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June 1986

A STUDY OF THE FOLK CONCEPTS OF HIGH AND LOW BLOOD
AMONG RESIDENTS OF EAST TENNESSEE

A Thesis
Presented for the
Master of Arts
Degree
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Joan Wojey Wagner

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ABSTRACT

The present study examines the folk medical concepts of high and low blood among East Tennessee residents. The purpose of the study was to identify the perceived symptoms, etiology, and treatment of these conditions. Forty-five rural and urban residents were interviewed, using structured and unstructured data-elicitation techniques. Several area physicians were also interviewed to obtain the health professional's perspective on the use of folk medical terminology by patients receiving conventional health care.

Informants in this study perceived high blood as a condition characterized by a flushed face, a rush of blood to the head, swimmy-headed feelings, and often a headache, nosebleed, or swollen ankles. High blood is perceived as causing or contributing to the individual having a stroke. It is thought to be caused by diet, particularly the consumption of excessive amounts of red meat and of starchy, greasy foods, by very hot weather, as well as by certain emotional states, notably anger, tension, and depression. Obese, middle-aged individuals of either sex are the most likely candidates for high blood, and a family history of this condition is believed to increase the probability of its occurrence in an individual.

Low blood was described by informants as a condition characterized by a pale appearance, and by feelings of generalized fatigue, lethargy, and lack of energy. In folk medical theory, low blood is thought to be caused by an insufficient amount of

blood-building foods in the diet, for example red meats, liver, grape juice, and red wine, or by consuming an excessive amount of blood-thinning foods such as pale, astringent juices, which are thought to "bring down" one's blood. Treatment of low blood most frequently involves consuming foods that are thought to be "blood builders."

Informants in this study reported, interestingly, no knowledge of the dimensions of "bitter" and "sweet" as they apply to high or low bloods, dimensions which have been reported in high-low blood belief systems for other peoples in the southeastern United States (Mathews 1979; Moerman 1981). Perceived symptoms and treatments of high and low blood in this study were similar to those reported in other U.S. populations (Mathews 1979; Moerman 1981; Snow 1974; Weidman et al. 1978), save for the tendency of several respondents to recognize little difference between high and low blood in symptomatology. For these individuals, any imbalance in the blood is thought to be unhealthy, whether the imbalance is in an upward or downward direction.

In this study, rural white, urban white, and urban Black individuals showed varying degrees of knowledge about the high-low blood belief system. Responses of the urban Blacks reflected the highest level of knowledge of the three groups, rural white individuals the next highest level, and urban whites the lowest level of knowledge of the three groups.

Interviews with area physicians revealed that many patients in East Tennessee use a vocabulary in which some health related

words have meanings specific to this area. Communication between patient and physician is hindered to the extent that the physician does not fully understand the popular meanings of the terms and phrases that the patient uses, or the physician is not aware that the patient is attributing different meanings to the words than the meaning understood by the physician.

The importance of understanding the patient's health beliefs and practices is receiving increasing attention among health professionals today, particularly because this knowledge can help to create a more favorable outcome concerning consultation and compliance, as well as for diagnosis and therapy. A better understanding of folk medical belief systems, such as high and low blood, when incorporated into clinical practice, can improve the overall quality of health care.

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CHAPTER I

INTRODUCTION

East Tennessee lies in the section of Appalachia known variously as the Southern Highlands, the Southern mountains, and Southern Appalachia (Campbell 1921). A constellation of values or characteristics typical of many residents in this area has importance for health care delivery. These include traditionalism, independence, fatalism, religious fundamentalism, personalism, modesty, and a system of folk medical beliefs and practices, including the high and low blood belief system (Ergood 1976; Jones 1976; Hicks 1976; Tripp-Reimer and Friedl 1977). The high and low blood belief system in East Tennessee is the focus of this study, which will illustrate why knowledge of this system is important for practitioners of modern health care delivery.

The High and Low Blood Belief System

High blood and low blood are folk medical terms which refer to perceived problems with blood and its circulation. In healthy individuals, blood is in an appropriate state of balance; that is, neither too high nor too low. In this state, the individual experiences no symptoms or problems in biological or social functioning. This normal state illustrates the concept of balance, which is extremely important in folk medicine. The concept of balance or equilibrium is one characteristic of a naturalistic medical system (Foster 1976), where illness is explained in terms of a disturbed balance in one's body.

The disturbance is caused by natural forces, such as cold, heat, wind, dampness, or diet. In a balanced state, the body is healthy and therefore strong. Upsetting this balance either causes or predisposes one to illness. Balance is usually defined as the avoidance of extremes in behavior. "It is bad for the body to eat too much, drink too much, stay out too late at night, and so on" (Snow 1974:87). The body is weakened when out of balance.

High and low blood are states in which the blood is in some way out of its proper balance. High blood can mean a problem with the amount of blood in the body, or with the circulation of the blood. Blood is perceived to accumulate high in the body (Weidman et al. 1978) or its location may change quickly, so that ". . . it suddenly shoots 'high' in the body" (Snow 1982:11). Low blood is a condition in which there is insufficient blood for proper circulation. As a consequence, the individual feels weak, fatigued, lethargic, and may be subject to "falling out" spells, a period of unconsciousness which may last for hours or days (Snow 1974:89-90; Weidman et al. 1978:425).

Blood is also perceived to become "thicker" or "thinner" in response to certain conditions, for example atmospheric temperature. Thus, blood should become thicker in cold weather, and thinner in the summer (Snow 1982). Sexual activity is also associated with thicker blood: "The very young and the very old are believed to have thinner blood than the sexually mature and sexually active adult" (Snow 1982:8).

In a naturalistic system, such as the high and low blood belief system, responsibility for maintaining health and avoiding illness rests largely with the individual. The most important means by which this is accomplished is by having a proper diet. A diet which consists of excessive amounts of starchy, greasy, and salty foods is thought to cause high blood. Foods frequently implicated include: bacon, ham, chitterlings, fat back, barbeque, fried chicken and fish, bread, potatoes, gravy, milk, sodas, coffee and salt (Mathews 1979). Low blood can be caused by eating too many blood thinning foods, such as pickles or olives, or taking high blood remedies or antihypertensive medication too long (Snow 1982:14).

Among some groups, high and low blood are also defined in "bitter" and "sweet" dimensions. The folk medical system on St. Helena Island in South Carolina, for example, includes these concepts. High blood is blood that is too sweet, and low blood is too bitter. These characteristics are also consistent with the concept of equilibrium, because healthy blood should be neither too bitter nor too sweet. "A person will be in good health when the blood is neither too bitter nor too sweet, and when the pressure is neither too high nor too low" (Moerman 1981:287).

Individuals who consume an improper diet and develop high blood are considered to have a "natural" illness. This kind of illness results from a failure to follow the laws of nature, and illness is the inevitable consequence. The individual is responsible for maintaining good health by properly observing the laws of nature.

Natural and unnatural illness are folk medical concepts. Unnatural illness appears to fit Foster's personalistic rather than naturalistic disease etiology, in that illnesses which are considered unnatural are the result of malevolent agents whose actions ultimately cause the individual to become ill. However, personalistic and naturalistic etiologies are seldom mutually exclusive (Foster 1976: 776). Unnatural illness is that which results from evil individuals or forces. It may be a certain individual, or the forces of evil as personified by a devil. A moral element is also implied in the belief that unnatural illness results from alienation from God, the consequences of this being a weakening of the body which can lead to illness. Foster and Anderson state that ". . . it is striking how in much contemporary folk medicine the distinction between religion, magic and medicine is blurred (Foster and Anderson 1978:78).

The folk medical system of East Tennessee, of which the high-low blood belief system is a part, is familiar in varying degrees to both lay persons and health professionals. It has been the investigator's experience that health professionals make their own assumptions about the meanings of folk medical terms used by patients. For example, to different persons high blood may mean high blood pressure or high blood sugar. Since clinical interviewing is structured on precisely such assumptions, in addition to scientific knowledge, their accuracy has important implications for eliciting information about symptoms. However, no systematic study of the meanings of the folk medical terms of high and low blood, or of

folk medical belief systems in East Tennessee, could be found in the literature, although references have been made to the importance of such knowledge in health care (Tripp-Reimer and Friedl 1977).

The available literature on folk medical and blood-related belief systems, including the concepts of high-low blood, indicates that folk medicine is utilized as a health resource by many individuals in various cultural groups throughout the United States (Bauwens 1977; Murphree and Barrow 1970; Tripp-Reimer 1983; Primack 1984). But because patients are sensitive to the possibility of being ridiculed for such practices, and because health professionals seldom inquire about them, the health care worker lacks a complete understanding of the patient's perspective on his own health problem. As a consequence, the quality of therapeutic services can be adversely affected.

Folk Medical Beliefs and Health Care Delivery

"Emic" and "etic" are terms first drawn from the work of Pike (1954). Each refers to contrasting anthropological perspectives from which behavior may be examined. In any given situation, etic refers to the outsider's viewpoint, in which meaning is imposed on the situation by the observer. In contrast, emic corresponds to the viewpoint of the participant in the situation. It is an insider's view. Data generated in anthropological field research typically include a mixture of both these perspectives (Pelto and Pelto 1978:64).

In health care, the difference in perspective between patient and health professional may be interpreted in emic and etic terms.

The patient's view corresponds to the definition of emic and the professional's to etic. The formal body of knowledge defined as biomedicine by Fabrega (1977) is the objective, or etic, framework within which the professional observes behavior and interprets symptoms. The patient's experiences, including personal knowledge and perceptions, correspond to the inside, or emic, view of the situation. Both these perspectives are necessary for an understanding of the situation, yet the emic view has received much less attention in health care than the etic perspective. This is a significant omission because the patient's acceptance of, and participation in, prescribed therapy depends in large part on consideration being given to his views and experiences about his illness. For example, patients may use the emic terms high blood or low blood in describing their symptoms to health professionals. But these folk medical or emic terms require "translation" into etic symptoms in order for an accurate diagnosis to be made. In this study, information was sought regarding the emic meanings of high and low blood, in order to make it possible to determine any relationship between these emic terms and etic symptoms in health care delivery.

