (Hampton 1992).

*Primary Hepatic cancer is significantly higher among Alaska Natives than other tribes. One of the reasons for this may be related to the high proportion of Alaska Natives who test positive for Hepatitis B virus. A Hepatitis B immunization program has been underway in an attempt to reduce this cancer (Hampton 1992).

* Because Nasopharyngeal cancer among Alaska Natives is high, intensive screening for Epstein Barr virus has been initiated. Epstein Barr virus can contribute to nasopharyngeal cancer (Joe 1992).

Cancer morbidity and mortality is a growing problem for Native Americans. Some cancer types are found more frequently in the Indian population and, in many case, the incidences of some of these cancers are more common in some tribal groups than others. Reasons for this are not always

clear. Cancer, therefore, is not only a serious problem but it is also growing rapidly and affecting this population and, in many cases, the incidences of some of these cancers are more common in some tribal groups than others. Reasons for this are not always clear. Cancer, therefore, is not only a serious problem but it is also growing rapidly and affecting this population at a younger age.

CHAPTER 3

HISTORICAL OVERVIEW OF RISK FACTOR DEVELOPMENT

> The idea of individual responsibility has been submerged to individual rights - rights or demands, to be guaranteed by government and delivered by public and private institutions. The cost of sloth, gluttony, alcoholic intemperance, reckless driving, sexual frenzy, and smoking is now a national and not an individual responsibility. (Knowles, 1977:16)

Habits such as gluttony (that lead to obesity) become risk factors for numerous health problems, including cancer. For example, Herzlich and Graham (1973) view organic (physical) health or the state of the body as a relative state. They define illness in terms of the absence of health or resistance to illness.

Because it is the body that is either healthy or sick, considerable attention has been drawn to perception and ideas about the body. For example, Scheper-Hughes and Lock (1987) developed the following perspectives for viewing the body: a) as a phenomena experienced individual body/self; b) as a social body, a natural symbol for thinking about relationships among nature, society and culture; and, c) as a body politic, an artifact of social and political control.

Within this context, Scheper-Hughes and Lock (1987) not only provide a useful framework for understanding the different orientations made about the body, but also provide a way to discuss such things as personal health, body image,

and risks that an individual might accept or not accept to harm their body or health status.

It is assumed that most individuals have choices as to what they will or will not do to maintain their health, but sometimes, despite all the precautions, sickness or death do occur. Why this happens or how diseases can be prevented are the challenges of science. But even before the days of microscopes and DNA analysis, society had firm ideas about what causes sickness and what should be done to promote health. For example, in the 5th century BC, Hippocrates, founder of modern medicine, argued that central to the cause of disease is individual responsibility; an individual is responsible for allowing him or herself to get sick.

The Greeks placed great emphasis on the effects of individual irresponsibility for illnesses or poor health. The Greeks believed that the basic substances of the body, the fluid-like humors, controlled health and illness. The four substances or bodily fluids were blood, phlegm, black bile and yellow bile. The Greeks believed that when a person was healthy, the fluids were in a state of balance or equilibrium. Illness, therefore, was believed to occur when one or more of these humors got out of balance and thereby upset the equilibrium.

Treatments for poor health were directed at determining which humor(s) were out of balance and administering

treatment to correct the imbalance. Tempkin (1949) acknowledges that to the Greeks, personal responsibility for health or the self was paramount, i.e., "The manner of life is within the power of the individual...[S]hould he become sick, he has himself to blame for it" (Tempkin 1949).

The concept of balance can also be found among most traditional health beliefs of Native Americans. Harmony must be maintained not only within one's self but also with the rest of one's environment. Harmony or balance was also signified in a number of other ways, i.e., the four cardinal directions, the four winds, the four worlds, or the four components of the Medicine Wheel (Joe 1994). Moreover, the four elements also signified a person's well-being (physical, mental, emotional and spiritual). Thus, at some level, some tribes believed that in order to maintain health, harmony or balance was necessary, just as there is balance among the other things such as the medicine wheel (Joe, 1994).

While harmony is balance, illness is not harmony. Illness can be the result of many things, natural and supernatural (man-made and/or as the result of some supernatural intervention). Illness therefore can also be traced to the actions of an individual or actions of others.

These actions can take two forms, one as a result of sorcery or witchcraft or actions of others (who want to do

you harm), or as the consequences of personal wrong-doing or inappropriate behavior (Garro 1990). In fact, most tribal taboos and other tribal practices were taught and enforced to prevent illness or misfortune (Joe 1994). Beside breech of taboo, other explanations for illness or misfortune fall into the realms of either natural or supernatural causes (Joe 1994). Natural cause might be an injury while a supernatural component of that might include someone wanting to do you harm, i.e., "arrange" the accident.

Galen, a disciple of Hippocratic medicine, wrote that the maintenance of health is attributable to things taken into the body, i.e., food, drink, and air. He stressed physical activity to promote health, activities such as massage, walking, gymnastics, sleep, and sex (Tempkin 1949). According to Tempkin (1949), Galen also stressed moderation and thought if all the activities listed were done in moderation, one was more assured of health. In other words, reckless persons could be morally culpable.

Because of his prescriptions for a healthy lifestyle, Galen is often credited with advancing the theory of health promotion and defining health risk behaviors (Tempkin 1949). This view on personal responsibility on regulating one's diet or exercise is applicable to ideas of today that encourage individuals to manage stress or drug use in order

to remain healthy. These health messages of today also see individuals responsible for their own state of health.

The influence of personal responsibility and balance or moderation continued throughout the middle ages. For example, in 1543, Golurot wrote that diseases occurred from excesses of "meat and drink, of sleep and waking, of labor and ease, of fullness and emptiness, of the passions of the mind and of the immoderate use of lechery" (Shar 1979: 15).

Failure to be responsible for the self, however, was not the only explanation. Illness was also believed to be caused or influenced by God. This explanation became another reason to care for the self responsibly. A new emphasis for the preservation of health was one's accountability to God. Self-responsibility was viewed as "Godly" while the lack of control or irresponsibility was "ungodly" because it corrupted health. Some of these beliefs were carried into the Americas when the Europeans arrived and colonized many native peoples. Europeans also brought new diseases to the new lands, diseases for which the native peoples had no immunity.

Shortly after Columbus' arrival in America, cycles of epidemics scorched the land and rapidly depopulated the native population (Joe 1994). With no immunity to these diseases, many tribes were completely decimated while in other cases, only a handful survived. Native healers and

native medical systems were ill prepared to deal with the new diseases. Previous methods of healing, including sweat lodges, cold water baths, herbs, and spiritual healing were useless in the face of communicable diseases.

Today, most chronic health problems and infectious diseases experienced by contemporary Native Americans are treated by the modern medicine. In some Indian communities, however, tribal healing practices continue and often supplement treatments offered by modern medicine. Although herbs and other treatments are used, a significant use of traditional tribal healing is for emotional or spiritual health.

Thomas Percival wrote in 1803 that illness was the result of ignorance or intemperance of habit, a state, he thought, individuals brought upon themselves (Tempkin 1949). Percival, according to Tempkin, advocated education and development of a self-interest in keeping healthy. This idea of prevention extended into the 19th century and has been coupled with the viewpoint that society also has responsibility to maintain the health of its population.

A series of national policies has been enacted to protect the health of people, especially against habits and styles of living deemed injurious to health. The policies passed, such as requiring the use of automobile seat belts and requiring childhood immunizations are enacted to protect

the population. Such development is reflected in what Scheper-Hughes and Lock (1987) call body politics. Body politics have become an artifact of social control, i.e., the government taking control over individuals' health behaviors for the good of the country.

The increased role of government in personal health emerged out of the Industrial Era, when workers' health became important because ill health adversely affected production. If workers are ill, they do not work, and the work does not get done. According to Ellich (1987), the medicalization of the body promoted the body politics more than any preceding form of social or political control. The fundamental shift away from individual control to social control became a part of society.

The paradigm shifted from one that respected individual body ownership to one that included societal ownership. This shift has had many far reaching implications. For example, the states' interest and authority over individuals' health or ill health served to promote the political view that bodies were seen as resources and these resources must be kept healthy in order to ensure a productive work force. Maintaining a healthy work force became important for the national interest, the nation's economic interest; became a new political tool. One has only to look at unions, union strikes, and labor issues to understand how the body has

become a commodity. The body, however, is more than a political commodity, it is also a cultural domain. For example, Harkin (1994) states:

> The body is the phenomenal field which the contest of cultures is most immediately and powerfully enacted. Domination, resistance and transformation are played out in bodily practices, beliefs, representations and ways of being....For this reason the body constitutes a highly contested cultural domain (p: 163).

This view of the body embraces the concept held by Western or modern medicine, and is therefore a part of the modern health care delivery system serving a significant number of Native Americans. In other words, modern medical approaches are the only approaches seen as important for Native Americans. The approach is an integral part of the federal government assimilation efforts for the Native Americans. Harkin (1994) also explains that under colonization the "Europeans deployed a three-part strategy of subjugation...[these] were the biomedical clinic, the Protestant theology of discipline, and the carceral institutions, including jail and residential school..." (164). Each deployment pursued a strategy of isolation and control. These social/cultural/political forces resulted in a devaluation of the traditional health resources and ideas held by many American Indians.

For example, because they are often at the center of most religious and healing ceremonies, individual healers

were among the first to became targets of oppression by missionaries and government officials. The healers were labeled as heathen witch doctors who were barriers to progress and, therefore, had to be discredited wherever and whenever possible (Joe 1994). The alliance between medicine and religion further isolated and condemned traditional Indian medical practices.

Tolerance and/or fostering of traditional or indigenous healers has improved in recent times, but not until after some tribes lost all aspect of their traditional medicine or medicine people. Because these developments happened in other countries, the World Health Organization, in one of their reports stated that, "it is axiomatic to the social sciences that health and illness are not simply matters concerning human bodies and their functions. Rather these states and the transition between them represent a complex interplay of physiological conditions, the cultural structures which give them meaning and the social organizations and interactions within which they are situated" (WHO 1986). Because culture or the "cultural structures" framing each society's notions of wellness or unwellness differ greatly, there is no one health risk or behavior that is applicable to all tribal groups or to all races. In other words, not every society responds to the same illness in the same way. Joe (1994) notes, for

example, the problems Native Americans have with chronic diseases:

> The importance of traditional Indian healing has been particularly noted for a variety of "new" health problems faced by Native peoples. Diabetes, cancer, hypertension, alcoholism and other forms of chronic health problems are relatively new to most Indian communities but represent health problems for increasing numbers of Native Americans....A greater share of the health problems today are the consequence of unhealthy lifestyles rather than substandard health care. Accordingly, many Indian tribes are now searching for ways to teach and instill in the young the need to improve their nutrition, participate in physical exercise, and more importantly to view themselves more positively. (Joe 1994:537)

What has brought about such fundamental changes or the increase of chronic diseases? What can be done, for example, to lower or manage the ever increasing rates of cancer? These questions have been asked by a number of researchers as they search for answers for American Indians as well as for other minority groups. The answers are important because all these groups share in certain risks for chronic diseases such as cancer. But to effect changes, understanding the cultural world of these groups, including American Indians, is important. Interventions must be culturally appropriate.

Today, community programs aimed at cancer prevention and treatment focus on identification of risk factors. One such instrument used is the Behavioral Risk Factor Surveillance System (BRFSS), which has been developed and utilized since

1985, by the Centers for Disease Control (CDC). Certain risk factors are included in the BRFSS, i.e., current health practices, such as whether one uses seat belts, smokes, drinks, or drinks and drive, is over weight, has hypertension, and/or has a sedentary lifestyle. Most of these risk factors are cancer-related.

Even with the BRFSS, other data for American Indians showed that many health problems faced by this population are related to unhealthy lifestyles (Rhodes et al., 1987; IHS 1990).

CHAPTER 4

DIETARY RISK FACTORS AND CANCER OCCURRENCES

> There is now a growing body of evidence to show that low intakes of Vitamin A food sources and/or Vitamin A precursors (e.g., carotene) are associated with increased risk of lung cancer, especially among heavy smokers. (Burhansstipanov & Dressler 1993:14)

Extensive studies suggest that cancers common to affluent industrialized nations have external causes and are preventable. However, most common cancers found in the United States are not attributable to industrialization but to various other related long-standing features of lifestyle habits (Burhansstipanov & Dressler 1993). Lifestyle choices such as smoking are seen as major causes of cancer. Smoking or Tobacco use is a combination with other risk behaviors further increases the chances of getting cancer.

Nutrition is among a number of risk behaviors that play a role in preventing are encouraging the development of cancer. Numerous studies have shown a direct relationship between diets in affluent societies and incidence of breast, colon and cervical cancers. Studies have also shown diet associated with cancers of the esophagus, stomach, large bowel, lung, and prostate (National Research Council 1989).

Moreover, research has also identified lifestyle change and acculturation as an important factor in prevalence of cancer among non-western populations. While unhealthy diets have been associated with some types of cancer, it has been

difficult to demonstrate how diet helps prevent cancer (National Research Council 1982). Diet and cancer are also key issues for the American Indian populations, partly because colonization forced unhealthy diet changes upon the Native Americans. In addition, poverty and a long history of forced dependency have placed many American Indians at risk for developing cancer. This chapter examines some of these issues and seeks to answer what effects, if any, diet changes have had on American Indians and the prevalence of cancer. To better understand how diet influences cancer development and progression, a brief overview of the cellular function of the body is mentioned here.