Ethnomedicine and Health Care Delivery

As Foster and Anderson point out, "Disease, with its pain and suffering, is the most predictable of human conditions; it is a biological and cultural universal" (Foster and Anderson 1978:33). All human groups have developed patterned responses to illness, since illness poses a survival threat to the groups and their members.

These responses are the outcome of a group's adaptation, and of cultural evolution (Fabrega 1977:302).

A society's response to illness in its totality comprises its medical or health care system. This total system generally has two major components. The first is biomedicine, which consists of ". . . formal scientific knowledge . . . about illness" (Fabrega 1977:304). However, biomedicine is rarely the sole resource for individuals or groups for responding to illness. Another, informal body of knowledge based on lay perceptions of illness comprises the second component within a society's medical care system. This body of knowledge may be referred to as folk knowledge (Fabrega 1977:204), as lay medicine (Gebhard 1976:90), or as traditional medicine (Foster and Anderson 1978:53). Such knowledge includes the names of illnesses, beliefs about illness causation and treatment, and guidelines for appropriate illness behavior; it constitutes a cultural trait of a given group (Fabrega 1977:204). Broadly defined, folk medicine includes all beliefs and practices which are not part of biomedicine. Such knowledge is ". . . informally developed and disseminated . . . (and is) more or less the common property of everybody in the culture" (Saunders 1969:404).

The study of a group's popular health care system is defined as ethnomedicine (Hughes 1968:51). Examination of folk medical beliefs and practices, including their relationship with biomedicine, may be helpful in improving the delivery of health care.

Patients may describe their problems in folk medical terms, assuming that the professional shares their understanding of the

terms used. The use of the terms high blood and low blood by some individuals illustrates the potential for misunderstanding which can occur as a result. "High blood" is often assumed by the professional to be synonymous with the biomedical condition of hypertension, yet this may not be correct. The findings of this study indicate that in East Tennessee not all individuals agree on whether or not these terms mean the same thing. It would be more accurate to say the high blood may have some overlap with hypertension, but is not necessarily identical with it (Mathews 1979). Snow considers high blood to be a folk medical condition separate from hypertension (1976). Problems may arise when individuals are not aware that they define these or other folk medical terms differently. For example, the patient may assume that high blood and high blood pressure are the same thing, while a particular health professional may believe that high blood is synonymous with high blood sugar. Additionally, there may be regional differences in the meanings attributed to such terms. In discussions with health professionals in the course of this study, the investigator found that there were many differences in the meanings attributed to these terms.

The use of nonstandard English by the patient may further complicate the process of communication between patient and health professional. Black (1980), writing about the language used by rural Blacks in East Texas to describe their symptoms, cites numerous words and phrases which must be understood by the professional if

mutual understanding is to take place. For example, "conversion" means convulsion; "thrifty" means healthy, and "wen" refers to a tumor or growth. The professional must be able to translate these terms, as well as statements such as "He suffer from the grine pone" (i.e., "he has a groin swelling") or "I want to go outside" (i.e., "I want to go to the bathroom"), if the patient is to be helped (Black 1980). Clearly, lack of such knowledge will at best delay and at worst hinder the healing process.

The prospects of a favorable outcome in health care delivery are also improved if the professional understands the patient's conceptions of illness, and the significance of the illness to the patient and the family (Press 1982). The health professional must also realize that the patient's lack of specific knowledge of biomedical concepts does not ". . . mean lack of complex beliefs and patterned behaviors related to disease and healing" (Press, 1982:185). Denial, ridicule, or dismissal of the patient's beliefs may result in distress and undermine the patient's confidence in the health care system. Rather than teaching patients biomedical concepts, the health professional is advised to indicate acceptance of the patient's beliefs (Press 1982). In order to do this, the professional must be sufficiently knowledgeable about a belief system to be able to make reference to it appropriately, and to incorporate its concepts into health care. Leighton and Leighton (1941) provide an example of how a biomedical prescription can be presented in folk terms. The following is an illustration of a prescription for a daily dose of digitalis as it might be presented to a Navaho Indian:

If an Indian is told to take digitalis every day he will probably munch a few tablets and then forget about them. If he is told that his green medicine comes from the leaves of the foxglove, that his body must never be without it any more than his mind is without a good song, and that he must take it every morning of his life when the first brightness of the day is in the east, one stands a much better chance of having the instructions carried out (1941: 523).

Press (1982) suggests specific techniques for practitioners to facilitate the integration of folk medical beliefs with clinical practice. For diabetic patients who may have been treating themselves with sour substances to reduce the sweetness of blood, the health professional might say, rather than denying the efficacy of such a treatment in principle, that "it doesn't reduce the sweetness of blood in a case like yours" (1982:186). Pale, unsweetened fruit juices can be included in the diabetic diet plan. Supernatural beliefs which involve physical symptoms can be alluded to without a negative connotation:

Well, I personally don't know anything about (sorcery, God's punishment, etc.) and I can't deal with it medically. If you think its caused by it, we can call in a chaplain, or you'll have to go to a special curer for it. But I can cure the symptoms you're suffering from (Press 1982:187).
[emphasis in original].

In each of these examples, it must be noted that the patient's beliefs are treated with respect, and are accorded the same status by the professional as are biomedical concepts.

Ethnomedical concepts provide a basis for understanding some health-related behaviors when the individual is a patient in the biomedical health care system. These concepts illustrate that folk

medicine is not a collection of isolated health prescriptions but a system with identifiable, rational concepts (Snow 1974). Consuming a proper diet is not an isolated health prescription but one that is part of a system in which one should behave in generally moderate fashion so as to maintain the appropriate balance in the blood and thereby achieve good health. If the health professional wishes to increase the probability that prescribed treatment will be carried out by the patient, she should first determine what the patient's beliefs are and avoid contradicting them, then structure the prescription in a way that reinforces these beliefs.

It is clear from the preceding discussion that failure by health professionals to acknowledge the influence of folk medical beliefs and practices among patients can adversely affect the outcome of health care delivery. High blood and low blood are familiar terms to many East Tennessee residents and to health professionals who frequently hear them used by patients to describe their health problems. The high-low blood belief system has been studied among rural Blacks in North and South Carolina (Mathews 1979; Moerman 1981) and among urban Blacks in Florida and in Arizona (Weidman et al. 1978; Snow 1974) but not among East Tennessee residents. The present study was designed to examine the high-low blood belief system among white and Black residents of East Tennessee.

A research sample of 45 individuals was interviewed. Informants' perceptions of the symptoms, etiology and treatment of high and low blood were examined. Information was also obtained on perceived

relationships between high blood, low blood, hypertension, and anemia. Differences between rural whites, urban whites, and urban Blacks concerning responses about high and low blood were examined. The findings of this study were compared with other studies of high and low blood.

The Research Sample

Criteria for inclusion in this study were East Tennessee residence, knowledge of high and low blood, and willingness to participate. In order to assure variability among respondents, a sample was designed which is similar to the quota sample described by Pelto and Pelto (1978:135). The investigator approached the problem of locating informants from the total East Tennessee population by identifying sites in this geographical area which provided access to sufficient numbers of informants. Four such sites were located in three East Tennessee counties: an urban senior citizens' center, a rural medical clinic, and social service programs in two rural counties. Interviews were carried out at each of these locations.

The study sample consisted of a total of 45 informants and included male and female respondents, rural and urban residents, and Black and white individuals.

Findings

Informants indicated that high blood is treated by avoiding pork and greasy foods, and by taking pickle juice, garlic, vinegar, or grapefruit juice. Treatment of low blood is also dietary, by means of a diet which includes foods thought to "build" the blood: liver, red meat, and wine.

Some informants in this study replied that some symptoms, including staggering spells, dizzy spells, and blacking out spells, could be indicative of either high or low blood. The "bitter" and "sweet" dimensions of high and low blood which have been described in other studies (Mathews 1979; Moerman 1981) were not known to informants in this study.

Responses of informants in this study indicated varying degrees of familiarity with many folk medicine concepts and with high and low blood. Many informants volunteered comments that were favorable about the practice of folk medicine, or indicated that they had used some of the folk remedies discussed. Whether or not these individuals presently utilized folk medical remedies is not known, but would seem to be a useful discussion point when the individual is a patient in the health care system.

Relevance of Study

The findings of this and other studies suggest that knowledge of folk medicine can be very useful in the delivery of health care. Assessment of the patient's health status is facilitated when the professional understands the patient's symptom description and perception of body functioning. The patient may be more receptive to prescribed treatment if it is explained in terms of his own world view (Press 1982). Thus, patient compliance with the medical regimen may be positively influenced by the use of ethnomedical knowledge in biomedicine. Studies of folk medical systems, such as the high-low blood belief system, can provide specific knowledge about health-related beliefs and behaviors which can be used by the health professional.

CHAPTER II

LITERATURE REVIEW

Introduction

The purpose of this chapter is to provide a summary of the literature on the high-low blood belief system, and to assess the ways in which data obtained in the present study are similar or dissimilar to those found in published reports. High and low blood are defined and symptoms described; etiology and treatment are reviewed. The significance of this knowledge in health care is noted throughout.

Although studies on the high-low blood belief system are few in number, those reviewed here provide a rich and detailed description of many folk medical beliefs and practices in the United States today. Studies of high and low blood which will be reviewed in this chapter are those by Weidman et al. (1978), Snow (1974), Moerman (1981), and Mathews (1979, 1982).

Miami Health Ecology Project

The health belief systems and practices of five ethnic groups residing in Miami, Florida, were examined by Weidman and her associates at the University of Miami (1978). This study, initiated in an attempt to discover the reasons for under-utilization of health facilities there, focused on ". . . the significance of ethnicity in the realm of health behavior and health care" (p. 8).

The study sample consisted of 545 households representing approximately equal numbers of individuals from each of the following ethnic groups: Bahamian, Haitian, southern Black, Cuban, and Puerto Rican. Interviewing was done by indigenous workers in each group, and information was sought on utilization of both traditional and formal health care systems for the purpose of obtaining a description and understanding of ". . . patterned interaction between the traditional and scientific health care systems" (p. 23).

Culturally defined conditions pertaining to blood were identified among the Bahamian, Haitian and southern Black respondents. Bahamian and southern Blacks reported high and low blood as health problems, and Haitians described a similar condition, mauvais sang ("restless, moving or rising blood" [p. 435]). While Cuban and Puerto Rican respondents identified various folk medical conditions specific to their cultures, for example empacho (a condition caused by overeating where a ball of food becomes attached to the stomach [p. 415]), they failed to report syndromes pertaining to blood.

In order to understand folk medical problems associated with blood, it is necessary to examine folk conceptions of blood and its circulation. The Miami study contains a descriptive model which incorporates information about blood, information obtained from each of the ethnic groups studied. The model is applicable to Bahamians, Haitians and southern Blacks, and summarizes folk

perceptions of blood and its circulation. The explanation which follows is excerpted from the Miami study (pp. 568-571).

In this model, blood can be described as having movement rather than circulation. The movement is "away from" or "toward" something, such as the head, body organs, or extremities. Blood must be sufficient in quantity to maintain this movement, so that nourishment can be carried to all parts of the body.

Movement of the blood can be affected by several factors: certain foods, emotional experiences, temperature, even strong odors. These factors influence the blood in specific places in the body: at body orifices, through the senses, and at those places in the body where blood is close to the surface. Such influences may be interpreted as "impurities" in the blood, and, for good health, they need to be removed or expelled from the body.

"Impurities" are sometimes indistinguishable from evil forces. The individual who is the victim of such forces strives to counter-balance them, while simultaneously trying to follow behavioral patterns thought to do the most good. Balance is essential to health.

Since body openings obviously allow the entrance of both good and evil, and since they also allow the exit of both good and evil, the challenge insofar as good health is concerned is to ensure that good enters and exits through the correct orifices while bad which is inadvertently collected is cleansed from the body in the proper ways as well" (p. 571).

Perceptions of high and low blood among Bahamians and southern Blacks are very similar. High blood is a condition in which "the

blood is high in volume as well as high in the body" (p. 598). Causes of such fluctuations, which can occur very quickly, include intense emotions (fear, anger, grief, shock), consuming the wrong kinds of foods (pork or "greasy" foods) and some home remedies. Symptoms of high blood are dizziness, black-out spells, and/or seizures (p. 426).

Among Haitians, la congestion and mauvais sang pertain to blood circulation problems. La congestion is ". . . an excessive accumulation of blood in a particular region of the body" (p. 432), while mauvais sang is

a condition in which the blood becomes agitated and begins to rise in the body. In acute cases the blood is viewed as rushing to the head. This is a condition which can lead to more serious illness if steps are not taken to calm and settle the blood so that it moves properly (p. 511).

Both conditions result from emotional factors.

Low blood is a condition in which the blood volume is not adequate for normal functioning. Symptoms are listlessness, fatigue, lethargy, tiredness, dizziness, darkness before the eyes, blacking out, and semi-consciousness or unconsciousness, which can last anywhere from hours to days. Extreme cases of low blood can result in death. Low blood is also interpreted as a category which includes anemias (iron deficiency, pernicious, sickle cell).

Treatment for low blood reported by respondents includes iron pills, geritol, wine, spinach, beets, conchs, liver, briar

root tea, and aloes, all of which act by restoring or building the blood.

Other Bahamian folk medical problems pertaining to blood and its circulation are thin blood, tired blood, bruised blood, clots, and bad blood. Apart from high and low blood, there were also concerns about heat and acid in the blood, and thick blood. Among the Bahamians, ". . . far more home remedies were reported for adjusting the quality and movement of the blood than for anything else" (p. 598). Remedies used are designed to "cool" the blood, draw the "heat" out. High blood may be treated with substances taken internally, for example epsom salts, aloes, garlic, vinegar, lemon, and cerasee tea, or by a local application of medicine to some part of the body. Substances used as applications to the back of the head or neck include coconut straw and castor oil leaves, epsom salts, vinegar, and rice. One woman placed garlic under her tongue, took some vinegar orally, and applied an ice pack to the back of her neck when she felt she needed treatment for high blood.

"Falling out" as a symptom of high blood is examined in the Miami study from both an emic and etic perspective. The purpose here was to illustrate the potential health care problems that can arise when physicians treat patients who are culturally different. Falling out, which can occur in stressful situations, is not perceived as too threatening if it occurs only randomly. If it occurs repeatedly, however, the individual typically seeks medical assistance.

What happens, though, when clinical and laboratory tests of a patient with this problem (falling out) are negative? Diagnoses of "idiopathic epilepsy" or "hysterical functional disorder" would usually be made. The treatment by a physician for these conditions does not address the presumed folk etiology of falling out: emotional distress. Stress, sexual conflict, or feelings of alienation are often judged responsible. Yet physicians do not treat the patient for these problems. The emically recognized symptom and resulting disability may even worsen. On other occasions modern diagnosis is that "nothing is wrong" (p. 590). Additionally, the finding of "nothing wrong" by physicians lends support to the possibility that the illness is unnatural, and recourse to traditional medicine may be the only appropriate or remaining resort.

Consequently, some poor people afflicted with falling-out may become trapped in an enduring state of illness. They may lack the money for full treatment or they may be ambivalent about or fearful of the root doctor's double-edged power. Simultaneously, they perceive the orthodox system as being unable to help them (p. 591).

The authors conclude that any solution to culturally defined health problems must take emic and etic perspectives into account.

Folk Medical Beliefs Among Black Americans

In a study of folk medical beliefs and practices among Black residents of Phoenix, Snow describes the importance many of her informants attached to blood. Snow interviewed 47 individuals in 37 households.

There is a concern with the generation and volume, circulation, purity and viscosity (of blood). Blood is spoken of as high or low, thick or thin, good or bad, clean or defiled If there is any statement that can be made about the blood, it is that it is in a constant state of flux (1974:89).

Among these respondents, high and low blood are related to blood volume: with high blood there is too much blood, with low blood not enough. High blood is caused by consuming an excess of rich food, especially meat. Low blood may be the result of consuming an excess of astringent foods, or by taking the remedies for high blood for too long.

High blood is dangerous because an excess of blood may back up into the brain and cause a stroke. With low blood the insufficient volume makes it difficult for the heart to pump blood throughout the body.

Treatment of high blood is by means of astringent substances which bring down the blood by ". . . opening the pores and allowing the excess blood to be sweated out" (Snow 1974:89). These substances include vinegar, lemon juice, pickles, and epsom salts.

Low blood is treated by consuming red foods: beets, wine, grape juice, red meat, liver, blood sausage, blood from a freshly slaughtered animal, or water in which a nail has been allowed to rust.

Rootwork and Root Doctors in Rural North Carolina

In rural North Carolina, Mathews found that high and low blood are diseases in a folk medical system in which the root

doctor is a central therapeutic figure. In this system, good health requires that body fluids be in appropriate balance. "When a person's fluid is unbalanced, the blood is either too high and too sweet or too low and too bitter" (Mathews 1979:1). Symptoms of high blood are headache, dizziness or faintness, fatigue, and generalized feelings of stress (Mathews 1982:2). In men, "falling out" spells or blackouts associated with heavy drinking are also symptoms of high blood.

Mathews interviewed six Black healers and gathered 10 case histories from which data were obtained and analyzed. A diet which consists of excessive amounts of starchy, greasy, and salty foods was thought to cause high blood. Foods that are frequently implicated include bacon, ham, chitterlings, fat back, barbeque, fried chicken and fish, bread, potatoes, gravy, milk sodas, coffee, and salt. Interpersonal stress can also be a cause of high blood, and middle age and obesity are associated factors in Black women.

In this study, diet modification and stress reduction are the most frequently suggested folk treatments for high blood. This requires the elimination from one's diet of starchy, greasy foods, which are the perceived causes of high blood. Daily periods of rest were also recommended by root doctors, with advice to clients about the management of their personal relationships in order to reduce their stress levels.

Symptoms of low blood in this study were perceived to be lassitude, constipation, weakness, and fainting. Herbal remedies for low and bitter blood were given as beet leaves, carrots, sassafras, aloe, coffee, wine, sugar, and salt.

St. Helena Island Popular Medicine

In the system of popular medicine on St. Helena Island, South Carolina, high and low blood are equated with "bitter" and "sweet," respectively. High blood is associated with childhood fevers and adult colds, conditions where the blood is believed to become too sweet, thus causing a rise in pressure. Medicinal substances are taken to "bitter the blood," which will subsequently lower the pressure, and thereby the fever and associated symptoms" (Moerman 1981:288). St. Helena residents employ several substances to achieve this end, for example the coral bean (Erythrina herbaceae), garlic (Allium ampeloprasum), horehound (Marrubium vulgare), life everlasting (Gnaphalium obtusifolium), horse nettle (Solanum carolinense), and Virginia snake root (Aristolochia serpentaria). Symptoms of low blood include weakness, lassitude and constipation; low blood is treated with "sweet" medications: sassafras, mullein, carrot seed, beets, sugar, and wine.

Moerman notes that this system of popular medicine serves as an important health resource for many on St. Helena Island. Conventional health care has been virtually nonexistent, or inaccessible, to Black residents of the Island because of its high cost. It should be pointed out, though, that certain folk remedies may in fact be effective. Many of the bitter medicines, for example, are hypotensive or diuretic in effect. These actions would be therapeutic for patients with hypertension, a disease which is one of the major health problems of the Island's Black population.

Discussion

In the present study, informants described high blood as a condition in which blood is driven high in the body, or in which there may be too much blood in the body. High blood may be caused by an improper diet, by strong emotional states such as anger and depression, or by temperature extremes, as in the heat of summer. This perception of high blood is very similar to that of the Bahamians and southern Blacks as described in Weidmans' research (1978). There was high agreement among informants in the present study that high blood can cause the individual to have a stroke, a belief also reported by Snow (1974). Snow points out that "high blood" may be confused by some with hypertension, and result in the treatment of that disease by means of folk remedies for high blood. The findings of this study indicate that some individuals understand these terms to be synonymous with each other, while others do not. In addition, informants in this study invariably referred to hypertension as "high blood," but not every use of the term "high blood" necessarily refers to hypertension. This is an important point to be aware of when discussing health with an individual who uses the term high blood.