Cellular Function

Bodily functions occur because of orchestrated functions within the cells. The ability of the body to function depends on how well the cell itself is nourished. A healthy cell is maintained when there is a balance of water, amino acids (proteins), fatty acids (fats), sugars, minerals and vitamins in the body cells. During the early stages of cancer, a human cell is exposed to a mutagen or initiator that interacts in each cell with the DNA and disrupts normal cell regeneration. "Most carcinogenic initiators (a substance or agent that can start the process of carcinogenesis) is therefore created within the body as a result from "metabolic activation" (Burhansstipanov &

Dressler 1993). Diets and/or nutrients therefore can encourage or prevent some of the abnormal cell mutations.

Most foods are defined as a mixture of chemicals. These chemicals have specific functions. Some can be carcinogenic by stimulating the production of carcinogenic cells. Other nutrients can be anti-carcinogenic and thereby inhibit one of the enzymes that produces carcinogenic cells. Some of these nutrients therefore serve as antioxidants and prevent or reduce carcinogenic substances in the body.

Researchers began approximately 20 years ago to concentrate on dietary studies. One study conducted in 1977 estimated that "diet was responsible for 60 percent of the cancers in women and 30-40 percent of the cancers in men" (Wynder and Gori 1977). Another study released in 1981 reported that "approximately 35 percent of all cancer mortalities in the United States can be attributed to unhealthy diets" (Doll & Peto 1981).

Specific Dietary Habits Related to Cancer Occurrence

Certain dietary habits have been linked to specific types of cancer. For example, low intakes of Vitamin A and B complex have been known to occur more frequently with lung, esophagal, and oral cancers (Breslow & Enstrom 1974). Colorectal (colon and rectum) cancers are also believed to be the results of high-fat diets. Risk for breast cancer is

thought to be encouraged by high caloric diets with high fat intake and possibly alcohol (Adelcreutz 1982). Cancer of female reproductive systems (ovarian, cervical and endometrial) also show some linkages to dietary patterns. Gall bladder cancers have been associated with high fat, high calorie diets as well (Fraumeni 1975). Persons who consume large quantities of alcohol or foods contaminated with aflatoxin (a mold present in peanuts and peanut products) are also more likely to develop cancer of the liver (Alpert et al., 1971). The occurrence of pancreatic cancer has suggested some possible association with high consumption of fats and oil, sugar, animal protein, eggs, milk and coffee. However, it is not clear how these foods increase the risk for pancreatic cancers (Blot et al., 1978). Prostate cancers are thought to be increased by high intakes of fat and animal protein foods (Armstrong and Doll 1975). Stomach and gastrointestinal cancers on the other hand, may be increased with frequent consumption of smoked foods, salt pickled foods and foods containing nitrates.

Dietary Habits Which Inhibit Cancer

Dietary fibers (fruits, vegetables and whole grain foods) are known to have a protective effect or lessen the chance of cancer. Certain vegetables, for example (foods from the cabbage family) are thought to lower colorectal

cancers (Arbman, et al. 1992). Healthy diets high in fiber also lowers the risk for esophagal cancer (Breslow & Enstrom 1974). Intake of foods high in retinol and carotene (forms of Vitamin A) are also thought to provide protection against squamous cell tumors, a type of tumor cell most frequently associated with cancers of the female reproductive system. Studies have shown that Vitamin C and folacin (Vitamin B complex member) are also associated with the decreased risk of cervical dysplasia (abnormal cell development, precursor to cancer) (Elwood et al., 1977). Vitamin C and consumption of fresh fruits and vegetables rich in Vitamin C have been found to be protective and reduce risk of stomach cancer (Amijo & Coulson 1975).

In summary, a healthy diet low in fats and calories but high in fiber, i.e., fruits, vegetables and whole grain products can significantly improve one's health and serve to diminish the risk of cancer.

Historical Dietary Review

Risk factors associated with diet are increasingly well known but is this knowledge being utilized? The answer obviously is complex and may not be the same for all cultural groups. Food is often defined by a culture and is an integral part of each culture. For American Indians, European contact greatly changed the native populations lifestyles, health, and nutrition. It has been believed

that after the initial contact, American Indians starved and became dependent on the colonists' aid to survive (White 1983). But this was not true. Another common assumption has been that "under-developed" societies, once associated with more technologically advanced societies, also enjoyed an improved diet and improved nutritional status. Other studies however, suggest that although contact with a more economically developed culture does lead to changes in diet, improvement is not necessarily ensured (Kopp 1986). This is seen clearly in the fact that prior to European contact, American Indians were generally physically healthy, and were well-nourished people (Crosby 1984). The arrival of European diseases and catastrophic epidemics drastically altered this situation. Throughout the colonial period, American Indian communities were constantly in upheaval. Hunting and gathering was not always possible because some tribes were relocated, and access to hunting areas was not allowed. The advent of trade (fur, for example) caused widespread environmental and ecological change as well. The pursuit of game animals became the pursuit of furs for trade.

Reservation System and Relocation Affect on Diet

During the 1800s, the political status of tribal nations was redefined as "domestic dependent nations" (DeLoria &

Lytle 1983). The assault on tribal sovereignty by the United States government meant further forced relocation and intense cultural genocide if tribes refused assimilation. Tribes were stripped of their political power and identity, and "lumped" into generic category as "Indian." Tribal nations were further reduced to "dependent" status and forced to rely on the federal government for survival (Foreman 1953).

Prior to colonization, the American Indian dietary patterns included local game and vegetation. Religious practices and beliefs often times included sacred categories for certain food sources, i.e., buffalo or corn. Once relocated, many tribal nations were unable to, or not permitted to, hunt, fish or gather their food staples freely. The deprivation of accustomed seasonal diets and food in the relocation sites forced Indians to accept other foods.

By 1879, most tribes were located on reservations or were in the process of being placed on reservations. Malnutrition became rampant, especially among children and infants (Burhansstipanov & Dressler 1993). For example, Bosley notes: "the sight of pot bellies, stooped shoulders and winged scapulae was common place" (1959).

The Indian Office in the U.S. War Department was responsible for managing Indian reservations. The U.S. Army

therefore handled the rations of food to tribes on reservations. Foods available often consisted of moldy beef, flour, sugar and coffee. Because the federal food assistance programs provided only "White man's staples or foods," traditional Indian foods were not available. Thus, "Indian families lived partially on Army rations - primarily coffee, flour and sugar" (McWitt 1962).

Because of these forced food changes, poor health proliferated. A graphic example of this is seen in the following excerpt:

> The malnutrition, exposure and starvation resulted from the destruction of traditional Kansa (a tribal group) ways of life. Although in exchange for land cessions the Kansa were assured the minimal necessities of life by treaties with the U.S. government they did not receive what was due them. What happened after the treaties between 1828 and 1872 is chronicled in reports by the U.S. government:
> April, 1828: "Starving condition, truly deplorable."
> January, 1831: "Remarkable improvidence."
> September, 1838 "None of the comforts of neighboring tribes."
> February, 1846: "Very ill with autumnal diseases"
> February, 1848: "terribly destitute"
> August, 1855: "Have lost all confidence in each other due to destitution."
> October, 1861: "Many are sick and without clothes."
> April, 1862: "Completely destitute."
> June, 1862: "Many deaths for want of medicine"
> January, 1866: "Completely destituted."
> February, 1868: "Completely out of blankets and food... have disposed of all saleable property and have exhausted their credit."
> February, 1869: "We now ask, shall we starve." (question posed by nine chiefs and ten warriors)
> March, 1872: "Absolutely destitute; are living on a little corn and dead animals they can find lying around" (Thorton 1992).

Poor nutritional status and poor health became prevalent. Today, as nutritionists attempt to address diet or reduce health risks, they are reminded that "it's important to remember that the indigenous health concern identified should be of interest to the nutritionist in relation to existing intervention priorities and program strategies" (Nichter & Nichter 1980). The Nichters also state that "it is important to appreciate that a number of indigenous health concerns coexist in any culture and that these health concerns influence both the structure and content of dietary patterns" (Nichter & Nichter 1980).

The Dawes Act

In 1887, the Dawes Act was passed. It called for division of Indian lands and assigned certain plots designated to individuals. Indian lands not assigned were made available for non-Indians (Burhansstipanov & Dressler 1993). Severe overcrowding on homesteads resulted and the land assigned was insufficient to sustain a family.

In theory, the plots would not only provide the Indians with an occupation but also provide them food. But as Bosley writes: "Indian attempts [however] to farm were largely unsuccessful because the arid climate and nutrient poor soil on reservations limited their ability to raise food crops or provide other adequate means of self support" (1959). Even among agricultural groups such as the Five

Civilized Tribes, where farming was an ancient practice, there was minimal success. In addition, laws were passed and imposed upon Indians to reduce their incentive to farm. For example, "the more an individual worked, the more the Indian agent would slash his rations, a situation that led to further suffering and malnutrition" (Campbell 1993).

Within a generation, the Indians "were stripped of their land and were rescued from starvation only through public charity" (Debo 1990). Campbell notes that the historical reality of reservation life "is that health levels were intimately linked to the reservation political economy and that ill health must be conceptualized as a societal event with ideological, political and socioeconomic dimensions" (1993). The imposed reservation infrastructure produced rapid changes in "...settlement patterns, social organization, political-economic structure, diet and ideology" (Campbell 1989).

Twentieth Century Dietary Change

Diet change for Native Americans continues into the twentieth century. Prior to this, cancer was rare among American Indian populations (Hrdlika et al., 1908). Once the traditional way of life was destroyed, dependence on "White man's foods" continued, and cancer, as well as other chronic diseases, increased among American Indians. After

enduring generations of deprivation, near starvation and sub-standard living, is it any wonder that endurance and health status were affected?

In 1928, the Bureau of Indian Affairs report singled out the meager food supply as the most important factor affecting the health of Indians. Diet staples included meat or fish, bread, beans, sugar, and coffee or tea, but no milk or eggs. Vegetables and fruit were eaten by some tribes that raised corn, squash, and melons or gathered wild fruit, roots and nuts in season, but generally, the reservation diet lacked quantity and quality (Burhansstipanov & Dressler 1993). The Meriam Report of 1928 noted the presence of malnutrition on reservations and in Indian boarding schools. In the 1930s, the Navajos ate primarily mutton, coffee, wheat flour and potatoes with occasional canned or fresh fruits and vegetables (Kopp 1986). The Navajo chairman in 1930 noted, "They do not eat bear, turkeys, fish, pork or eggs because of taboos against them. The substitutes for their old-time foods are chiefly coffee, sugar, canned goods and white flour pan-bread, with mutton or goat meat" (Osborne 1966). However, based on reported "overgrazing" of tribal lands by Navajo herds (sheep and goats), the Stock Reduction Act began in 1936 (Iverson 1989). "Hundreds of sheep and even goats (the milk producer for Navajos) were driven into ditches and killed by government officials

without giving the Navajos the opportunity to dry or store the meat" (Boyce 1974). "The subsistence diet lost its ample supply of animal protein and the minerals from organ meats, which had played a central role in the traditional diet" (Kopp 1986).

By 1987, the leading causes of death among Native Peoples living on reservations were heart disease, cancer, injuries, stroke, liver disease, diabetes, pneumonia/ influenza, suicide, homicide and chronic lung disease (Healthy People 2000, 1991). Diet, as illustrated, has undergone drastic changes and became a key factor in the increase of chronic health problems of American Indians. Alcoholism can also be included along with other nutrition-related problems because it is associated with liver disease and poor eating habits (IHS 1991). Alcohol abuse is a major risk factor for cancers of the mouth, throat, esophagus, large bowel, pancreas, liver, kidney and breast. Today, despite increased knowledge about diet and cancer, Native Americans have been slow to incorporate or adopt healthier eating habits. This problem is increasing annually throughout Indian country.

Present Day Dietary Patterns: Commodity Foods

In 1936, the U.S. Department of Agriculture began distribution of "commodity foods" to needy families of all

races. This was the first food program open to Native Americans on reservations. Distributed were rice, cornmeal, flour, dry beans and non-fat dry milk. These became and continue to be staples in many low-income homes. Over the years other foods have been added to the commodity program, until by 1977, 20 food items total were on the list. Additional foods included sugar, syrup, peanut butter, dried beans, rolled wheat, butter, and cheese, along with limited amounts of canned products (fruits, juices, meat or chicken, vegetables) and macaroni, cereals and dehydrated products (Kopp 1986). Families received an average of one-half of their total food requirements for the month. They were expected to raise, grow, produce or purchase the other half of the food they required.

The government surplus foods distributed to Indian families are not nutritious. The original selection of commodity goods supplied only fifty percent of the recommended nutrient levels (except for Vitamins A and C) required to maintain health and prevent disease (Burhansstipanov & Dressler 1993). The "loss of minerals that occurred when natural products were replaced with refined commodity products possibly could be compensated for by adding animal rich foods; however, many families lacked adequate meat sources and therefore were forced to supplement the donated food with refined flour and fat

(e.g., fry bread) and with protein from plant sources (Kopp 1986). Thirty-seven percent of the calories in this diet come from fat, and fiber content is minimal (U.S. Accounting Office: Food Assistance Program, 1989). Current USDA commodities now include surplus and government purchased foods and this selection provides 101 percent of the RDA requirement for calories but 34 percent of the calories come from fat (Nutrition and Dietetics Section, Indian Health Services 1990).

Today Native Americans and Indian health officials express concern about the high sodium and fat content, the limited variety of commodity food items, and the need for expanded nutrition education (Burhansstipanov & Dressler 1993). Additionally, "with one out of every four households on reservations having at least one family member on a special diet, commodity foods fail to meet these needs" (Usher et al., 1990). "Even though these foods improved the diets of many American Indians, insufficient variety and quantities of nutrient-dense foods have contributed in part to the health problems, low birth-weights of infants, shorter but heavier children, and increased mortality rates observed among Native American for the last twenty-five years" (Burhansstipanov & Dressler 1993).

Food Stamps Program

In 1977, the Food Stamps Act created the FDPIR, or Food Distribution Program on Indian Reservations. In 1990, approximately 65-70 percent of Native Americans living on reservations received either food commodities or food stamps, according to a recent USDA report. Most of the households were poor by any conventional standard and experienced transportation difficulties (Usher et al., 1990). Kopp writes that, "Only those families who own vehicles can drive to off-reservation communities to purchase groceries of any kind" (1986). Lack of transportation adds to the problem of access to grocery stores, etc.

Food stamp recipients frequently purchase foods that are high in fat, sodium and sugar but low in nutrients and fiber (Burhansstipanov & Dressler 1993). Thus, unless the purchaser (Indian food stamp recipient) is well versed in nutrition and dietary needs, poor choices can dominate the diet. In addition, food stamp recipients, as well as commodity food recipients, are not given enough stamps or food to provide meals for a full month. Healthy foods are often not available in local stores, or, if available, they are priced out of the budget of food stamp recipients, who must stretch their stamps to cover the whole month's food supply.

Adverse Effects of Commodity and Food Stamp Programs

Food stamps and commodities fall short of meeting nutritional requirements. In addition, inappropriate use of food stamps may prevent the purchase of nutritious foods. The USDA commodities program attempts to provide a variety of food to meet the nutritional standards recommended by the 1990 Dietary Guidelines or the five food groups, but fails to do so. Until recently, USDA commodity foods, such as canned vegetables and meats and luncheon meats, contained high levels of sodium (Burhansstipanov & Dressler 1993). Even the USDA has acknowledged that the sodium levels were five to eight times greater in some canned meats and vegetables, and 15 times greater in luncheon meats, than the levels recommended. However, the USDA has not substantially lowered the sodium content of these foods. When the Surgeon General's 1988 Report recommended a reduction of sodium, the USDA responded that when new foods were added to the commodity program, the sodium, fat and sugar contents would be evaluated and reduced when practical and economically feasible (GAO 1990).

Summary

As the process of conquest occurred and was followed by numerous failed attempts at assimilation of Native Americans, they suffered extreme hardship and deprivation.

Culinary ethnocentrism based on the dominant population became a tool of "civilization," and use of traditional tribal foods was not encouraged. Food was used to control American Indian populations. Large, for example, wrote that, "the logic was perfectly consistent: rather than drop everything and go to outlying camps to collect a seasonally abundant resource, which might need to be preserved by smoking, drying or fermentation, it was preferable to maintain a steady work pattern involving wage labor and the collection of resources closer to home" (1905).

The "Protestant Work Ethic" was a part of the process of subjugation in which the "body" of society was brought under the control of a total ideology focused on the body of the individual (Harkin 1994). This "humanitarian" regime demanded total submission to an external political and cultural order. The status of "dependent domestic nations" remains valid today. This dependency of American Indian populations has resulted in a state of ill health. The general processes of demographic change are well known (Thornton 1987).

Price notes that "Because the tasks of coping with illness fall heavily on family members and friends of an afflicted individual, there is a general need for access to cultural knowledge about ways to respond to different illnesses" (1987). According to Holland, stories and

cultural ways "encode cultural models of causation, extensive situational knowledge about an appropriate behavior when someone is sick, and a vast amount of cultural knowledge about types of treatments and health specialist" (1985).

CHAPTER 5

OBESITY AND SEDENTARY LIFESTYLE

AS CONTRIBUTING FACTORS TO CANCER OCCURRENCE

> First, there is a belated recognition that disease patterns have changed from infectious to chronic diseases especially cardiovascular disease and cancer, and that medicine is relatively ineffective in terms of providing a cure for these dread maladies ... By the end of the decade an "everything causes cancer" humor had become a cruel joke. (Crawford 1978:449).

In 1987, researchers reviewing studies on caloric intake, body weight and cancer found most reported "an association of high relative body weight and high caloric intake with an increased risk of cancer of the breast, colon, rectum, prostate, endometrium (lining of the uterus), kidney, cervix, ovary, thyroid, and gall bladder" (Albans 1987:204). However, the relationship between cancer cells and fat cells is complex. Dr. Albans' research indicated that "reduction of caloric intake and relative body weight may lead to a considerable decrease in cancer risk...also that total caloric intake was an important determinant of tumorigenesis (tumor formation) and that body weight may be a more sensitive indicator for this effect than is caloric intake alone" (Albans 1987:204).

Other researchers have found that "obesity has become increasingly prevalent among Native groups" (Burhansstipanov

& Dresser 1993:7:30). Minimal exercise was reported by a majority of American Indian men and women who participated in the Behavioral Risk Surveillance System survey (AHCPR 1991). In order to prevent or reduce obesity, exercise is essential. Researchers like Harris, for example, state, "there is now ample evidence of the multiple health benefits of regular physical activity and how it helps to prevent obesity and several of the major chronic diseases, such as coronary heart disease and diabetes" (Harris et al., 1989: 42). In addition, "regular physical activity has also been associated with lower rates of colon cancer" (Powell et al., 1989). Exercise and the resultant reduction or prevention of obesity have also shown that "physically active people outlive those who are inactive" (Paffenbarger et al., 1986). Also, regular physical exercise has been found to assist and help maintain "the functional independence of older adults and enhance the quality of life for people of all ages" (Katy et al., 1983).

The knowledge that exercise promotes health and lack thereof is a detriment to health is not new. In the ancient Greek world, there was a belief that food and exercise in moderation promised better health (Reisner, 1982). Galen, in Ancient Rome, therefore advocated for careful regulation of food and activities (Reisner 1982). In 1543, Golurot advocated the following:

> Drinke not much wine, sup light, and soone arise
> When meate is gone, long setting breedeth smart:
> And after-noone still waking keepe your eyes.
> When mow'd you find your selfe to Natures Needs,
> Forbaare them not for that much danger breeds,
> Use three Physicians still: first Doctor Quiet
> Next Doctor Merry-man, and Doctor Dyet. (Sigerist, 1956:24).

The popular idea promoted moderation in everything, particularly eating and drinking, so as to "keep body and soul together" (Cornaro 1558:26).

The concept of "Godly bodies" was partly shaped by Hellenized Christianity, which viewed the Ungodly body as the seat of unreason, passion and desire (Turner 1982:20). In other words, the flesh was the symbol of moral corruption and of that which could threaten the order of the world. The flesh had to be subdued by self discipline; that called for a strict regimen of diet and abstinence (Turner 1982:20). Health, and healthy bodies, on the other hand symbolized self-control, self-denial and health. The Seven Deadly Sins developed by Gregory the Great (540-604 AD) included vainglory, anger, envy, dejection, covetousness, gluttony and fornication. Crawford states:

> Perceptions and beliefs about the physical experiences are frequently vehicles for explaining social and emotional experiences, just as emotional and social life provide explanations for the life of the body. Emotional and social well-being find their confirmation in the body and bodily states and...make sense in terms of social and emotional occurrence. (1978:77).

In other words, a person's adherence to his or her religion could be judged by his or her appearance. "Fat became a confirmation of the loss of control, a moral failure, a sign of impulsiveness, self indulgence and sloth. People who are overweight are slovenly. They are unhealthy on purpose" (Crawford 1978:71). Viewpoints such as these were common and continue today.

During the Industrial Revolution, personal control of one's body became a popular concept. As Turner indicated: "We conceive of public order dualistically, that is to say, as the rule of mind over matter, or of reason over the senses...we need to discipline our bodies to achieve excellence" (1987:22). Protestants, for example, sought not only to reject the world but to master it by discipline, regulation and a systematic lifestyle (Turner 1987).

This ethic became critical to the development of scientific medicine and the scientific model of the 19th century. Sylvester Graham (inventor of the Graham cracker) preached that "Moderation in life, the use of exercise, cold showers, fresh air, and a diet of coarsely ground whole wheat bread, fruits and vegetables would prevent illness and keep health" (Reisner 1982). The Protestant ethic emphasized activism and achievement; idleness was regarded as dangerous because it could lead to moral decay (Turner 1987).

American health teachings and literature of this period stressed gyms, spas, and hygiene as ways to keep disease at bay. Ideas of this period more or less formed the anthropocentric centered world view. Charles Horton Cooley spoke of this as the "looking glass self." In short, what one sees in the mirror, others also see. In other words, a "body image" creates the fundamental bond between self and society. Foucault suggests that the early concern for health followed "not only an interest in nutrition but also self-help--so that the sick person could treat himself or herself by following a certain diet" (Turshen 1976:31).

At the time of the European contact, there were no problems with obesity or sedentary lifestyle for most Indians. Native American diets utilized numerous food sources. Cooking did not involve frying, but instead utilized roasting, poaching, baking, and stewing (Burhansstipanov & Dresser 1993). Many foods were eaten raw or with minimal preparation; thus, important vitamins and nutrients were not lost or damaged. Exercise was also a part of daily life. However, once the tribal nations were placed on reservations, the resultant lifestyles promoted obesity through sedentary activities.

Missionaries moved into Indian country to convert the Indians, to civilize them, and to make them Godly. The aboriginal lifestyle of hunting, gathering and living off

the bounty of the land was seen as lazy, slovenly and non-productive. Ideas of capitalism, i.e., production, economic value and individual wealth were forced on the Indians. The concepts of communal living, land ownership, and extended tribal families, were attacked. The missionaries' goals were to replace tribal values that foster subsistence economy and ceremonial economy (give-aways, potlatches, etc.) with European values. The emphasis on individual achievement became part of the pressure towards assimilation. Basic needs such as eating, drinking and sleeping became increasingly regulated. Disease and illness were seen as poor moral judgments or one's lack of character. In other words, he/she was responsible for the hardship and was expected to reform or conform to the social order.

Obesity does not appear to have been a problem for most Native Americans prior to the European contact. During the twentieth century, however, it has become a problem. The forced reservation period saw food stuffs such as wheat flour, beef, sugar and coffee became the primary foods distributed. Past dietary sources did not have these foods. A whole new diet and ways of cooking became essential for survival. The "traditional" Indian foods such as "fry bread" and "Indian tacos" actually are foods developed in the past 100 years. These and other foods are the result of

reservation rations. The same is true of commodity foods and recent food stamp allocations. Over the years, the rate of obesity has increased. Diet, obesity, and sedentary lifestyle are all interdependent. These, in turn, have predisposed American Indian populations to increased risks and chronic disease, including cancer. Unfortunately, many native people are still not convinced that excessive weight is associated with chronic disease (Jackson 1986; West 1974). Where there is education, Native Americans are encouraged to incorporate more of their traditional foods in their diet. These cultures have been slow to adopt healthier habits (Asetoyer 1992; Gregory 1989).

What connection does obesity have with sedentary lifestyle, diet and chronic disease? Crawford notes:

> Bodily states are key markers in which are invested the social definitions of the self - not only regarding role, but normality and abnormality, inclusion and exclusion, domination and subordination. The body is a universal model from which we attempt to explain and give meaning to larger social units and experiences (1978:60).

CHAPTER 6

STRESS AND ANXIETY FACTORS

IN CANCER OCCURRENCE

> Type A personality ... the cancer-prone personality ... and stress inducing lifestyles ... The American Cancer Society features stress in its list of warnings. (Crawford 1978:523)

Some feel that the major killers of today (heart disease, cancer and stroke) are primarily consequences of an unhealthy lifestyle. From this perspective, such personal factors as stress, improper nutrition and exercise and the abuse of alcohol and tobacco are seen as primary causal agents in the etiology of disease (Ratcliffe and Wallock, 1986; Golub). One researcher, Hans Selye, reports "that stress is causal, that the normal cells capable of destroying cancer cells are depleted during times of stress" (1988). If Selye is correct, then we each have not only the ability within our bodies to start or initiate (mutagen) cancer, but also to stop or prevent cancer.

The "cancer personality" has been described by Lawrence LeSahn, a psychiatrist studying the emotional life-history patterns of cancer patients. He found that these patients often reported difficulties with parents and inability to express anger" (LaShaw 1966).

Golub (1981) notes that psychological stress, especially in times of despair or depression, forces one to "turn-off"

their immune system and thereby giving the cancerous cells opportunity to grown and invade other cells. Simonton believes, that individuals use their bodies as vehicles to express self-destructive thoughts or feelings, either consciously or unconsciously, and thus "turn off" the immune system and "allow" cancer to take over (Golub 1981). If one can "turn-off" cellular action, then the opposite should be possible, allowing one to "turn-on" the immune responses. In essence, one could heal ones' self by reducing stress or psychological situations that precipitated the illness. This "power of the mind" has been called the will to live. However, other thinkers such as Susan Sontag, are adamantly opposed to these theories and believe it romanticizes cancer cures and places blame on the victim for becoming ill in the first place. Golub states, for example, that "cancer has become the disease of our age because it is a symbol of our desires and our abnormal expansion. Cancer is not the invasion of alien other into our bodies; it is our own bodies, turned unnaturally against ourselves. Cancer images disease as lack of control and is our century's battleground of free will" (1981:727).