Improper diet was identified as a major cause of high blood in this study, a finding also reported by Snow (1974), Mathews (1979), and Weidman (1978). The most prominent symptom or sign of high blood identified by Tennesseans was a flushed face, yet this symptom is not apparently associated with high blood among those interviewed

by Weidman, Moerman, Snow, or Mathews. Other symptoms reported by Tennesseans include swimmy-headed feelings, headache, nosebleeds, and swollen ankles. The sensation of "swimmy-headed" can be equated with faintness, dizziness, or "falling out," an interpretation supported by Mathews (1979) and Weidman (1978). Neither nosebleeds nor swollen ankles, however, were reported as symptomatic of high blood in these other studies.

Those participating in the present research were in very high agreement that avoidance of greasy foods, especially pork, was essential for the successful treatment of high blood. Other remedies recommended include garlic, epsom salts, grapefruit juice, lemon juice, vinegar, sassafras tea, and pickle juice. Similar dietary modification (elimination of starchy, greasy foods), as well as stress reduction, were prescribed for high blood by root doctors in rural North Carolina (Mathews 1979). Dietary modification as a treatment for high blood was not reported, however, by Snow, although ingestion of astringent substances appears to be a common remedy. Weidman reported that Bahamians and southern Blacks treated high blood with epsom salts, aloes, garlic, vinegar, lemon, and cerasee tea (cerasee is "a common vine with small leaves, slender stems and yellow-orange pod-like fruit") (Weidman 1978:600). On St. Helena Island, high blood is treated by medicinal substances which are taken to "bitter the blood." These substances were not mentioned in any other studies as a treatment for high blood. In the present research, informants indicated no knowledge of the

"bitter" and "sweet" dimensions as described by Mathews and Moerman.

In rural North Carolina, the root doctor is a central therapeutic figure in the treatment of high blood. No informant in the present study, however, made reference to root doctors or any other lay healer for the treatment of high or low blood. These situations are self-treated. Interestingly, a Black physician interviewed during this study said that he recalled a time when root doctors could be found in the city, but in his opinion none can be found in Knoxville today.

Low blood is perceived by those interviewed in Tennessee as a condition where the individual is chronically pale and experiences generalized fatigue, lassitude or lack of energy. Similar findings for low blood are reported by Mathews (1982) in rural North Carolina, and by Moerman (1981) in South Carolina. None of the informants in this study included constipation as a symptom of low blood, although this was reported by both Mathews and Moerman.

In the present study informants reported the following foods as appropriate treatment for low blood: liver, red meats, beets, red wine and grape juice. Low blood treatments in rural North Carolina also include beet leaves, carrots, aloe, coffee, sugar and salt. Sassafras or sassafras tea is judged to be an appropriate remedy for treating high blood, at least among those interviewed in Tennessee. In North and South Carolina, interestingly, it is a common treatment for low blood.

Conclusion

Popular or folk medical systems, such as the high and low blood belief system, are often an important health resource for individuals either in addition to, or in place of, conventional health care. The high and low blood belief system has been studied among several groups in the United States, including Haitians residing in Miami (Weidman et al. 1978), and Blacks residing in several rural and urban areas of the South (Snow 1974; Mathews, 1979; Moerman 1981). Although some residents of East Tennessee believe in the folk system of high and low blood, no systematic studies of this system have been carried out in this region of the United States.

The present study includes white as well as Black informants, and uses quantitative data to make a comparative analysis of the responses of urban whites, urban Blacks, and rural Blacks. The relationship of high and low blood to biomedical conditions such as hypertension and anemia is addressed by directly asking informants their opinions on this and other folk medical beliefs. The findings of this study demonstrate the presence of the high-low blood belief system among Black and white East Tennessee residents, with the responses of Black informants reflecting a more detailed knowledge of this folk medical system than those of white informants.

Knowledge of folk medical beliefs and practices is important, of course, in health care delivery for several reasons. First, lack of agreement between the professional and the patient about

the meaning of folk medical terms--including high and low blood--can impede the communication process. Second, perceived conflict between prescribed treatment and folk beliefs can result in non-acceptance of treatment by the patient. Third, failure to include the patient's perception of his illness in the explanation of treatment may cause the patient to have unanswered questions or unresolved feelings about the medical problem for which he or she is seeking assistance.

Research on folk medical systems is necessary in order for health professionals to be able to elicit accurate information about health behavior, especially self-treatment by patients, and to be able to formulate explanations of illness which can incorporate the patient's view of illness causation. While research carried out among other groups can point the health professional in a helpful direction in regard to folk medical practices in general, it is not a substitute for research on the population from which the patient comes.

CHAPTER III

PROBLEMS AND METHODS

Statement of the Problem

For many in modern American health care, folk medicine is not generally thought to have relevance for clinical practice. "Folk medicine, when it is considered at all, is likely to be thought of as a curious survival, having about the same relation to medical science as alchemy to chemistry" (Saunders 1969:404). However, folk medical beliefs and practices persist, at times strongly so, among numerous groups in the United States, including, for example, American Blacks (Mathews 1979; Moerman 1981; Snow 1974; Primack 1984), Spanish-speaking groups (Weidman et al. 1978; Clark 1970; Velimirovic 1978; Trotter and Chavira 1981), lower-income whites (Bauwens 1977; Murphree and Barrow 1979; Tripp-Reimer and Friedl 1977), and many others. Evidence exists that failure by health professionals to consider the folk medical beliefs and practices of their patients can adversely affect the outcome or quality of health care, and for several reasons:

1. The patient's use of folk medical terminology, or of nonstandard English phrases or style, may hinder the description and/or definition of the problem for which the patient is seeking assistance.
2. Non-adoption (noncompliance) may occur because a patient fails to understand the treatment rationale being prescribed.

3. The prescribed treatment may conflict with folk medical beliefs held by the patient, something that may also lead to non-compliance.

Folk medical beliefs and practices provide a familiar and informal way of coping with illness. The tenacity with which such beliefs are held suggests that they are helpful in meeting many of the needs arising out of illness--emotional, social, biological--and that for the health professional to ridicule, dismiss, or deny their efficacy only undermines the quality of care given. Rather, by showing interest and respect, physicians may obtain information about folk medical beliefs and practices (Murphree and Barrow 1970) that in turn provide a basis for enhanced participation in health care by the patient (Anderson et al. 1982).

The lack of specific information about the high-low blood belief system in East Tennessee makes it difficult for the health professional to work effectively with patients adhering to this folk medical system. Therefore, this study was designed to generate information pertaining to the following questions about high and low blood:

1. What are the perceived symptoms of high and low blood among a sample of East Tennessee residents?
2. What are the perceived etiologies and appropriate folk treatments for these conditions?
3. Is there a consensus or divergence of opinion on the above questions among white rural, white urban, and Black urban individuals?

4. How do those in the sample perceive the relationship between high and low blood, and clinical conditions such as hypertension, hypotension, anemia, and diabetes mellitus?

5. How do the findings of this study compare with those reported in other studies on high and low blood?

6. What other beliefs about blood and circulation do the informants have?

7. What are the implications of this study for health care delivery?

The breadth and scope of these questions, none of which has been addressed in reference to Tennessee, mandated an eclectic research strategy, one similar to what the Peltos have called "a judicious mixing of quantitative and qualitative research materials" (Pelto and Pelto 1978:xiv). Data elicitation techniques included structured and unstructured interviews, a card-sorting task constructed from data obtained in the interviews as well as from the literature, and questions related to hypothetical situations pertaining to high and low blood, where data already obtained were checked for consistency. The development and description of each data elicitation technique is presented later in this chapter. A copy of each standardized instrument is contained in Appendix A.

Setting and Sample

The sample employed in this study consisted of 45 adults from East Tennessee. Each had knowledge of the folk medical concepts of high and low blood. Criteria for inclusion in this sample were:

East Tennessee resident, having knowledge of high-low blood system, and willingness to participate in this research project.

The sample used in this study is similar to a quota sample, as described by Pelto and Pelto (1978:135). Using this approach, the present sample included males and females, rural and urban residents, and Blacks and whites. The sample, then, cross-cuts lines of sex, geography, and race. The problem of locating informants was resolved by identifying sites in East Tennessee where access to sufficient numbers of potential informants could be gained. One urban and three rural sites were located in three East Tennessee counties. These were the O'Connor Senior Citizens' Center in Knoxville, the Washburn Medical Center and the Senior Nutrition Program in rural Grainger County, and the Senior Nutrition Program in Union County.

Knox, Grainger, and Union counties, in which these sites are located, are among the 33 counties which comprise East Tennessee. Knox County, in which the O'Connor Center is located, has a population of 319,694, and is one of the major metropolitan areas of Tennessee (1980 Census of the Population). The population of Grainger County is 16,751 and Union County has 11,707 residents (1980 Census of the Population). Washburn (population 2,189) is an unincorporated community in Grainger County. It is the site of the Washburn Medical Center and the county's Senior Nutrition Program. Maynardville (population 5,934) is the location of the Union County Senior Nutrition Program (1980 Census of the Population).

Personnel employed at the agencies were either known to the investigator prior to the study, or were introduced to her during the data collection phase. At all sites, personnel actively assisted the investigator by arranging introductions to clients and by encouraging clients to participate in this research.

There were 31 females and 14 males in the study sample. Although 36 of the individuals were 51 years of age or older, the age range of participants was 19 to 96 years. Twenty-seven individuals in the sample were born in East Tennessee and have been life-long residents of this area. Ten persons in the sample were born in another southeastern state but all had lived in East Tennessee for more than 10 years. All participants were familiar with the folk medical concepts of high and low blood.

During each interview, informants were asked to identify themselves as rural or urban residents. Twenty-six individuals stated they were rural residents, and 19 described themselves as city residents. The study sample consisted of three groups: rural white, urban white, and urban black. The numbers of informants in each group are presented in Table 1.