If health is physical wellness or well-being, then is stress unwellness? Some unhealthy behaviors like smoking may be used to deal with stress. In one study, Litva and Eyles (1994) found that taking a "reasonable risk," in this case

smoking, was seen as a way to deal with a far worst threat to health - stress.

One could say if risk reduction (through behavior modification) aimed at smoking or diet induces too much stress, then it may be more detrimental to the individual than the behaviors they are seeking to modify. In the end, there has to be some negotiation between stress and other outcomes because inability to manage stress is a sign of individual weakness which potentially threatens the body's ability to resist illness (Litva & Eyles 1994). This perception of being psychologically weaker results in seeing themselves and being seen by others as not being "strong" enough to resist poor health behaviors. These views of health and being healthy are embedded in the cultural system and significantly shape health attitudes and behaviors (Litva & Eyles 1994).

Stress, however, has not been adequately examined for Native Americans. Chabon and McNeil (1996) highlight this concern:

> A recent national conference on anxiety disorders in Native Americans (National Center for American Indians and Alaskan Natives Mental Health Research, 1994) highlighted the paucity of data in the area. There is almost no empirical information available on problems with fear and anxiety [stress] as typically conceived that may be present in Native peoples. Moreover, anxiety and fear as may be unequally experienced by Native Americans has received very little attention. (1994:1)

Until more research is done we can not understand the impact of stress on health for the American Indian population.

CHAPTER 7

SOCIOECONOMIC CONTRIBUTORS TO CANCER

> The main features of poverty [which] impact the problems of [cancer] are [seen] in early detection, treatment, and survival of cancer among the poor. These features include unemployment, inadequate education, substandard housing, chronic malnutrition and diminished access to medical care (CDC 1995:386)

Roads, electricity and housing typically are inadequate. Further, there is often a lack of a trained work force" (Tribal Leaders Economic Summit, January 1993). Cancer in Indian country is directly impacted by a multitude of sociocultural and economic factors. "Development of tribal economies has been frustrated by a lack of infrastructure in Indian country said the tribal leaders at the Summit (1993:24).

Poor economic conditions contribute greatly to endemics of poor health. For example, Sigerist notes that economic factors determine the incidence of illness and that the problem of public health is ultimately political (1956). It is not surprising then that Tomatis (1995) finds cancer incidences and cancer mortality higher in underdeveloped countries (p. 21). Similar situations exist for American Indian populations. In a country considered to be the most affluent in the world, it is not clear why poverty continues to haunt America's Indigenous peoples.

In 1989, twice as many American Indians and Alaska Natives lived at or below the poverty level as did the U.S. population (all races combined). The poverty level for indigenous people was at 31 percent while it was 13.1 percent for the rest of the U.S. population (Burhansstpanov & Dressler 1993). Among the American Indian elderly, sixty-one percent live below poverty level (Network for Cancer Control Research 1993). The unemployment rate for Native American (age 16 years and older) was 14.4 percent while the U.S. rates was 5.2 percent (Department of Commerce 1992). The average family income on some reservations was as low as nine hundred dollars a year (O'Brien 1989). As recently as the mid 70s, 80 percent of the Navajo population still lacked electricity (Kopp 1986). In 1989, roughly two thirds of Indians living in rural areas did so without indoor plumbing (O'Brien 1989). Such figures and statements highlight staggering levels of poverty among American Indian populations.

Social inequalities have not disappeared. The gap between the rich and the poor is widening. In American Indian communities, the middle class consists of paraprofessionals, tribal employees and government workers.

According to recent figures, "There are at least 250 Indian lawyers, 30 doctors, 12 dentists, 225 Ph.D.'s and 100 Ed.D's (Fixico 1989). According to the 1990 census, 9.3

percent of American Indians nationwide possess a bachelor's degree compared to 21.5 percent of whites nationwide (Department of Commerce 1992). The unemployment rates for Indians living on reservations is higher than for urban Indians. According to the 1990 census, only 19.8 percent of all American Indians live on a federal reservation (Burhansstpanov & Dressler 1993). Large numbers of American Indians have been forced to leave reservations in order to obtain an education, training or employment. Geographically, about one-half of American Indians live in the West, with 27 percent in the South, 18 percent in the Midwest and six percent in the Northeast (Department of Commerce 1992).

According to Marx, capitalism "operates on the principles of the accumulation of capital and exploitation of wage laborers, which in turn determines both the kinds of health problems that will affect the population and the resultant organization of services developed to combat the health problems" (Morgan 1987:133). For American Indians, the major precipitating events of imperialism, colonialism, and capitalism have impacted health, economics and underdevelopment. Susser notes that, "chronic underdevelopment and cultural hegemony provide the basis of sociopolitical and economic origins for poverty and ill health. The inequalities in health are seen as the most

convincing ones present in social inequality" (Susser et al., 1985). Understanding the origin and persistence of poverty in Western Society is essential. For understanding the effects these have on health care paradigms.

It has been said that "poverty is not a direct cause of disease, but it is the main determinant of influences that lead to disease" (Winslow 1980:123). This is graphically illustrated in the data on American Indian poverty and the prevalence of chronic diseases. High and chronic unemployment alone, for example, is associated with poor health. Studies have shown that "total incidence and mortality from cancer at all [body] sites is greater in the lower socioeconomic groups with the highest incidence seen in the stomach, lung and cervix" (Tomatis 1995). In addition, "groups with a lower educational level also have higher death rates, which can be, to a large extent, explained by a higher prevalence of risk factors related to working conditions, material living conditions, lifestyles and ways of coping with stress, a spectrum which should be extended to include cultural factors" (Kunst & Mackenbach 1994:122).

In 1989, the American Cancer Society issued a special report to the nation that described the nature and extent of problems poor people endure when seeking cancer education, prevention, detection and treatment services in the United

States. The report summarized the five most critical issues related to cancer and the poor. They are:

> (1) Poor people endure greater pain and suffering from cancer than do other Americans.
> (2) Poor people and their families must make extraordinary personal sacrifices to obtain and pay for care.
> (3) Poor people face substantial obstacles in obtaining and using health insurance and often do not seek care if they cannot pay for it.
> (4) Current cancer education programs are culturally insensitive and irrelevant to many poor people.
> (5) Fatalism about cancer is prevalent among the poor and prevents them from seeking care (ACS 1989:332).

Drucker (1993) posits that "in many areas of the industrialized world [there are] re-created social and environmental conditions of the past century" (p. 124). This can be seen in the establishing of the "two-thirds society. "In a two-thirds society, marginalization and social degradation of the weakest third of the society is accepted and programmed. The weakest third of the society is composed of the unemployed, unqualified or semi-skilled laborers, migrant workers, the handicapped, the less gifted and the young who cannot find their place in the professional system (Glotz 1987; Galbraith 1992; Tomatis 1995). This statement provides a very apt and descriptive framework for the poverty and economic hardship which exist within American Indian populations. These are predisposing economical factors which lead to and are related to cancer occurrence among American Indian populations.

CHAPTER 8

LUNG CANCER EPIDEMIC: AN OVERVIEW

> During the twentieth century incidence and mortality from lung cancer rose in an epidemic pattern in the United States. Sharply increasing lung cancer mortality rates provided indisputable documentation of a new epidemic. (Samet 1995:561)

An epidemic is defined as the appearance of an infectious disease or condition that attacks many people at the same time in the same geographical area (Taber Medical Dictionary 1989). Cancer, not only by all reports, has reached epidemic proportions, but has come to be defined as the disease of our era. Golub states that cancer "is a symbol of our desires and abnormal expansion, although we have not created it to be sure, we are directly implicated in its growth" (Golub 1989:727). Golub also notes that some people believe "cancer to be either one's unfortunate fate or the result of genetic coding in interaction with certain aspects of the environment" (1981:728). In other words, malignancy is seen as part of the body gone wild, out of control or cells without inhibitions. Sontag writes, the cancer cells "will continue to grow and extend over each other in a chaotic fashion destroying the body's normal cells, architecture, and functions" (1978:14). The destruction of the body by cancer cells is associated with death, as seen by Aries, as he writes:

> Thus, in our world where everyone acts as though medicine is the answer to everything ...incurable diseases particularly cancer, have taken on the hideous, terrifying aspects of the old representations of death. More than the skeleton or mummy of the Macabres of the 14th and 15th centuries, more than the leper with his bell, cancer today is death (1975:140)

The epidemic of cancer in America and the feelings generated by this disease has captured the theme of many writers. Golub, for example, points out that a cancer victim is "a host to a parasite gone wild in its development, is [seen as] yoked to machines for detection and treatment, a situation that provides in us our deepest dread and our darkest dreams" (Golub 1981:729).

Ramirez and his associate claim there is "a scarcity of published data that specifically addressed cancer public health efforts aimed at minority populations." In the past, research on minorities and cancer has focused on descriptive or etiological studies that concerned themselves with cancer epidemiology or identification of risk factors for specific cancers (Alexander 1995:371). Alexander (1995) writes that special populations (defined as African Americans, Hispanics, Native Americans, persons of age 65 and above, blue collar groups and low income groups) experience high rates of cancer and are often underserved need special priority and attention (Alexander 1995). Such priority should include preventive efforts that entail an "upstream" approach so that results can be far-reaching and result in

sociopolitical and economic change" (Ratcliffe & Wallack 1986:232). Samet, on the other hand, notes that neither secondary nor tertiary prevention approaches have proven efficacious; so the focus should emphasize primary prevention (Samet 1995).

At the beginning of this century, lung cancer among any race was a rare disease for all populations. However, near the end of the twentieth century, lung cancer has become epidemic, not only in the United States but worldwide" (Samet 1995). Although occurrences vary in rate among racial and ethnic groups, no one is immune. Each year, approximately 150,000 new cases of lung cancer are reported within the United States (Samet 1995).

In the 1950s, lung cancer became the leading cause of death for U.S. males. In the 1980s, lung cancer mortality and incidence rates began to drop for white males. However, by the 1980s, lung cancer mortality began to include women and now lung cancer mortality for women is on par with breast cancer deaths. According to Samet (1995) lung cancer death rates for women climbed faster than for any other cancer and have yet to reach a plateau and that "lung cancer mortality for women now equals that observed for men 20 years ago. While death rates from lung cancer in males in younger age groups have leveled off and even begun to

decline, female rates have steadily increased (Horn & Kessler 1986).

Socioeconomics, cultural factors, family, community, and public heath strategies are all believed to contribute to these alarming statistics. The greatest risk, however, can be found in one word tobacco.

Tobacco and Cancer Occurrence

Cancer risk factors refer to agents or behaviors which by scientific evidence, lead to, increase or assist in the development of one or more types of cancer. Carcinogens can be man-made or result from natural chemicals in the body (NIH, Pub. No. 87-2059). It has been proven that if a cell is exposed to a carcinogen and given enough exposure, frequency and duration, a specific type of cancer will develop mirroring the type of carcinogen present i.e., tobacco and lung cancer. It is known that chronic tobacco use causes nearly 90 percent of lung cancers (Burhansstpanov & Dresser 1993). There are substantial data to support that chronic tobacco use has a causal role rather than merely being a "risk" for cancer (Burhansstpanov & Dresser 1993).

In the early part of this century, lung cancer appeared to be increasing. In 1939, two researchers, Oschner and Debakey, began treatment of lung cancer with surgical intervention. They removed the affected lung or portion of the affected lung (pneumonectomy). They noticed that lung

cancer was related to irritation of the bronchial mucosa (lining substance of the lung and its structure) from smoking (Samet 1995). Controversy over smoking and lung cancer continued well into the 1950s, when studies firmly provided evidence that cigarette smoking was "associated" with an increased risk of lung cancer (Wydner & Graham 1950; Levin et al., 1950; Doll & Hill 1962). In 1964, the most conclusive and definitive casual link between smoking and lung cancer was announced. An advisory committee to the Surgeon General of the United States concluded that cigarette smoking is causally related to lung cancer in men. The magnitude of the effect far outweighs all other factors. The data for women, though less extensive, points in the same direction (DDHS 1964). Tobacco smoke was determined to be carcinogenic and the Surgeon General report stated that the risk of lung cancer increases in direct proportion to the amount, frequency and duration of time smoked (Samet 1995; Burhansstpanov & Dresser 1993).

Cigarettes [the most common of tobacco use] are estimated to be responsible for over 400,000 deaths annually in the United States (ACS 1990). The habitual use of tobacco is estimated to be responsible for over 30 percent of cancers in people of all races (Burhansstpanov & Dresser 1993). Tobacco use, therefore, is responsible for more than one of every six deaths in the United States and is the

single most preventable cause of cancer (Doll & Peto 1981). Not only does tobacco cause 90 percent of all lung cancers, it also causes cancer in the following sites: larynx, oral cavity, esophagus, bladder, kidney, pancreas, and stomach (DHHS 1991).

In addition, women who smoke are at additional risk for developing cervical cancer (Burhansstpanov & Dresser 1993). Of those who smoke more than two packs per day, lung cancer death rate is fifteen to twenty-five times greater than for non-smokers (DHHS 1991). Of those who develop lung cancer nearly 90 percent die within five years of diagnosis.

Survival is dependent on early detection and treatment. However, most lung cancer patients are diagnosed when the cancer is advanced and difficult to treat. Because of this, the most successful treatment is prevention.

Prevention, however, has not been studied extensively. Samet declares that "effective primary prevention may require far more than simply dissemination of information on the causal agents" (Samet 1995:511). Alexander (1995) also calls for research on specific interventions to improve cancer rates in special populations (1995:371).

Current Research Focus

Four research projects were begun in 1990 and will continue for a five year period, addressing avoidable mortality cancer studies in Native Americans. Alexander,

from the National Cancer Institute, predicted that, "until the implementation of these cancer research intervention studies, there will be no substantial culturally appropriate cancer interventions for Native Americans" (Alexander 1995).

Samet (1995) points out that no alcohol-cigarette use studies have been conducted with Native Americans. This is important because other epidemiological data indicate that the combination of chronic alcohol consumption and tobacco use substantially increase the risks of cancers of the oral cavity, esophagus and pharynx" (Burhansstpanov & Dresser 1993). In order to better understand why such basic areas have not been addressed, one must understand, as Ratcliffe and Wallack, have stated, that:

> Of the known risk factors for lung cancer, tobacco smoking is nearly unique: it is addicting and it is widely and effectively advertised and marketed. The failure of knowledge of adverse health effects to fully control smoking has been well documented and has prompted the development of broadly based programs directed not only at individuals but at the social milieu. (Samet 1995:24)

This "social milieu" applies not only to dominant society but to minority populations as well.

CHAPTER 9

COMMERCIAL TOBACCO HISTORY AND ASSOCIATED HEALTH AFFECTS IN AMERICA

> Cigarette smokers are handicapped in all kinds of physical and mental contests...It is bad on the lungs and heart, it stunts growth...also causes bad eyesight and often tuberculosis. It also causes laziness. (Miles 1932:A-8).

Today, in North America, the number of cigarette smokers is estimated to be 46 million persons (≥ 18 years old) (Thomas & Larsen 1993). In 1990, 89.9 million (50.1 percent) of the U.S. adults were smokers or former smokers (CDC 1992). The prevalence of smoking is highest among persons between 25-44 years of age, among American Indians/Alaskan Natives and among persons with fewer than 12 years of education (CDC 1991).

Consumption of moist snuff (smokeless tobacco) in the United States also almost tripled between 1972 and 1991. Smokeless tobacco use among American Indian school children ranges from 18 percent in kindergarten to 56 percent among ninth and tenth graders (Bruerd 1992). Seventy-two percent of American Indian youth report to having smoked cigarettes, compared to 42.2 percent of non-Indian peers (OSAP 1991). In addition, the prevalence of cigarette smoking was higher among former smokeless tobacco users than among current users or those who had used smokeless tobacco (Glover et al., 1989). CDC also found the prevalence of smoking higher

among American Indian and Alaska Native men (33.4 percent) and women (26.6 percent) than among white men (25.7 percent) and white women (23 percent)(1991). Higher smoking prevalence among American Indians and Alaskan Natives may be related to lower education, lower income levels, alcohol use and/or traditional cultural practices that involve tobacco use (DHHS 1981; Schinke et al., 1989). Schinke and his colleagues estimated that each day, 3,000 persons in the United States start smoking, compared to 8,000 worldwide (Schinke et al., 1995).

These figures represent billions of dollars spent by tobacco users and tobacco companies, not only in America but worldwide. The amount of money involved reaches astronomical proportions; i.e., not only direct costs, such as tobacco growing, cigarette production and factory/industry jobs, but indirect costs are involved as well. Several examples of indirect costs include taxes generated by tobacco sale. The tobacco industry, in an adverse way, impacts the health care industry as a result of the high cost associated with the consequences of tobacco use. It is estimated that approximately 4.2 billion dollars are spent for smoking-related illnesses (quoted during a recent court arguments in Florida's Supreme Court). This legal action was filed by the state of Florida against the nation's largest tobacco companies, asking for health care

cost reimbursement to the state's Medicaid program (Schinke et al., 1995). The cost of health care needs related to tobacco use continue to rise nationwide. Tobacco use contributes to cardiovascular disease and cancer, two leading causes of premature death for American Indians and Alaska Natives (IHS 1990).

How can the tobacco industry become so ingrained in the American economy and lifestyle? The answer is that tobacco became the first economic development of new the colonies. In 1492, when Columbus arrived in America, he was given tobacco. Until then, it was a substance unknown to the Europeans. Legend has it that a native gave Columbus some dry tobacco leaves in San Salvador; he took these back to the Europe. By the 1500's, tobacco was popular in Europe, used for recreational or medical purposes (IHS 1995). The Spaniards set up large scale tobacco plantations in the Caribbean, using Black and Indian slaves. The plantations were to produce tobacco for European use. This was the beginning of the American tobacco industry. By the seventeenth century, tobacco cultivation and tobacco trade constituted a lucrative business, yielding fortunes greater than Spanish gold and silver mines (Mossiker 1976).

An Englishman, en route to the Jamestown settlement in Virginia in 1610, secured tobacco seed [Nicotiana tabocaim], a type of tobacco then growing successfully in the West

Indies. This variety was deemed sweeter than the variety grown and used by the American Indians for centuries. The English colonist who became the first European tobacco grower in America was John Rolfe.

John Rolfe married Pocahontas, daughter of Chief Powhatan in 1614. She, as a tribal princess, was given several thousands of acres of land as a marriage gift by her father (Donnell 1991). It was on this land that John Rolfe grew his first crop of tobacco, "Varina," the name he gave to the tobacco variety. Varina also became the name of Rolfe's plantation. Pocahontas assisted with the plantation because she was familiar with tobacco cultivation. Her tribe had cultivated ceremonial tobacco for many generations (Mossier 1976; Donnell 1990). The cultivation of tobacco for profit became the consuming interest of John Rolfe. It earned him the name of "Father of Tobacco" (Mossiker 1976). Understandably, Rolfe was a heavy smoker and a confirmed tobacco addict.

According to Bruce, Rolfe successfully launched the first American tobacco enterprise which became by "far the most momentous fact in the history of Virginia in the seventeenth century" (as cited in Mossiker 1976). Even today, tobacco, along with tourism and government, are the mainstay of Virginia's economy (Edlehart 1982). Rolfe's tobacco farming grew to dominate and regulate colonial life,

so much so that most settlers were growing tobacco as a "cash crop" to the exclusion of all else. The English government had to reprimand them and set "quotas," in order for the colonists to grow food as well (Mossiker 1976: Axtell 1988).

African slaves were brought into the colonies to work the tobacco plantations. Although Indians were or had been used as forced labor, they had proven unsatisfactory. The tobacco plantation and slavery came to define the Chesapeake Bay area and its society. Tobacco was grown and cured here, and then shipped abroad for processing into such products as cigarettes, snuffs and for "medical supplies" (Mossiker 1976:173).

It was from this region that William Byrd II, produced a pamphlet extolling the "healing properties of tobacco" for all manner of illness, including the plague" (Wright 1957). Wright summarizes that tobacco was used as a tonic, emetic, a "rub," an inhalant, a bath or steam product, ingested, and given in enemas. Fashionable ladies and men alongside those with less means, lit up and used tobacco in various forms as medicine. Children, by English Crown law, were forced to use tobacco so as to prevent illness (1957).

Along with the growth of the tobacco empire, a new aristocratic class also grew. Members of the founding fathers and other noteworthy First Families of America all

had some roots in tobacco plantations. Names such as Rollings, Blair, Lee, Marshall, Jefferson and Randolph are but some examples. These families including Thomas Jefferson, Robert E. Lee and John Marshall controlled the American tobacco industry.

In 1938, controls were imposed by Federal trade laws to establish allotments for tobacco cultivation. This followed the practice of subsidized payments to tobacco farmers. The new allotment program regulated who and how much tobacco could be planted in each county and state. Farmers were and are still paid a standard "rate" for tobacco if selling price falls below a set market level. Thus they are guaranteed payment even if they do not plant a crop on their allotment land. The allotment has become part of the land title and when the land is sold, the title is sold with the land. Tobacco states have a strong voice in American politics and are powerhouses when it comes to tobacco regulations. Thus, the tobacco industry has an extensive political clout (Axtell 1988; Mossiker 1976).

Modern Tobacco Industry Development

In 1881 a Virginian by the name of James Bonsack patented a cigarette-making machine that could produce 120,000 cigarettes a day (IHS 1995). Prior to this invention, the best a skilled worker could roll was four to six cigarettes a minute. The invention made possible mass

marketing of cigarettes. James Buchanan Duke of Durham, North Carolina, with the new cigarette-making machine expanded the tobacco market.

James Buchanan Duke founded the American Tobacco Company, a monolithic company, in 1890. In 1902 the English company of Phillip Morris set up business in New York with Marlboro as its principle brand (Schinke, et al., 1995).

While the tobacco industry was growing, the following obituary of General/President Ulysses S. Grant appeared in the New York Times:

> On June 2, 1884, while eating lunch at Long Branch the General, as he tasted some fruit, felt a lump in the roof of his mouth and found that swallowing was painful. The lump grew more troublesome day by day. The General was an inveterate smoker, and his cigar on the battlefield has become as much a matter of history as the story itself. To give up a life-long habit...was no easy task and the physicians, recognizing this fact, confined their advice to requesting him to limit his indulgence in tobacco. (Schinke et al., 1995:22)

Ulysses S. Grant was suffering from and later died from oral cancer.

In 1921, the state of Iowa levied the first tax on cigarette sales. Other states soon followed. Today, all fifty states tax cigarettes (Schinke et al., 1995).

In 1927, Camel cigarettes began showing women in its ads and by 1933 it showed women smoking Camel cigarettes. One of the most enduring and successful tobacco ad campaigns began in 1928: the campaign that helped increase smoking

among women. For example, George Washington Hill of the American Tobacco Company advertised: "Reach for a Lucky [cigarette brand Lucky Strike] instead of a Sweet." This message made "Lucky Strikes" the number one cigarette brand in the United States for over 30 years. The ad was aimed at women who wanted to lose weight.

In 1933, the Journal of the Medical Society of New Jersey reported, "We have become a nation of smokers, both adult and adolescent...laws have been forgotten and the tobacco magnates have been allowed to run wild at the expense of the health of our rising generations" (Schnike et al., 1995:45).

In 1941, Alton Oschner and Michael DeBakey (the famous heart surgeon) published a research report that found the incidence of malignant tumors in lung tissue had doubled over a period of 18 years, an increase that paralleled the increased sale and use of cigarettes (Oschner & DeBakey 1941). In 1945, Dr. Oschner, now with the American Cancer Society in New Orleans, Louisiana, coined "Smokers Cancer" for the epidermoid lung cancer he found in 98 percent of the lung cancer patients he treated (Oschner 1945).

During World War II, cigarettes were used as currency in the military because they were easily recognizable, fairly durable, divisible, hard to counterfeit, and readily transportable in the war regions. High cigarette use by

military personnel continued after World War II. In 1975, cigarettes were finally discontinued as a part of K-rations and C-rations distributed to sailors.

In 1950, Dr. Raymond Pearl wrote the following:

> The heavy smoker pays with 24.6 minutes of life for each cigarette he smokes. The pack-a-day smoker pays with 11.5 hours for each pack he smokes (1950:79).

Celebrities endorsing cigarettes became a popular ad form in the 1950's. For example, in 1953, Ronald Reagan began advertising Chesterfield cigarettes. President Eisenhower, on the other hand, did not smoke and was one of the first presidents to abstain from tobacco. However, in 1954, he did authorize shipping tobacco overseas in the "America's Food for Peace Program."

In 1959, the "Marlboro Man" ads came on the American scene. Marlboro, was originally planned as a woman's cigarette, complete with a red filter tip to hide lipstick marks. Once redesigned, Marlboro was released as "A Man's Smoke". A Phillip Morris executive explained, "We chose the cowboy because he's close to the earth. He's an authentic American hero. Probably the only one" (Schinke et al., 1995). Today, Marlboro remains among the top selling cigarette in this country, but all of the Marlboro ad men have died from smoking-related conditions, mostly lung cancer (Schinke et al, 1995).

In 1957, the first Congressional hearing was held on smoking and health and truth in advertising. The question was whether "filters" reduced cancer risk. The hearings concluded that filters were not as effective as claimed (Schinke et al., 1995).

In response to the adverse tobacco publicity, the Tobacco Institute was formed in 1958 by the major cigarette manufacturers. The Institute was established to refute the adverse publicity and declining sales. The Tobacco Institute centered its position on the inconclusive finding of the research evidence. The Institute launched a counter-attack, calling attention to the rights of individuals to smoke. To lessen the stigma associated with tobacco use, tobacco companies also began to diversify their holdings. By the 1990's, none of the tobacco corporations had the word "tobacco" in their corporative name. Companies such as R.J. Reynolds Nabisco, Beechnut Chewing (famous for gum), Brown and Williamson, Phillip Morris, etc., all remain major manufacturers of tobacco but do not freely advertise this in their name (Schinke et al., 1995).

As the controversy about tobacco and health has intensified, many of the major stock holders began to sell their stock. Some of these stockholders were: Harvard University, John Hopkins University, Prudential Insurance

Company, and Blue Cross Blue Shield Insurance (Schinke et al, 1995).

By 1964, it had become apparent that a commission was needed to review the dilemma of cancer and cigarette use. In the end, the Surgeon General's Report concluded that "smoking was causally related to lung cancer...and was a major cause of heart disease, chronic bronchitis, emphysema, and cancer of the larynx (Schinke et al., 1995). The Tobacco Institute spokesperson, however, remarked that the report was not the final chapter, and called for more research. The debate continues. For example, according to newspaper reports and television news, the United States government is again investigating the tobacco industry. Top officials of all major tobacco companies are presently under investigation for perjury.