All Black informants (19) were interviewed in Knoxville. There were no Black individuals interviewed or observed to be present at any of the rural locations utilized for interviewing. This can be understood when the Black population figures for these counties are examined. Census figures for 1980 list one Black individual residing in Union County, and the Black population of Grainger County

constitutes less than 1% of the total population. There was, therefore, no opportunity to include rural Black informants in the research sample.

Table 1. Characteristics of the Sample.

	Male	Female	Total
Rural white	6	23	29
Urban white	4	2	6
Urban black	4	6	10
Total	14	31	45

Concerning education, those in the sample from rural areas had a mean of 8.54 years of schooling completed. This is similar to the educational attainment for the general population of Grainger and Union counties. Informants from an urban setting had a mean of 7.8 years of schooling, which is considerably lower than the median of 12.0 years for residents of Knox County. Low educational attainment reflects the social class and residence of the center's clients. Except for one individual who was a college graduate and a teacher by profession, the occupations given by informants included farmer, factory worker, janitor, and nursing assistant. Eleven women said they were housewives. The number and characteristics of informants who completed each data elicitation technique are presented in Table 2.

Table 2. Numbers and Characteristics of Informants Completing Each Data-Elicitation Technique.

	Rural White		Urban White		Rural Black	
	M	F	M	F	M	F
Card-sorting Task, Generalized Questions and Hypothetical Situations (n=4)	0	3	1	0	0	0
Card-sorting Task and Generalized Questions (n=13)	2	4	2	1	2	2
Card-sorting Task and Hypothetical Situations (n=2)	0	2	0	0	0	0
Hypothetical Situations and Generalized Questions (n=6)	0	6	0	0	0	0
Card-sorting Task (n=6)	1	1	0	1	2	1
Hypothetical Situations (n=4)	1	1	1	0	0	1
Generalized Questions (n=2)	0	0	0	0	0	2
Open-ended Questions (n=8)	2	6	0	0	0	0
Total	6	23	4	2	4	6

Interview procedure. During interviews, the investigator followed the steps below with each informant:

1. Introduction of the investigator, description of the study, reaching agreement with the informant to participate, explanation and signing of consent form.
2. Collection of biographical data on informant: Name, sex, date and place of birth; number of school years completed; length of residence in East Tennessee; occupation during most of adult life; self-identification as rural or urban resident.
3. Interviewing and recording.
4. Tabulation of the data (where applicable).

Total interviewing time was approximately 55 hours.

Description of Data-Elicitation Techniques

Open-ended interview schedule. The first step in the development of the interview schedule was a series of informal conversations with colleagues, friends, and acquaintances of the investigator about the basic dimensions of high and low blood symptoms, etiology, and treatment. The investigator used every available opportunity to raise the subject and to ask general questions about high and low blood while at the research sites. All individuals queried were familiar with the terms and readily provided information. Notes were made of the substance of these conversations. Following this, and from information gained from a search of relevant literature, an open-ended interview schedule was constructed, and eight persons were interviewed using this schedule. From these interviews, data were generated in the following areas:

1. Perceived symptoms, behavior, and appearance of individuals identified as having high or low blood.
2. Folk remedies thought to be helpful in treating these conditions.
3. Perceived causes of high and low blood.
4. Possible relationship of high and low blood to other health problems, e.g., diabetes.
5. Perceived relationship of these terms to medical terms such as hypertension and anemia.
6. Informants' experiences with high and low blood, either

sufferers, or indirectly, from knowledge of others who have had high or low blood.

Card-sorting task. The detailed information obtained using the interview schedule was then organized and collated into a series of 62 separate statements, each consisting of a piece of information which could be true of either high or low blood. The statements included perceived symptomatology, etiology, and treatment. Each of these statements was written on a 3x5 card.

Since information obtained in the open-ended questions indicated that some symptoms and statements applied to both high and low blood, this task was formulated to permit the respondent to distinguish between statements that applied to one or the other of these conditions and those that could apply to both. In order to accomplish this, the following categories were created for use with the statements on the 3x5 cards:

- High Blood only,
- Low Blood only,
- Both High and Low Blood,
- Neither High nor Low Blood,
- Don't Know.

A complete list of the statements used is provided in Appendix A.

Examples of these statements are:

- "Your blood rushes to your head."
- "You are pale-looking."
- "You feel swimmy-headed."

"Overweight people can get it easier."

"Garlic is a good treatment for it."

Prior to each interview, the cards were shuffled so that the order of statements varied with each individual. Six of the statements were deleted in the early stages of interviewing, (items 57-62), some because they were repetitious and others because they did not elicit informative answers. In all, fifty-six statements were used.

During interviews, respondents were read each of the 56 statements and asked if, in their opinion, the statement was true of either high or low blood, of both high and low blood, of neither of these, or if the respondent had no opinion on that particular statement. As the individual replied to each statement, the investigator then placed that card into the appropriate category (e.g., "High blood only"). Immediately after the interview, responses were tabulated on a form developed for this purpose. Thirty to 45 minutes were required for each individual to complete this task.

Hypothetical situations and related questions. From information obtained through the card-sorting task, a "composite picture" was created of an individual with high blood and one with low blood. These composites were developed into hypothetical situations incorporating the most important symptomatic and situational features of each condition, as described by informants. The investigator then asked informants a series of questions about these situations.

The "composite picture" was further developed so that high blood was illustrated by a male as well as a female victim, and

the same procedure followed for low blood. It was then possible to combine a pair of these hypothetical situations and have a set which included an example of a male with high blood and a female with low blood, or a set with a female with high blood and a male with low blood. In this way the variable of sex of individual affected could be controlled.

Physician interviews. Five area physicians, three white and two Black, were interviewed for this study. Three physicians were general practitioners, one was an internist, and one was a hematologist. All but one had urban offices and practices; one general practitioner was located in a rural county. These physicians were interviewed in order to obtain data on the health professional's point of view pertaining to cultural differences between client and health care provider. Information was sought from physicians about the ways in which patients in East Tennessee use language or special terminology to describe their symptoms and body functioning, about physicians' experiences regarding folk medicine which patients have reported using, and about conflicts perceived by physicians, if any, between prescribed treatment and patients' folk medical belief systems. A copy of the physician interview questions is presented in Appendix A.

Data Analysis

Each response to every data-elicitation technique was recorded on a form designed to facilitate data analysis. Forms

were then grouped according to topic, and responses tabulated according to the three groups of informants participating in this study: rural white, urban white, and urban Black. Group responses were compared and analyzed for patterns of similarity and difference. Complete tabulations from every data-elicitation technique are presented in Appendix B.

CHAPTER IV

FINDINGS AND DISCUSSION

Introduction

The purpose of this chapter is to present and discuss the research data. Results from each of the data-elicitation techniques will be presented.

Results of the Card-sorting Task

In this technique, informants categorized a set of 56 statements about high and low blood according to their perception of these as being applicable to either high or low blood. Data obtained using this technique were placed in each of the groups which comprised the study sample: rural white, urban white, and urban Black. An analysis was made of response patterns within and among each of these groups. The number of informants who completed this task is 25.

High blood. High blood was identified by informants as a condition in which the individual has a flushed face, feels swimmy-headed, and may have a headache, nosebleed or swollen ankles (Table 3).

Both depression and failure to care for oneself properly may cause high blood, while factors which make it worse include overwork, worry, nervousness, and tension. Smoking and alcohol

Table 3. Card-sorting Task: Symptoms of High Blood.

	Rural White (n=13)		Urban White (n=5)		Urban Black (n=7)	
	No.	Percent	No.	Percent	No.	Percent
Flushed face	11	85	5	100	7	100
Nosebleeds	6	46	4	80	6	86
Swollen ankles	7	54	4	80	2	29
Swimmy-headed feeling	5	39	3	60	5	71
Headaches	7	54	2	40	3	43

consumption may also exacerbate this condition. High blood is thought to be a serious condition, in that it may lead to a stroke. Moreover, individuals who are overweight are thought to be particularly susceptible to developing high blood. These data about high blood are presented in Table 4.

Certain folk beliefs about high blood seem to predominate. There was almost unanimous agreement among all respondents that those with high blood experience a rush of blood to the head. Many individuals also associate high blood with stroke, obesity, and general stress. Other beliefs, though, exhibit less consensus.

White rural and urban informants perceived high blood treatment to consist mainly of dietary methods, for example, avoiding greasy foods, ham and pork chops. Similarly, urban Blacks also emphasized the avoidance of pork chops. The most common

Table 4. Card-sorting Task: Etiological, Descriptive and Related Factors in High Blood.

	Rural White (n=13)		Urban White (n=5)		Urban Black (n=7)	
	No.	Percent	No.	Percent	No.	Percent
Blood rushes to head	12	92	4	80	5	71
Can cause a stroke	11	85	5	100	5	71
Overweight get easier	10	77	4	80	5	71
Upset makes worse	10	77	3	60	6	86
Nervousness makes worse	9	69	4	80	2	29
Worry makes worse	8	62	4	80	3	43
Smoking makes worse	7	54	1	20	2	29
Alcohol makes worse	6	46	4	80	1	14
Blood too thick	6	46	2	40	5	71
Too much blood	4	31	1	20	5	71
Improper care of self is cause	6	46	1	20	2	29
Runs in families	7	54	3	60	1	14
Depression is the cause	5	39	3	60	5	71
Overwork makes worse	5	39	2	40	1	14

remedy, though, without exception is epsom salts. Urban Blacks also differed from white informants in their emphasis on using garlic, grapefruit juice, pickle juice, vinegar, lemon juice, and sassafras tea as appropriate remedies for high blood. While white rural and urban informants indicated some preference for these remedies, it was much less than that seen for Blacks. Rural whites also differed from urban whites concerning these remedies. Table 5 contains data about substances thought to be beneficial in the treatment of high blood.

Table 5. Card-sorting Task: Treatment of High Blood.