Since the Surgeon General's Report of 1964, there have been drastic changes in the social attitude toward smoking. Tobacco advertising on television is banned. However, tobacco companies now "sponsor" public events, a new way for them to continue to advertise tobacco. For example, on June 16, 1989, at the Marlboro Grand Prix, Marlboro signs and logos were seen everywhere and announcers referred to Marlboro approximately 5,933 times. This was 46 minutes worth of advertising in a 93 minutes broadcast. (Schinke et al., 1995:82).

Another public action has focused on "secondary smoke." Secondary smoke is passive smoke inhaled by non-smokers. Today many buildings and work places have smoking bans to prevent second hand smoke. Today, most commercial carriers (airlines, buses, etc.,) restaurants and health facilities also have banned smoking outright, or allow limited areas where smoking is permitted.

CHAPTER 10

THE ROLE AND USE OF TOBACCO AMONG AMERICAN INDIANS

> From the perspective of cancer prevention the data clearly indicates that at least ONE THIRD of new cancers and cancer deaths are TOBACCO related. Clearly eradication of tobacco use from this population will have the most profound effect on cancer incidence and mortality (Lanier 1983:246)

The number one priority in cancer risk reduction targets cessation. Cancer among American Indian and Alaska Native populations has also become an issue in these programs and studies.

(A) Ceremonial Tobacco Beliefs and Practices

Ritual and ceremony are important activities in tribal life. While each tribal group has differing tribal practices, they also share some common practices. A basic belief held in common by many Indians is the concept of harmony and the place of man in the universe. This was summarized in 1864 by Chief Seathl as follows:

> The deer, the horse, the great eagle, these are our brothers. The Earth is our mother. All things are connected like the blood, which unites one family. Whatever befalls the earth, befalls the sons of the earth. Man does not weave the web of life. He is merely a strand in it. Whatever he does to the web, he does to himself (Joe 1994:20)

The use of ceremony and ritual is part of maintaining balance and harmony. One of the principle element used in these ceremonies is tobacco.

For American Indians, tobacco was [and is] used extensively for ceremonial, spiritual, social, political and medicinal purposes (Pego et al., 1995). Most American Indian tribal groups and cultures south of the sub-arctic (with the exception of some tribes along the Northwest coast) have used and continue to use tobacco as part of their ceremonial practice (Woodhead 1988).

Tobacco was given to humans by the spirits to ensure that man had something sacred to offer the Great Spirit or the Creator. It is believed that thoughts, words and prayers become one with the tobacco or pipe smoke and are carried to the Creator in the smoke (Mails 1991). The process of smoking usually involved a sacred pipe. Steinmetz notes that there were many different kinds of pipes, that, although they were common to all tribes, their religious meaning and sacramental uses were very diverse and there were [also] non-sacramental uses of the pipe" (1984).

On the West Coast, tobacco grew wild while on the East Coast and in the Central Plains, tobacco was cultivated (Driver & Massey 1961). Between these tribes, there was considerable tobacco trade (Pego et al., 1995). Tobacco was cultivated because it was a "sacred crop" and utilized in rituals and ceremonies. In some tribes, women were not allowed to cultivate tobacco because it was considered too

sacred a crop (CEC 1991). Tobacco societies, such as that in the Crow nation, have considerable prestige (IHS 1995).

Tobacco is used by shamans, medicine persons, and healers in most tribes. Selig (1971), for example, notes:

> There is no question that tobacco was intimately involved in all forms of public religious ceremonies among North American Indians. Shamans used the herb as both a medium for establishing a relationship with the spirits and as a fumigation to drive disease away from a patient's body. Tobacco was used in various ways to achieve religious objectives (Selig 1971).

When tribal persons gathered tobacco, a pipe was offered to the tobacco plant (Steinmetz 1984). Tobacco was also used for asthma, rheumatism, chills, fevers, intestinal disorders, childbirth pain, and headaches (Pego et al., 1995). In addition, tobacco smoke was also used to finalize agreements or treaties. Tobacco was also offered too, when an important request was made by an individual to another. If the request was granted, the tobacco pipe was accepted (Steinmetz 1984).

In the past, recreational use of tobacco did occur, among tribal members, but not too often. Smoking was usually reserved for men only, (or in some tribes, only elderly men and women) (IHS 1995). Because tobacco was considered sacred, it was not abused.

Indian tobacco was often a mixture of bark leaves, herbs and/or oil. A milder type of this mix was called kinnikinnik (Pego 1995). Because tobacco was used

ritualistically, it is not likely that it contributed to malignant neoplasms (IHS 1995).

(B) Habitual Tobacco Use

Today, lung cancer and other chronic health problems are increasing among American Indians and Alaska Natives. The habitual use of tobacco is one contributing factor. Although tobacco has had a separate and unique history for Native Americans, tobacco is now consumed by many Indians (Schinke 1995). Mass cigarette production and promotion sales during the twentieth century have helped increase tobacco abuse among Native Americans.

Tribal rates of smoking have been rising in spite of the rising cost of tobacco products and/or health warnings. The use of tobacco, however, is markedly different from region to region. For example, tribal groups in the southwest have lower rates of smoking compared to tribes in the northern regions (IHS 1991). Lung cancer, as a consequence, has also been high in the areas where there are high rates of smoking (IHS 1995) Tobacco advertising and other media promotion have made smoking attractive. U.S. government reports that more than three billion dollars are spent on advertising and promotion annually.

Ethnic groups like American Indians, have been targeted by tobacco companies. For example, in 1990 R J Reynolds developed a prototype of a new cigarette named Dakota, aimed

at young women. Marketing experts targeted women who were expected to have less than a high school education, working in entry level jobs (factory jobs), or unemployed. Public outcry forced R J Reynolds to withdraw "DAKOTA" from test markets (Schinke 1995). Promotional events, however, continue to account for the majority of the industry expenditures on marketing (DHHS 1989). Rodeos, pow wows and other popular events for Native Americans are often sponsored by tobacco companies.

In an effort to combat the problem of tobacco use by tribal members, numerous tribes have initiated smoking cessation programs or have declared tribal building smoke-free. Indian Health Service (IHS) also designated its facilities nationwide smoke free in 1987 (Schinke et al., 1995). The Northwest Portland Area Indian Health Board, in collaboration with two research sites, initiated a project to assist tribes to initiate policies against tobacco use in the work places (Lichtenstein et al., 1995). The 39 tribes that were members of the Northwest Indian Health Board were targeted for policy development. Hall and associates note that these tribal policies show that tribes are aware of the consequences of environmental tobacco smoke" (Hall et al., 1995).

Another tribal policy issue under discussion now is the sale of cigarette and tobacco on reservations in tribal

owned "smoke shops." Smoke shops have provided income to tribes and thereby it is difficult for tribes to close down these businesses. Customers of the smoke shops are often non-Indians who like the lower cost of cigarettes. The cost is low because there is no state tax added to the cost of cigarettes at the reservation smoke shops. IHS reports that 85% of the tobacco sales are to non-Indians (IHS 1995).

C. Smokeless Tobacco Use

The third and final type of tobacco that is popular among American Indians is smokeless tobacco or moist tobacco products. Connelly and associates (1992) note that the highest rates of users of smokeless tobacco are adolescents and young adult males...[They] are also targets of tobacco marketing companies. Smokeless tobacco is linked with athletic performance and virility in a number of ads (Connolly et al, 1992). Moreover, Davis and Jason (1988) warn that free samples may encourage initiation of tobacco use among children and adolescents, especially when distributed at youth-oriented events (e.g., concerts)

Bruerd (1990) also notes that among American Indian children studies have shown that 18 percent of kindergarten children have used smokeless tobacco products. In one study, smokeless tobacco use was reported by 13 percent of the children in grades kindergarten to the 6th grade. Fifty-six percent of 9th and 10th graders also reported

using smokeless regularly (Brued 1990). These studies included Indian children in South Dakota, Montana, Nebraska, Washington, Arizona, New Mexico, and Alaska. As a way to address these alarming statistics researchers have suggested a prevention model that is bi-cultural (Schinke et al., 1995).

CHAPTER 11

THE EXPERIENCE OF CANCER FROM A NATIVE AMERICAN PERSPECTIVE

> All belief systems are culture bound. They make little sense out of context...they change as the society which generates them changes...they may displace, merge with or simply coexist by the side of older lay beliefs (Eisenberg 1977:14).

Qualitative research methods include participant observation, direct observation and/or case studies. The qualitative data allow analysis or observations which are not easily reduced to numbers. This approach is a comprehensive and according to Babbie (1990), "field research is especially appropriate to the study of those topics for which attitudes and behaviors can best be understood within their natural setting" (p. 6).

To examine Native American perspective on cancer, I selected a sample of Pascua Yaqui tribal members and a small sample of non-Indians (who were in a Community Hospice Program) for interviews. The purposes of the interviews were to document cultural differences among the two groups and to study how these differences impacted their cancer experience. In order to better understand the beliefs, practices, and attitudes of the Yaquis, a brief summary of their tribal history is discussed below.

Yaqui Historical Review

According to their legends, the Yaqui, or Yoeme, say they are descendants of the "Surem," or little people who lived along the Rio Yaqui in Mexico (Locust 1989; Moises 1971). Little was known about the Yaquis until 1519 when the Spaniards landed in Vera Cruz and made their way into northwest Mexico. The Yaqui and Spanish had their first battle in 1533, a battle that left the Yaquis under Spanish rule. As the Spanish colonized the Yaqui, they set up missions in their midst. According to Peres de Ribas, the Yaquis accepted the mission system wholeheartedly. The peaceful relationship, however, was changed when silver was discovered on Yaqui lands. Spanish settlers quickly heightened their encroachment on Yaqui land. Conflict resulted in the Yaqui-Mayo revolt in 1740. A calm followed this war but fighting resumed in 1825. This war between the Yaquis and the Mexican government lasted for one hundred years. In 1887, after the Mexicans captured and executed Cájame, an important Yaqui leader, the Yaquis began migration into the United States. Major immigrations of Yaquis into the United States were recorded between 1900 and 1910. Many settled along the U.S.- Mexico border of Arizona, New Mexico, California and Texas (Spicer 1980).

As the Yaqui settled in southern Arizona, Old Pascua in Tucson became the largest of eight Yaqui villages in

Arizona. The villages were small but there was considerable dispute over land. These land disputes were somewhat relieved by the action of the Catholic Bishops of America. Through the Campaign for Human Development, they purchased new lands for the Yaqui. In October 1971, the deed to the property was signed and handed over to the Old Pascua Tribal Council (Locust 1989). This land has been designated federal land in 1964 by the United States Congress. The new Yaqui land was named New Pascua. In 1978, the United States Senate granted federal recognition to the Yaquis as an American Indian Tribe. In 1978, it was estimated there were 5,221 Yaqui enrolled in the tribe. Enrollments reached 8,229 in 1995.

Health Care Systems

Now, as one of the federally recognized tribes, the Yaquis are entitled to health benefits under the federal Indian Health Service. A new clinic was built at New Pascua with tribal members having access to the larger medical centers in Tucson for hospitalization or other health care (Locust 1989).

Although the Mexican culture has influenced the Yaqui culture, some of the old culture remains. The traditional healers of the Yaqui are known by two names, "hitevim" (curer) and curanderos (the Mexican term for curer) (Locust 1988). Among the Yaquis, as with other Indian communities,

they, too, utilize a variety of health resources - government hospitals, private physicians, or traditional healers who may or may not be a member of the patient's tribe" (Joe, 1994:546). Locust (1988), who has examined Yaqui health tradition notes that many of the traditional Yaqui health practices and cures are borrowed from their Mexican neighbors. She states that this makes it difficult to determine what the European settlers [Spanish] contributed to the folk medicine of Mexico and what the Indians contributed. But, according to Locust, "the Catholic Church has also influenced aboriginal Yaqui belief" (Locust 1988:19).

Yaqui Beliefs Concerning Illness

The Yaqui tribal members maintain their health in various ways. The clinic and other organized health care facilities are used by tribal members, but traditional Yaqui beliefs and/or traditional healing ways are used to supplement modern medicine. Yaqui patients, therefore, often employ the services of health practitioners of widely different persuasions, sometimes consecutively and sometimes simultaneously, as if to leave no source of relief untapped" (Eisenberg 1977:14). Part of the blending includes religious beliefs, both Catholic and Yaqui traditional spiritual beliefs.

In order to learn more about contemporary perceptions of cancer and existing health practices, a number of Yaquis, especially those with cancer experiences, were interviewed. Following are some of the comments of these respondents when they learned about the diagnosis:

Julia[1]: *"When we were told finally, that our mother had cancer, it was hard to hear. But you have to believe that God has a reason for this to happen. We could only pray for her not to suffer and be in bad pain."*

Audrey: *"When they told me I had cancer, I knew, I knew already I had something. I didn't think of cancer but I knew something. I've always dreamed all my life that I would die at 35. The spirits or God has always told me this."*

Teresa: *"My family some do the old ways. My son he's young but he hears the drums and they talk to him. So he goes down to a neighbor to do the old ways. Me I pray to God for help with this. They are both the same. My family some believe one or the other or just both cause there is not much difference."*

Julia: *"When this happened to my mother, she was an old woman. She knew and told us it was time. She even picked out her clothes to be buried in a month before she died. She had known for a long time and was ready. We didn't want to believe her, but she told the truth. She knew what was happening to her and was ready."*

Roberto: *"Me, I thought I'm too young for this to happen. Somewhere someone may be doing something bad to me for this to happen or maybe long ago I did something that I didn't know and now it shows up as cancer. I prayed and prayed to change this so I would not have cancer."*

To add to these views of Yaqui respondents, an interview was also conducted with one Yaqui curandera (healer/curer).

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[1]Fictitious names are used to protect the confidentiality of the respondents.

The Yaqui believe in a simultaneous two world existence, meaning that they can be in two worlds at once. These worlds make up the real world (physical) and the spirit world (spiritual). Such duality allows one to function in the ordinary way or in the (physical) real world while at the same time, be aware of other things happening elsewhere, to themselves or to others by means of the spirit world. The Yaqui curandera feels it is important to know about these happenings elsewhere or what it may do to others. Knowledge is sought through dreams, visions, intuition or "just knowing."

To the Yaquis, illness can result from causes that are natural or supernatural, i.e., witchcraft. Natural causes include such etiologies as "catching a germ" but traditional natural causes may be the result of breaking a tribal taboo. Taboos are cultural rules of behavior that have various religious, social or cultural bases. The cause of illness is therefore specific to the conditions. Each illness (natural or supernatural), therefore, must be treated in a specific way to bring about appropriate results.

Interventions and diagnoses require time and patience. For example, if the cause is the violation of tribal taboos, the violation must be made right. If this is not possible, then an appeal (sacrifice of goods, services, prayer, etc.) must be made to restore harmony.

Impact of Treatment, Health Care and Terminal Needs

Because some health care is provided by the Indian Health Service and other providers, most of the Yaqui respondents spoke of accessing these types of services, with varying results as noted below:

Roberto: *"They were so good to me. When I first got real sick I went to the emergency room who sent me on to someone. They did it really fast. I didn't know I was so sick. It was hard to believe when the next day the doctor said, "You have cancer."*

Julia: *"I took my mother to the doctor. He just kept saying, "I can't find anything. You're just over concerned." But I knew she was sick. She wasn't right. She would have pain even sitting in a chair. It hurt me to see her like this. So I kept taking her back and being told to stop worrying. Finally, they did some tests and there it was. She had cancer. The others doctor who did the test, he believed me and checked her and right away he knew. He told me, "Yes, you are right, there is a big cancer mass you can feel." I knew she was in pain cause I could tell. The first doctor didn't believe me." He doesn't like Indians and doesn't take much time with us. He just walks in, walks out and doesn't listen!"*

Debbie: *"The hospital cancer treatment center was so good to my husband and me. The nurses would tell us what was going to happen and how things would be afterwards from the treatments. My husband never believed them. He kept saying, "No, it's not going to happen to me." He was right - only a little of what they said would happen after the treatment happened. They were really surprised and was always laughing and teasing us about it. They could not believe how my husband did so good. They really felt like friends, people who cared. That was the nice part that helped us both a lot."*

Teresa: *"My mother had to go into the hospital and she hated it. She never wanted to go there because she knew she would die there. She didn't believe in all those people seeing her without her clothes. She was not brought up that way. The doctor, as a man, was the hardest part for her to bear seeing her like that. Also she couldn't do her way in the hospital. They took away her stuff, Indian things she*

needed and told us not to stay with her or there were too many of us in her room. She didn't want to be there all by herself with a strange white lady in the other bed. It was hard on her having to go through that."

Julia: *"My mother was in a lot of pain and I kept telling the doctor, the same one who would not check her all the times I took her before. So, finally my family and I decided to get someone else who we knew would help her. We got Dr. [name deleted] who lives near here. He saw right away how much she was hurting and gave her something to ease her. He told us to let him know if it quit working because as she got worse, she would need more pain medicine. She did better after that, as much better as she could be. Then one weekend, he was out of town and she got worse but the doctor on call was the one we had all the trouble with before. We told him anyway how much she had started hurting and the medicine wasn't easing her anymore. He told us she wasn't hurting that much and said the other doctor was giving her too much pain medicine. So instead of helping her he cut her medicine in half and told us that's all that could be done. What could we do? We had to wait for her regular doctor to come back. When he did and heard what had happened he was so MAD!! He put her back on her medicine but gave her a new kind and she felt better and could sleep and eat a little. I know this first doctor did not care. We were telling him and crying, begging for my mother some help and he sent us away. He didn't care. I know she could not live but she didn't have to hurt so much and suffer like that. He just was cold, rude and didn't want his weekend time bothered."*

The curandera reported using traditional medicines to help those with cancer or other illnesses. The curandera often utilizes herbs and desert plants that have been used for centuries by the Yaquis. Due to degradation of the desert habitat, the curandera lamented that many plants no longer exist or are found in only a few places. Urban expansion and housing developments have destroyed many of the plants. She comments:

Emily: *"I know lots of healing medicines but I can't always get what I need to make them. Many times people call upon me and I go see what I can do to help. But I can't get the medicines like we use to have cause I can't get the things to make them from anymore. In my childhood all this was open. My grandmother could go get what was needed. Now you can't go on people's property or it's been destroyed where the plants grow. So now I can only find some of them in parks and government protected areas. But to go there you risk getting arrested or fined if caught. Even when you tell them it's used as a medicine, they don't care. We don't destroy all of the plants, we only get just what's needed and leave the rest out of respect. It's a sacred thing that you honor. It's not like a tourist tearing up stuff for souvenirs. But the park people don't believe you or care. This is hard to do, to be between helping a sick person and risking getting arrested. The laws need to let us get medicine just to use that way."*

The curandera also speaks to the blending of the Yaqui traditional ways:

Emily: *"Now you can go in hospitals, most times for some prayer and ceremonies. You have to let them know ahead of time and get permission. Then they move the sick person into a private room to hold the ceremony in. When it's over they take them back to their regular semi-private room or whatever, But you can't burn anything or do things like that. So I try and prepare the items before hand with smoke or whatever. It's not the same but the best you can do nowadays. At least now we can come in and do something. Before you had to hide it or just couldn't do these things. The doctors as long as you don't give them medicines or things don't mind too much. They just don't take it too seriously."*

Social-psychological Aspects of Illness

Yaqui beliefs that taboo violation and/or supernatural causes can bring on sickness is flexible enough to include unhealthy nutrition as a cause of illness. Risk behaviors such as eating a diet high in fatty, sugary foods and smoking cigarettes fit into the Yaqui explanation of

illnesses. But this explanation is not the only one. Yaquis also believe that cancer can be caused by past transgressions or by witchcraft (someone meaning to do you harm). In the Yaqui community the subject of cancer is avoided because to keep talking about it can "invite" it to occur: talking about it gives it power and recognition. Cancer can also occur when an individual has done something wrong; i.e., one can become ill with cancer as a punishment. Some examples are:

Teresa: *"My mother never did anything wrong. But some people saw her cancer as a sign of judgment for past mistakes. Some believed she must have done something wrong in a female way with other men or whatever to have cancer "down there." I know it's not true but some people, especially old people, believe that. Not many people come around after they tell you about the cancer. They are afraid of it."*

Audrey: *"The thing that hurts me the most is how different people act now that they know I have cancer. I don't have many people around now. It's like they don't know what to say or they are afraid so they don't come to see you anymore. Now when I really need someone to talk too ,I'm alone. I can't tell my husband or kids how I feel cause I have to be strong for them. So I tell God and cry by myself cause there isn't anyone else to talk to this way."*

Roberto: *"I don't talk a lot about my cancer cause you don't want to make it worse. You just keep it inside and hope it goes away. Lots of family and friends don't come around any more. I don't know why. Some still do. It's nice and feels good to be just like everyone else sometimes. We talk and laugh and don't talk about my cancer. But that's now. Before when I was looking so bad and sick, they just didn't come around. I guess if I get worse again, these few who do come won't be coming then."*

The cancer patients and their families as well as their health care providers feel that cancer is "invading" their

tribal community. Some of this is expressed in comments such as: "More people get cancer here now," and "We just didn't have this happen until the last few years." Traditional Yaqui medicine is viewed as an important part of treatment because it comforts cancer patients and their families. Traditional interventions are not always expected to cure cancer. Neither traditional Yaqui treatments or treatments of modern medicine, are viewed as strong enough to cure cancer.

Multigenerational Aspects of Cancer

As previously noted, American Indian cultures place a strong emphasis on kinship (family or clan), family ties and extended families. When a person is diagnosed with cancer, it affects the whole family. Examples of some of the impacts were as follows:

Julia: *"When we were told Mama had cancer all the family had to be called. Everyone had to come home so we could figure out how to take care of her. We, her children, had to notify her relations on all sides and people who are part of the family by marriage or other ties to us. Lots of things had to be discussed and settled. But after everyone came, they all left and it was basically me and my household who cared for her. They all thought I should do it because I was educated and could talk to the doctor. So even with someone there or other's coming in I got so tired because I ALWAYS had to help them cause they were scared they did not know the right way to do it. I always, cause of my education, have to help everyone like that. Family obligations are strong and you have to help even if you're only a little related."*

Audrey: *"When I got sick everyone was upset. Several people in my family had cancer before and people were beginning to think we might all get it because we were all related. It's*

like that here cause everyone is cousins or something to you. You just look around and you know everyone or your family married into that family and now you're all kin somehow. That's why everyone gets scared. It's like it runs in the family and will I get it next?"

Teresa: *"We never had cancer before. My mother, she got sick, but not with her heart or her sugar. She had some blood pressure at times, but not bad. When she got cancer we wondered who could be doing this - was someone trying something or what? Now we wonder will we, any of us, get it or did it only happen to her."*

Audrey: *"I'm the third one to get cancer in my family. I don't know why. I believe we are around something in the environment, pollution, and chemicals is why we get it but I don't know what. The community could get it the same way because we all live here around what's causing it."*

The curandera agreed that previous generations of Yaquis did not hear much about cancer. She remarks:

Emily: *"But now, people are getting all kinds of things we didn't get before. We don't eat good foods like before. Now it's fat stuff and store bought stuff with chemicals. People have sugar [diabetes] more now, even young people. Mothers have babies and don't take care of themselves right afterwards. They don't breastfeed. People, even young children are smoking and some drinking. They get sick more with worse things that you can't cure. It's all these things coming together that are making people sick and causing trouble. Even the old ways of respect and taking care of Mother Earth don't matter much. The way we all live it's no wonder we're sick and can't do anything about it.*

No one ever starts out doing any study without a theoretical framework. The theory behind this endeavor is that culture impacts health behaviors. Throughout these interviews, culture continued to be an important factor.

CHAPTER 12

THE EXPERIENCE OF CANCER WITHIN ONE NON-INDIAN GROUP

> The impetus to adopt health promotion/ disease prevention as a cost containment strategy has been provided by the cumulative evidence linking behaviors to the risk of chronic disease. As a result, it has been assumed that changing unhealthy behaviors will lead to reductions in the risk of chronic disease and subsequent reductions in health care utilization and costs. (McLeroy, Gottlieb & Burdine 1987:92)

The participants in this phase of the study were a sample of individuals in the Community Hospice Program in Tucson, Arizona. This group, like the Yaqui respondents, voluntarily agreed to be interviewed. At least one Community Hospice personnel was present at the initial meeting and at some of the interviews.

Viewpoints and Beliefs Concerning Cancer

The health care delivered at the Community Hospice is based on the Western model of medicine. Despite this, some participants reported they either had interest in or wanted to try alternative medicine, i.e., meditation, visualization and positive thinking. None, however, had actually utilized alternative methods. A few reported reading books or seeing a television program on alternative healing.

The non-Indian respondents saw religion as an important element in dealing with cancer. Some, for example, reported

seeking divine intervention to affect a cure, to reduce pain and suffering, to seek spiritual help and/or to seek peace in face of cancer.

The cancer experience of these participants were recalled in a number of ways:

Jim: *"Well you're just going to live until your time is up. That's the way I've always looked at it. In World War II even when people were dying all around me, I kept thinking God would look out for me. Now this cancer thing is just God's way of telling me it's time."*

Fred: *"I didn't worry about what was going on in my life concerning religion, God or church much before. My wife raised the kids to go to Sunday school and did all that. It just never involved me too much. I always figured you must live decent and honest and that's about all you could do. But when they told me cancer, then I guess I started asking for help from God then. I went to church as long as I was able. Now the minister comes here. I hope I've done enough all these years that it ain't too bad after all.*

Rachel: *"You did what you did all your life. Now you're old and you get something like cancer. It just happens. No one's to blame, not even God. You got to die from something."*

Fred: *"I knew the first time that something wasn't right for the past couple of years. You feel your body especially when something is there that ain't suppose to be. But I didn't think cancer, just something else."*

Naomi: *"All those years of raising the kids and taking care of things. I just got run down. I always felt tired. I even dreamed about being sick and having surgery in a hospital. I guess my mind was trying to tell me then but I didn't want to know."*

Ethel: *"We both got cancer. Him in one place and me another type somewhere else. How many people do you think that would happen to? When they talk about what all causes it how do you explain us both getting it like that?"*

Most often, cancer is explained as the result of "natural" causes, i.e., old age, etc. While God or spirituality are seen as helpful in providing relief and/or assistance in dealing with cancer, there was no mention made that cancer could be caused by supernatural intervention or by God. Even the idea of cancer being a punishment for past transgressions was not mentioned. Spiritual help, however, was viewed as important in dealing with cancer.