	Rural White (n=13)		Urban White (n=5)		Urban Black (n=7)	
	No.	Percent	No.	Percent	No.	Percent
Avoid greasy foods	12	92	5	100	3	43
Avoid ham	13	100	4	80	4	57
Avoid pork chops	12	92	4	80	6	86
Take garlic	4	31	2	40	5	71
Take epsom salts	5	39	1	20	7	100
Drink grapefruit juice	4	31	1	20	5	71
Drink vinegar	4	31	1	20	4	57
Drink lemon juice	4	31	1	20	4	57
Drink sassafras tea	3	23	1	20	4	57
Drink pickle juice	3	23	0	0	5	71

Low blood. A pale appearance was perceived by informants as the most prominent symptom of low blood (Table 6). Other symptoms include having no energy, feeling "dragged out," lying around a lot, having weak spells, being run down, and wanting to sleep all the time. Many informants responded that low blood is a condition in which one is anemic, or has iron-poor blood. The belief that the individual does not have enough blood to circulate properly was also perceived by informants in all three groups as a feature of low blood.

Treatment of low blood was perceived by informants to be chiefly dietary. Liver and red meat were most frequently identified as appropriate foods to consume when suffering from low blood. Other foods frequently suggested were beets, red wine, and grape juice (Table 7).

Three symptoms were identified by informants in all groups as characteristic of both high and low blood, rather than just one or the other of these. These symptoms, presented in Table 8, include staggering spells, dizzy spells, and blacking out. Both high and low blood were also perceived by informants as being equally undesirable from a health standpoint.

Informants in each group were in very high agreement that the dimensions "bitter" and "sweet" were unknown to them as these terms apply to high blood.

A total of 61 items pertaining to the high and low blood belief systems was generated through the card-sorting task and other

Table 6. Card-sorting Task: Symptoms and Etiology of Low Blood.

	Rural White (n=13)		Urban White (n=5)		Urban Black (n=7)	
	No.	Percent	No.	Percent	No.	Percent
Pale appearance	12	92	5	100	5	71
Feel "dragged out"	12	92	3	60	3	43
Want to sleep all the time	11	85	1	20	2	29
Have no energy	10	77	2	40	4	57
Are rundown	10	77	3	60	1	17
Lie around a lot	7	54	2	40	3	43
Have weak spells	7	54	2	40	3	43
Are anemic	10	77	3	60	4	57
Not enough blood	6	46	1	20	5	71
Iron-poor blood	6	46	2	40	3	43

Table 7. Card-sorting Task: Treatment of Low Blood.

	Rural White (n=13)		Urban White (n=5)		Urban Black (n=7)	
	No.	Percent	No.	Percent	No.	Percent
Liver	10	77	4	80	4	57
Red meat	7	54	4	80	2	29
Beets	5	39	2	40	4	57
Red wine	4	31	2	40	4	57
Grape juice	2	15	1	20	3	43

Table 8. Card-sorting Task: Responses Applicable to Both High and Low Blood

	Rural White (n=13)		Urban White (n=5)		Urban Black (n=7)	
	No.	Percent	No.	Percent	No.	Percent
Staggering spells	6	46	2	40	6	86
Dizzy spells	5	39	2	40	6	86
Dangerous to have	5	39	3	60	5	71
Blacking out	4	31	4	80	3	43

elicitation techniques. On 27 of these items, urban black informants had the highest percentage response of the three sample groups. These responses included most of the striking and traditional symptoms and treatments of both high and low blood. Items to which Black informants demonstrated a higher level of knowledge than white informants included high blood symptoms of flushed face, feeling swimmy-headed, the belief that one's blood is too thick and that one has too much blood, and all the traditional treatments for high blood which are described in this study: sour fruit juice, garlic, epsom salts, grapefruit juice, vinegar, lemon juice, sassafras, pickle juice, and the reading of Bible passages. Low blood characteristics on which urban Blacks scored the highest included the belief that the individual has insufficient blood, that certain foods can thin the blood to such an extent that low blood results, that antihypertensive medication can cause low blood, and that a pregnant woman will naturally have low blood. Urban Black informants also scored

highest on three of the five treatments for low blood: beets, red wine, and grape juice.

The highest response percentages of urban white informants included those characteristics of high blood which can also be associated with hypertension: swollen ankles, it can cause a stroke, overweight people get it easier, high blood is the same thing as high blood pressure. Factors which make high blood worse included nervousness, worry, overwork, and alcohol. This group of informants also scored highest on anger and depression as causes of high blood. The only high blood treatment item on which this group scored highest of the three groups was on avoidance of greasy foods. Urban whites also achieved the highest response percentage of the three groups on pale appearance as a symptom of low blood, and liver and red meat as low blood treatments. Curiously, urban whites had the highest response percentage on one folk belief: that one's blood is thicker in the winter.

The area of consensus on which rural white informants scored highest of the three groups included eight items pertaining to high blood and eight items pertaining to low blood. The eight high blood items were: headache, blood rushes to your head, improper care of self as a cause, weather as a cause, smoking makes high blood worse, men get high blood easier than women, avoidance of ham and pork.

Low blood symptoms and traits in which rural whites exhibited greatest consensus included: feeling dragged out, wanting to sleep

all the time, having no energy, being run-down, lying around a lot, having weak spells, being anemic, and having iron-poor blood.

A pattern observed in the data discussed above is that of a rank-order for many of the response items in which urban Blacks have the highest percentage of agreement, rural whites the next highest, and urban whites the lowest. This pattern is noted in 19 of the 61 response items which comprise the two data-elicitation techniques mentioned above.

From the above discussion it appears that the level of knowledge of the high-low blood belief system is highest among urban Blacks, next highest among rural whites, and lowest among urban whites. All Black informants in this study had been urban residents all of their lives, yet traditionalism in the form a system of folk medicine has endured among these people while it has fairly rapidly eroded among urban whites. One reason that folk medicine might endure among Blacks more so than whites is differential access to health care, something strongly affected by financial and race-related factors. Folk medicine, of course, is easily available and less expensive than biomedical health care.

Results of Generalized Questions on Folk Medical Beliefs

After completing the card-sorting task, a series of questions was presented to those informants who indicated a willingness to continue with interviewing. Their willingness, though, varied. Therefore, some individuals answered many questions, while others answered only a few. For this reason, the number of responses varies

(from 15 to 21) with each question or statement. The number of individuals who responded to each item is presented next to each question (Table 9).

Informants from each of the three groups were in strong agreement about the role of anger in the etiology of high blood. Depression and very hot weather were also perceived as causative factors, although to a slightly lesser extent than anger.

Black informants responding to the statement about the efficacy of pale, sour juices in bringing down high blood were in total agreement about this treatment. Both urban and rural whites, however, showed less preference for this treatment than did Blacks. Some respondents replied that the reading of certain Bible passages can lower high blood as effectively as other procedures. Although the number of informants who responded affirmatively to this item is small, this belief is shared by some individuals in each of the sample groups. Most believe that men are at greater risk of high blood than women. Informants were also asked if, in their opinion, high blood and hypertension are the same thing. Most responded negatively. Of those informants responding affirmatively, the highest percentage was in the urban white group, the next highest among urban Blacks, and the lowest percentage among rural white informants.

Informants' responses to statements about the etiology of low blood (Table 10) exhibit less consensus than what is seen for high blood. Moreover, most responses were negative. Only a few

Table 9. Responses to Questions Regarding Folk Beliefs about High Blood.

	<u>Rural White</u>		<u>Urban White</u>		<u>Urban Black</u>	
	No.	Percent	No.	Percent	No.	Percent
Getting very angry can make your blood "go high" (n=20)	11	92	4	100	4	100
Being very depressed can make your blood "go high" (n=20)	9	64	3	75	2	67
Very hot weather can make your blood "go high" (n=21)	10	77	2	50	3	75
Drinking a lot of sour fruit juice can bring high blood down (n=21)	4	31	3	75	4	100
Some bible passages can bring high blood down just like medicine (n=19)	2	15	1	25	2	67
Men can get high blood easier because they have more blood than women (n=15)	3	27	1	25	0	0
High blood is the same thing as high blood pressure (n=20)	4	33	3	75	2	50

Table 10. Responses to Questions Regarding Folk Beliefs about Low Blood.

	Rural White		Urban White		Urban Black	
	No.	Percent	No.	Percent	No.	Percent
Some foods can thin the blood too much and give you low blood (n=20)	3	27	1	20	2	50
Medicine for high blood can give you low blood (n=19)	2	18	0	0	2	50
A pregnant woman will naturally have low blood (n=17)	1	10	0	0	1	33

informants, for example, believe that certain foods, when consumed in excessive amounts, can thin the blood, thereby causing low blood. Similarly, only four informants held the belief that medication for hypertension can cause low blood. Very few informants perceived a natural association between pregnancy and low blood.

Many informants believe that the thickness of blood changes and that blood requires occasional purification. A fairly strong perception exists that blood becomes thicker in cold weather. However, this perception does not necessarily lead to a belief that the individual needs to take action to thin the blood. Even though a majority of white urban informants indicated a belief that blood is thicker in cold weather, the same individuals did not see a corresponding need to remedy this. Data pertaining to these folk beliefs are presented in Table 11.

Table 11. Responses to Questions Regarding Folk Beliefs about Blood.

	<u>Rural White</u>		<u>Urban White</u>		<u>Urban Black</u>	
	No.	Percent	No.	Percent	No.	Percent
Blood is naturally thicker in winter (n=20)	8	67	3	75	2	50
Blood needs purifying in spring (n=20)	5	39	1	25	2	67
You need to thin your blood in spring (n=20)	3	30	0	0	3	75

Results of Questions Related to Hypothetical Situations

Informants were read a "composite picture" of a hypothetical individual with high blood, and one with low blood. These composites (a male and a female for each condition) were constructed from data obtained earlier in the study. Informants then answered questions about high or low blood based on these hypothetical individuals. Sixteen informants completed this data-elicitation technique. However, 13 were rural white individuals. Since the other informants completing this task were two urban whites and one urban Black, their responses were grouped together for clarity and ease of presentation. Therefore, informants' responses are not grouped according to residence and ethnicity as are the other data.

Informants were read the following:

Male

I heard about this man, past 50, that hasn't been feeling well lately. He gets headaches and sometimes feels swimmy-headed. He's been overweight for many years and really has a hard time during hot weather. His face is kinda flushed. His wife died last year. His mother is all the time after him to take garlic, because she says this is good for high blood. He's been to the doctor and doesn't have high blood pressure.

Female

I heard about this woman, past 50, that hasn't been feeling well lately. She gets headaches and sometimes feels swimmy-headed. She's been overweight for many years, and really has a hard time during the hot weather. Her husband died last year. Her mother is all the time after her to take garlic, because the mother thinks she has high blood. This lady has been to a doctor and doesn't have high blood pressure, although her face is kinda flushed.

Informants agreed that the person described (in both the male and female versions) was suffering from high blood (Table 12). Many were also in agreement regarding the treatment of high blood. They stressed that garlic and sour fruit juices are appropriate remedies. Also, the person should avoid starchy, greasy foods. Obesity and heredity were also associated with high blood, but more so for men than women. Yet consumption of alcohol is perceived to make high blood worse for both men and women. When informants were asked if age were a factor in high blood, their responses indicate that younger women (e.g., age 25) are not as likely to get high blood as are older women (e.g., age 50). In men, this relationship between age and high blood is less pronounced, so that it appears that it is possible for a man to have high blood even when quite young.

Table 12. Responses to Questions about Hypothetical Situations: High Blood.

	Male Situation		Female Situation		Total	
	No.	Percent	No.	Percent	No.	Percent
1. Do you agree that this individual has high blood?						
Agree	6	75	6	75	12	75
Disagree	1	13			1	6
Don't know	1	13	2	26	3	19
2. Do you agree that garlic or sour fruit juice daily is a good idea for this person?						
Agree	5	63	5	63	10	63
Disagree	1	13			1	6
Don't know	2	26	3	38	4	25
3. This person's father also had high blood pressure. Does this make any difference?						
Agree (yes)	6	75	5	63	11	69
Disagree (no)	1	13	1	13	2	13
Don't know	1	13	2	13	3	19
4. This person's children think (s)he ought to stop eating starchy, greasy foods. Do you agree?						
Agree	6	75	6	75	12	75
Disagree	1	13			1	13
Don't know	1	13	2	25	3	19

Table 12 (Continued)

	Male Situation		Female Situation		Total	
	No.	Percent	No.	Percent	No.	Percent
5. Do you think this person has high blood because (s)he is overweight?						
Agree (yes)	6	75	5	63	11	69
Disagree (no)			2	25	2	13
Don't know	2	25	1	13	3	19
6. If this person were 25 instead of 50, would it make any difference in having high blood?						
Agree (yes)	5	63	7	88	12	75
Disagree (no)	2	25			2	13
Don't know	1	13	1	13	2	13
7. Would wine or liquor make high blood worse?						
Agree (yes)	6	75	6	75	12	75
Disagree (no)	2	25	1	13	3	19
Don't know			1	13	1	6
8. Would you think that because this person has high blood (s)he is easily excited or upset?						
Agree	6	75	3	38	9	56
Disagree	1	13	1	13	2	13
Don't know	1	13	4	50	5	31

Table 12 (Continued)

	Male Situation		Female Situation		Total	
	No.	Percent	No.	Percent	No.	Percent
9. This person's mother says (s)he has high blood even though the doctor says (s)he does not have hypertension. Do you agree?						
Agree	5	63	6	75	11	69
Disagree						
Don't know	3	38	2	25	5	31
10. Is the spouse's death related to this person having high blood?						
Agree	5	63	4	50	9	56
Disagree	3	38	2	25	5	19
Don't know			2	25	2	13
11. If this were a woman/man instead of a man/woman, would it make any difference?						
Agree (yes)	1	13	3	38	4	25
Disagree (no)	6	75	2	25	8	50
Don't know	1	13	3	38	4	25

The responses of informants indicate a stronger relationship between high blood and an excitable personality for males than females. In responding to the question about the possibility of having high blood when hypertension had been ruled out by a physician, a majority of informants said that this was possible. There is also a perceived relationship between stress (e.g., the death of a spouse) and the occurrence of high blood. In general, men are judged more likely to have high blood than women. Most informants had no further comments to make at the end of the interview. However, one woman summarized her beliefs about the importance of improper diet in causing health problems. "I only know my kin and how they act. I have heard behavior is much the same with high and low blood. With low blood, your color is pale; with high blood, you have a red flushed face. Overweight people can have high or low blood." Another informant added, "I think it is mostly the food--spicy foods, grease, alcohol--gives you problems with health." "You should follow the doctor's orders if you have high blood pressure." "When blood is too low, a quart of icecream would pull it up. Sherbet pulled it down--I've tried it."

Informants were read the following description of low blood:

Female

A friend was telling me about somebody she knows, in Straw Plains, who isn't feeling well lately. This woman feels weak and dizzy a lot of the time, gets headaches and is pale looking. She has three small children and her husband doesn't work steady. She's not overweight and sometimes she gets staggering spells. Her mother says she has low blood.

Male

A friend was telling me about somebody they knew, in Straw Plains, who was laid off from his job last fall. He hasn't been able to find another job. He's not feeling well lately--feels weak and dizzy, has headaches and is pale looking. He sits around the house a lot, and sometimes he has staggering spells. He's not overweight. His wife says he has low blood.

Most informants agreed that the individual described had low blood, but with a much higher degree of certainty when the individual described was a female (Table 13). There was also a high level of agreement that red meat every day was appropriate treatment for low blood. Informants perceived low blood to be the result of an inadequate diet, to a greater extent for women than men.

According to a majority of informants, the individual can be overweight and still have low blood. The age of the individual appears to make more of a difference in getting low blood for women than men. An interesting finding is that informants were unanimous in their opinion that the individual described (whether male or female) did need to see a physician.

Alcohol was not clearly perceived as having an adverse effect on low blood. Informants were evenly divided over the question regarding menstruation and the occurrence of low blood in women. Exactly one half felt that there was such a relationship; the other half did not. An interesting finding is that informants were unanimous in their opinion that the individual described (whether male or female) did not need to see a physician.

Table 13. Responses to Questions about Hypothetical Situations: Low Blood.

	Male Situation		Female Situation		Total	
	No.	Percent	No.	Percent	No.	Percent
1. Do you agree that this individual has low blood?						
Agree	5	63	8	100	13	81
Disagree	2	25			2	13
Don't know	1	13			1	6
2. Do you agree that (s)he should eat red meat every day?						
Agree	6	75	8	100	14	88
Disagree	1	13			1	6
Don't know	1	13			1	6
3. Do you agree that if this person ate right, (s)he wouldn't have low blood?						
Agree	4	50	6	75	10	63
Disagree	2	25			2	13
Don't know	2	25	2	25	4	25
4. Do you agree that (s)he could be overweight and have low blood?						
Agree	5	63	5	63	10	63
Disagree			1	13	1	6
Don't know	2	25	2	25	4	25
No reply	1	13			1	13

Table 13 (Continued)

	Male Situation		Female Situation		Total	
	No.	Percent	No.	Percent	No.	Percent
5. Do you think that her age makes any difference in getting low blood? Agree (yes, difference) Disagree (no difference) Don't know	0 4 4	0 50 50	4 3 1	50 38 13	4 7 5	25 44 31
6. Do you agree that this person does not need to see the doctor? Agree Disagree	0 8	0 100	0 8	0 100	0 16	0 100
7. Do you agree that alcohol would make low blood worse? Agree Disagree Don't know	1 6 1	13 75 13	3 3 2	38 38 25	4 9 3	25 56 19
8. Do you agree that this person's (or spouse's) loss of a job had anything to do with him/her getting low blood? Agree Disagree Don't know	2 3 3	25 38 38	4 4 0	50 50 0	6 7 3	38 44 19

Table 13 (Continued)

	Male Situation		Female Situation		Total	
	No.	Percent	No.	Percent	No.	Percent
9. If this were a woman/man instead of a man/woman, would anything be different?						
Agree (yes)	2	25	3	38	5	31
Disagree (no)	4	50	2	25	6	38
Don't know	2	25	1	13	3	19

Results of Interviews with Area Physicians

Five area physicians were interviewed to obtain information regarding their perceptions of folk medical beliefs and practices held by some of their patients. Because these interviews were less structured than other techniques, and because the total number of physicians interviewed was small, these findings are presented in narrative form without tables.

The five physicians interviewed said that, in their opinion, very few of their patients used folk remedies. Even so, some patients do, yet only the Black physicians regularly inquired about folk medical practices. These physicians were generally quite knowledgeable about the high-low blood belief system and they said that such folk medical beliefs could affect the interpretation patients draw from medical consultation. For example, if a patient is diagnosed as having hypertension, the patient might also assume that he has too much blood. If diagnosed as anemic, then he may think he does not have enough blood. It is necessary, particularly if a patient is both hypertensive and anemic, that these conditions be explained in both medical and folk terminology. One physician said that he tells the patient in a situation like this that "your blood is too thick, yet there's not enough." While explanation of such problems is relatively time-consuming, this physician stressed that it is necessary to enhance the patient's compliance of the prescribed treatment.

Four of the five physicians related similar materials on the ways some patients explain their own health problems. It is not unusual, for example, for a patient to complain of "high blood" or "hypertension." However, what the patient means when these words are used is that he or she is feeling very tense and "uptight." Neither "high blood" nor "hypertension" is synonymous with clinical hypertension. It appears that many patients equate "hypertension" with extreme emotional tension, and since they know there is a disease called hypertension, they use this label to describe a behavioral problem. Blumhagen notes that the lay meaning of hypertension is not identical with the clinical meaning. "Lay terminology is related to everyday English instead of professional jargon [therefore] the natural translation of this term would be 'excessive tenseness'" (Blumhagen 1982:310). This is exactly what the physicians interviewed said their patients were referring to when they used this word.

A rural general practitioner said that "low blood" was one of the diagnoses that patients applied to themselves when coming to his office for treatment. When a patient used this term as a description of his problem, this physician said that one of the conditions which he assessed was clinical depression. Some of the symptoms of low blood, such as lack of energy, fatigue, and lethargy, resemble the decreased motor activity and reduced stamina which are frequently characteristic of clinical depression (Coleman 1976).