Impact of Treatment, Health Care and Terminal Needs

In reviewing the way individuals paid for health care, most non-Indians participants reported using Medicare or private insurance or a combination. Interestingly, these participants spoke of their physicians and Community Hospice nurse with familiarity, i.e., knew their names, etc. They were satisfied with their care. The few areas of dissatisfaction stemmed from medical "procedures" rather than the providers involved. Some examples are:

Jim: *"Those nurses in the hospital Intensive Care just looked after me all the time. They even knew what I said in my sleep when I didn't even know. They must have been in there pretty much round the clock. My family was back East and they [nurses] just took care of looking after me. Now these [nurses] come out here and do the same."*

Fred: *"George, my doctor just laid it on the line. He said, 'Fred you got lung cancer, but we're going to beat this thing.' I believed him. We go back a ways and when I came up with it again George just said, 'Well, we've been here before.' I didn't think we would be coming back to this. Well that's pretty much how it went. George's done all he could. It ain't his fault. It's just old age and my time to go."*

Ethel: *When they found the lump, they just went ahead and scheduled surgery. I don't remember the nurses' names or anything. My doctor was pretty good. He knew what to do and went ahead and did it. Now my nurses come out and help me. I can talk to them more and we're friends. But it's something that happens cause you see the same one not like all the different ones in the hospital."*

Not only were the majority of the non-Indian participants satisfied with their care and treatment, but many also reported that they read up on their diagnosis or care. This was not so with the Yaqui patients. Several of the non-Indian participants also socialized with their care-givers. The primary concerns voiced were about non-medical things. For example, they worried about help needed with household duties (cleaning, cooking, gardening, etc.) and/or bookkeeping assistance.

Social Psychological Aspects

Most of the respondents in this group thought they caused their own cancers, although not to the extreme; i.e., many noted lifestyle habits that they believed contributed to the development of their cancer. Here are some examples:

Ethel: *"We both smoked. I quit before him but I still lived around him smoking and had second hand smoke. Back then, when we started, everyone smoked and you thought nothing of it. Now that's all you see on television is this tobacco news."*

Fred: *"I got cancer first years ago, but they took it out. Later it came back after I had quit smoking for 15 years. See it just was there. I don't believe smoking caused it. It's all this chemical stuff around us. Even not smoking I got cancer."*

Naomi: *"I let myself go and didn't take care of myself for years. I was always running and doing, never resting or eating when I should. I simply wore myself out. I got cancer cause I didn't take care of myself."*

Rachel: *"It's caused from pollution. My folks and their folks didn't know about cancer. Back them, you ate good food. You had clean water, not all these chemicals. Nowadays it's all this pollution and chemicals. Foods have so much stuff put on it to grow and so much put in it at the stores for preservation that it causes cancer. In the past we didn't have all that."*

Fred: *"Everywhere you go something is polluted. It's no wonder cancer and things are everywhere. You just can't run from it. It's everywhere and people get cancer."*

Jim: *"Sure I smoke. I know that causes cancer but I've smoked for almost 50 years, most of my life. I quit a year or two ago. I just couldn't breathe. I even cut off the oxygen so I could take a few puffs and then go back on it. But I had to finally quit a few years back. I could not even take two puffs and breathe anymore. I'll tell anyone it will kill you, but you won't die from it till it's your time. Just like I said, World War II or smoking, you aren't going till it's your time."*

Although the subject of cancer was also avoided here, some of the consequences of having cancer were discussed. Some spoke in terms of how cancer has a tendency to isolate the patient. Some said family members and friends did not visit as much as after they learned the respondents had cancer. The respondents thought it was because people simply did not know what to say or do. A few interviewers stated that they continued to have visitors consistently as long as their cancer "was under treatment," but once it reached a terminal stage, visiting diminished. Some of the following are examples of these interactions:

Jim: *"They just aren't comfortable around me anymore. Most of them are wondering could it happen to them. It's hard to know what to say and you feel bad about it. So they just don't come by much. You get cards and some flowers time to time but not personal talking cause you or they don't know what to say."*

Ethel: *"Our daughter is here everyday. She calls and comes by but old friends we don't see too much of. I can't leave here much so it's pretty much you aren't seeing anyone unless they come to you."*

Rachel: *"People call but most don't come by. It's hard for me to have people see me not looking my best like I use to. I don't want to be embarrassed by how things are now so it's better they call, but only a few still do."*

Multigenerational Aspects of Cancer

These participants were keenly aware of the causes of cancer, including genetic possibilities as well as lifestyle changes. Some voiced a strong desire to prevent their children or grandchildren from getting cancer. Several went on to relate the kinds of steps they had taken:

Ethel: *"I tell my daughter check yourself! You can tell if something is there and have the test regular like they recommend. I believe it runs in families as my sister had breast cancer too. You have to watch out for yourself if you have a chance of getting cancer."*

Jim: *"I tell kids not to smoke. I believe it took the "quality" of my life maybe not my life yet, but I would have lived better without it."*

Fred: *"You know food and water have chemicals so you should try and stay away from that as much as possible. I tell my grandkids and family to be careful where they live, not next to pollution, but as far out from it as possible. Trouble is where can you go and be far enough away?"*

Rachel: *"My children all have their own families and jobs to worry about. I have a housekeeper who comes here to help and my nurses so I manage. You can't expect everyone to put everything on hold. You learn to manage because they have*

to have a good life too, not just taking care of me all the time."

Overall, the non-Indian respondents clearly had different experiences and perceptions of cancer than the Yaqui respondents. While there were some similarities, there were more differences. Some of these comparisons are detailed in the next chapter.

CHAPTER 13

CANCER EXPERIENCE OF INDIAN AND NON-INDIAN RESPONDENTS

> The identification of risks, the selection of risks, factors to address, and the assignment of responsibility and blame are all affected by social and cultural processes and are all part of our cultural understanding (McLeroy, Gottlieb & Bardine 1987:97).

Beliefs Concerning Illness

American Indian cultures are not only different from one another but differ also from non-Indian cultures. The interviews presented illustrate some of the differences regarding beliefs and experiences with cancer.

For example, alternative methods such as visualization, meditation and "positive thinking" were methods both groups described, albeit in different terms, but most of the non-Indians saw these interventions as supplements to modern medicine. Because these methods were not mainstream medicines, non-Indian participants did not use these methods. On the other hand, they knew about these methods or had watched these methods on television programs.

The Yaqui participants, on the other hand, utilized alternative methods, because these were an integral part of their tribal healing practices. They saw these practices as vital in helping to deal with the cancer, with healing

and/or in preventing the spread of cancer. The Yaquis, compared to the non-Indians, actively sought help from their traditional healers (curandera, etc.). Sometimes it was their family members who sought out these services. The Yaquis used both traditional and modern medicine to deal with cancer.

Spirituality and Cancer

Intuitive warning about cancer was frequently mentioned by the Yaqui participants. They described these warnings occurring in dreams or feelings that seemed to indicate something was wrong. Sighting animals, birds or unusual objects near the cancer victim is described as another sign or an omen. Family members understood these signs and were supportive of the precautions taken by the individual and their immediate families. These omens were thought to be warnings, sometimes delivered through spiritual intervention. This is understandable, as illness to the Yaqui can be caused by supernatural events.

Supernatural explanations on cancer or its causes are not a part of the views of most non-Indians. Physiological sensitivity to cancer, however, was common; i.e., comments like: "my body knew before I did" or "I knew it but would not admit it to myself." Thus, non-Indians tend to have explanations for the cause and treatment of cancer that exclude supernatural causes or the need to use alternative

interventions, with the exception of stress. Most non-Indians saw cancer as a physical element, as a physiological manifestation only.

Impact of Treatment, Health Care and Terminal Needs

Other than socio-cultural beliefs and practices regarding cancer, there are also other differences between the two groups. One of the most obvious difference is socio-economics. Native Americans face more health care barriers as a result of poverty.

Consider, for example, that the Yaqui participants' difficulties in accessing, utilizing and/or maneuvering in the health care system. The non-Indian participants, on the other hand, reported smoother access to health care because most were more financially secure. While Indian participants had some camaraderie with their caregivers, the non-Indian participants were more likely to refer to their caregivers by their name and/or spoke of other social ties with the care givers. This type of close relationship was notably absent in the Indian experiences. While these phenomena, to some extent, can be interpreted in various ways, the data here suggest that socio-economics is a strong factor, not only in accessing care, but also in defining the type of relationship patients had with their health care providers.

Psychological Aspects of the Illness

Feeling of isolation and rejection by friends and relatives were reported by both groups. The old axiom: "you can't know how I'm feeling unless you've been there" was a frequent reference point. The non-Indians attributed these actions to the fear of their friends or relatives have about not knowing what to say or do, and so they therefore quit coming to visit. The Yaqui respondents echoed this, but went further, to include tribal taboos, fear of catching cancer, bad luck, breaking of laws, and other taboos as reasons for why their friends or relatives did not visit.

Multigenerational Aspects of Cancer

The Indian participant frequently had extended family members involved in their care. The non-Indians, those in primarily nuclear households, rarely had extended family members involved. Both groups, to some extent, listed friends, but the Indian participants frequently saw friends as an extension, individuals who comprised their extended families. The non-Indians, however, usually referred to friends by names, not relations. Therefore, there was a separate category for friends.

Age Considerations

There were some age differences between the two groups interviewed. Most of the non-Indian participants were over 65 years of age and were retired. Most also had relocated

to Arizona after retirement. The average age for the Indian participants was 40 years. Consistent with the general profile of other Indian cancer patients, these Yaqui respondents developed cancer earlier than the non-Indians. Tribal members and participants, in fact, kept saying how young those with cancer were, especially children. The Yaqui have a number of children with leukemia.

Interview Reactions

Cultural experiences and socialization have long been known to affect communication and behaviors. The two groups exhibited differing communication styles during the interviews.

Most of the non-Indian participants talked about their experiences with cancer in a clear and unemotional way. The body language exhibited, however, included behaviors such as finger tapping, nodding or other fidgety movements during these interviews. For the Indian participants, the interviews were emotional and there were frequent pauses as the respondent collected him or herself. Tears were frequently a part of the interviews. When interviewing non-Indians, the initial discussion would frequently begin with the participant alone. Later, other family members also participated in the discussions. But, with the Yaquis, discussions invariably began with participants as well as

other family members present. Overall, more emotions were displayed by the Indian participants and their families then the non-Indian participants. The latter, while their responses appear clear and concise, their body language often displayed other emotions not verbalized.

Summary

The value of these interviews illustrate some differences between Indian and non-Indian persons as they experience cancer. The cancer risk factors, while universal, appear to impact the Indian population at an earlier age and take a greater toll on their families because of limited resources. Thus, the consequences of cancer appear to be greater in the Indian community. Just how extensive these consequences might be requires more study, especially the role of culture in different cancer experiences.

CONCLUSION

> In many Indian communities, cancer is either feared or hidden. Because cancer is often associated with death, there is a feeling among Indian peoples that cancer cannot be treated. There are many misconceptions about cancer, and unfortunately there are also assumptions that cancer cannot be prevented. (Joe 1992: 145)

This brief exploration of cancer experiences in two cultural groups attempted to highlight some of the differences in the way cancer is experienced and perceived. One of the key differences is that the Yaquis not only have more and varied explanations about the causes of cancer, but they are also more likely to combine traditional Yaqui health resources with modern medicine. The non-Indian group, however, tended to rely more completely on modern medicine for diagnosis as well as for treatment.

The experiences of cancer among the Yaqui also involves a greater number of people; i.e., extended family members (which includes friends). The experience for the non-Indians is often limited to the involvement of a spouse or other immediate family member(s). Friends and family members were separate categories for most non-Indian respondents.

Both groups (though more commonly those in the non-Indian group) noted that their friends and some relatives treated them differently upon learning about the cancer, especially if the prognosis was terminal.

In addition, during the interviews, the Yaqui respondents were more verbally emotional about cancer than the non-Indian respondents, albeit, the body language of the latter tended to contradict what they said. Unlike most of the Yaqui respondents, the non-Indian group tended to be more knowledgeable about cancer. They sought information on cancer and read about cancer. Further, a number of them also socialized with or became friends with their health care providers. This was not found among the Yaqui respondents.

The non-Indian respondents were not only older (average age over 60), but were also more likely to be more financially secure. They had health insurance and other means to pay for their care. Most of the Yaqui respondents, younger on average by twenty years, often had limited financial resources and/or no health insurance. They had to depend upon the federal Indian Health Service for care.

Although this exploratory study has many limitations, information gained as a result of the study is valuable for understanding the true impact of cancer on various cultural groups. This information should supplement morbidity/ mortality information currently available. The qualitative information provided by this study is also important because cancer prevention strategies must include some knowledge of diverse cultures and what cancer means to those populations.

The availability of this type of knowledge, if applied, will also contribute to development of culturally relevant approaches for prevention of cancer and treatment of cancer patients. This information is particularly valuable inasmuch as the majority of current prevention strategies include intentionally changing lifestyles and replacing unhealthy habits with healthier alternatives.

A multitude of factors, including tribal beliefs, locale, resource allocation, population size, degree of acculturation, age, gender, education, and socio-economic status impact health and health behaviors. As Crawford (1978) has indicated: "The practical activity of health promotion can only be understood in the context of culture" (76). A culture-focus approach is also important because most health promotion programs have been targeted to and designed to address the needs of middle and upper socioeconomic groups (Crawford 1978: 18).

Cancer experience is more than a physiological process. The experience of contending with cancer calls into play a variety of responses and coping mechanisms that are largely framed by culture and experiences. Therefore, studies such as the one discussed herein are important so that health care providers learn to work appropriately with Native Americans.

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