Two important points about folk medical beliefs emerged from these interviews with physicians. The first is that patients have some knowledge of illness based on lay perceptions of body functioning. This affirms the point made by Fabrega and others that biomedicine is rarely the sole source of information or assistance utilized by individuals in coping with their health problems (Fabrega 1977; Helman 1978; Snyder 1983). The second is that patients apply folk or lay concepts to biomedical terminology in their attempts to better understand illness and treatment. For example, many individuals, but not all, assume that high blood and clinical hypertension are one and the same thing. Physicians, of course, do not. Patients may also elect to treat hypertension with folk remedies, either in addition to the prescribed treatment or in place of it. They may do so for financial reasons. Folk remedies are obviously less expensive than prescription medication. Patients may also not understand the rationale for the biomedical treatment, simply because they see no conflict between these different treatment strategies (Snow 1982; Press 1982; Snyder 1983). The health professional must remain aware of such potential problems, particularly if the patient is to understand hypertension and its biomedical treatment.

Implications for Health Care Delivery

A knowledge of folk medicine, or of ethnomedical systems, is a valuable tool for the health professional, and on many levels. Practically speaking, a knowledge of folk medical systems will aid

the professional in understanding what the patient is trying to express, what the patient's perspectives are on health and illness, and what is the meaning of terms used by the patient. Anyone who has ever failed to comprehend the meaning of a word used by a patient will appreciate how important such an understanding can be. Because a knowledge of folk medicine facilitates communication, obtaining a health history becomes much easier, as does diagnosis. On another level, the relationship between patient and health professional is profoundly affected when the patient's values and perceptions are respected. The patient and professional can discuss issues, if not on equal terms, at least on a less one-sided basis. For the professional to convey a feeling of respect for the patient's attempts at self-treatment instead of expressing impatience is to give full meaning to the phrase, "Accept the patient as a person." It is the professional's responsibility to understand the patient, not the other way around.

When a sufficiently trusting and respectful relationship is developed, patients will feel less reluctant to talk about their use of epsom salts to treat high blood, or that the antihypertensive medication prescribed was omitted in favor of garlic. In this way clues to a patient's clinical course (while in treatment) can be obtained. When conducting a health history, physicians should ask a variety of folk-oriented questions. For example:

1. Tell me in your own words about the problem that brings you here today.

2. Does this problem have a name? Have you ever heard it called something else? What is the difference between these names?
3. When did you first know you had this problem?
4. Usually, I find that people have tried some medicine or some way to treat their problem before coming here. Have you tried something for this problem? Has it helped?
5. Do you do anything in particular to stay healthy, like take tonic, or drink sassafras tea, or anything at all?
6. Some people have told me about "old-timey" medicines or remedies that they use sometimes, and I'm interested in things that people tell me help them. Are you taking or using anything that is helping you?

Finally, the relationship between high blood and hypertension must be addressed by the health professional when treatment for hypertension is initiated. There are many potential problems that might develop if the patient pursues self-treatment for high blood without the professional's knowledge. While garlic or sour fruit juice may not adversely affect the patient, regular ingestion of epsom salts or pickle juice can adversely affect fluid and electrolyte balances, thereby affecting blood pressure levels as well. Since most patients typically do not volunteer information on self-treatment to health professionals, physicians and others must become sufficiently knowledgeable about local folk medical practices to ask essential questions, and to take preventive action in cases where a patient may be harmed through his own beliefs and practices.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The purpose of this chapter is to summarize the research findings, to discuss the conclusions of the study, and to advance recommendations for future research on the high-low blood belief system.

Summary

In the present study, answers were sought to a series of questions which encompassed general and specific information about the high and low blood belief system in East Tennessee. These questions are listed below, with the study findings summarized for each.

What are the perceived symptoms of high and low blood among East Tennessee residents?

High blood was identified by study informants as a condition in which the individual has a flushed face, experiences a rush of blood to the head, feels swimmy-headed, and may have a headache, nosebleed, or swollen ankles.

Low blood is a condition in which the individual has a pale appearance and generalized feelings of fatigue, lethargy and lack of energy.

What are the perceived etiologies and appropriate treatments for these conditions?

High blood may be caused by an improper diet, by intense emotional states such as anger and depression, or by very hot weather. An improper diet is one that contains an excessive amount of foods called blood-builders, or one in which the individual consumes excessive amounts of greasy foods or pork. High blood is associated with obesity and middle age, and a family history of high blood is thought to increase the probability that it will occur in a given individual.

Appropriate treatment for high blood consists of dietary modification by avoidance of greasy foods and pork, and the ingestion of substances thought to bring down high blood. These include garlic, epsom salts, grapefruit juice, vinegar, lemon juice, sassafras tea, and pickle juice.

Informants perceived low blood to be a condition brought about by a diet containing insufficient amounts of blood-building foods, specifically red meat, liver, grape juice, and red wine. Treatment of low blood consists of incorporating these foods into one's diet on a daily basis. Low blood can also be caused by consuming an excessive amount of foods and substances that are thought to thin the blood, such as pale astringent juices, vinegar, garlic and epsom salts.

Is there a consensus or divergence of opinion on the above questions among white rural, white urban, and Black urban individuals?

Informants in each of the three groups in the study sample were in strong agreement on the basic symptoms and etiology of high and low blood. There was nearly unanimous agreement among informants about a flushed face and a rush of blood to the head as primary symptoms of high blood, and there was general agreement about the etiologies of both conditions. There was also a high level of agreement among all study informants that the individual with low blood has a pale appearance and experiences generalized feelings of fatigue, lethargy and a lack of energy.

Among white urban and rural informants, the recommended treatment for high blood was avoidance of ham, pork chops and greasy foods. Black urban informants, on the other hand, recommended the following substances for treatment of high blood: garlic, epsom salts, grapefruit juice, vinegar, lemon juice, sassafras tea, and pickle juice. Recommended treatment for low blood was the same in each of the groups (rural white, urban white, and urban Black).

Black informants reflected a greater degree of familiarity with the high-low blood belief system, and with other folk medical beliefs, than did white rural and urban informants. Black informants also indicated a greater preference for folk remedies, such as garlic and epsom salts, rather than dietary modification as primary treatment for high blood.

What other beliefs about blood and circulation exist among East Tennessee residents?

A majority of informants in each of the sample groups indicated that very hot weather was a cause of high blood, and that one's blood became thicker in cold weather. A small minority of informants in each of the sample groups expressed the belief that reading certain bible passages could bring down high blood, and that blood needed purifying in the spring. The beliefs that antihypertensive medication can cause low blood, and that pregnancy is naturally associated with low blood, were held by a small minority of urban Black and rural white informants. These beliefs were not found, however, among urban white informants.

How do the findings of this study compare with other research on high and low blood?

High and low blood are folk medical conditions in which the blood is in some way out of its appropriate and natural balance. High and low blood are, in a sense, opposites of each other. In the present study, informants' responses exemplified these perceptions. The most prominent symptom of high blood is a flushed face, while the individual with low blood has a pale appearance. In this study, high blood is associated with intense emotional states and with an excitable personality. In contrast, the individual with low blood experiences feelings of fatigue and lethargy. High blood may be caused by many things, the most common being an excess of certain foods, notably greasy foods such as ham and pork. These foods are also common remedies for low blood. Similarly,

low blood may be caused by dietary imbalance, for example excessive intake of pale astringent juices.

While the findings of other studies of high and low blood are similar to those in the present research, there are some important contrasts. For example, the flushed face and pale appearance that Tennessee informants associated with high and low blood, respectively, are not described as symptoms by other researchers. Informants in this study also reported that certain symptoms are equally characteristic of high and low blood. These symptoms include staggering spells, dizzy spells, and blacking out. Informants also identified high and low blood as being equally dangerous. The "bitter" and "sweet" dimensions associated with high and low blood do not occur in the Tennessee population, although these traits are found among other populations in the southeastern United States (Mathews 1979; Moerman 1981).

Treatment of high and low blood described by study informants is based on dietary modification, where garlic, epsom salts, and pale astringent juices are regularly taken. Tennessee informants placed little importance on using medicinal plants as remedies, a practice quite common among residents of St. Helena Island (Moerman 1982). Tennessee informants made no reference to using a folk medical practitioner to treat high or low blood, although Mathews has reported that root doctors are frequently utilized by rural North Carolina Blacks for treating high or low blood (1979). While East Tennessee residents included in this study

identified sassafras tea or sassafras as a treatment for high blood, sassafras is reported by Mathews and Moerman as a treatment for low blood.

How do East Tennessee residents perceive the relationship between high and low blood and the clinical conditions of hypertension, anemia, and diabetes mellitus?

Urban white and Black informants in the present study were more likely than rural whites to think that high blood and high blood pressure were the same thing. However, some informants in each group felt that these were two different conditions. Other informants had not thought about this until asked and were not sure of their answer. Interestingly, though, most informants equated low blood with anemia. There was no association of diabetes mellitus with either high or low blood.

Conclusions

The findings of the present study demonstrate the presence of the high and low blood belief system among Black and white East Tennessee residents. High and low blood can be viewed as opposites. High blood is associated with a flushed face, emotional excitability, and an excess of blood in the body. In contrast, low blood is characterized by a pale appearance, feelings of lethargy and fatigue, and it is believed that there is an insufficient amount of blood in the body, thus causing poor circulation.

Many urban and rural informants equated high and low blood with, respectively, the clinical conditions of hypertension and

anemia. However, Black informants defined high and low blood primarily in folk terms, with little reference to biomedical clinical conditions. The responses of Black informants also reflected a more detailed knowledge of the traditional treatments for high and low blood than did the responses of informants in the other two groups in the sample. Study data reveal a consistent pattern of responses in regard to knowledge about the high and low blood belief system, where knowledge is greatest first among urban Blacks, next among rural whites, and lowest among urban whites. It appears, then, that traditionalism endures more strongly among Blacks than among rural or urban whites. This finding has important implications for health care delivery in East Tennessee.

Concerning the problem of patient acceptance of prescribed biomedical treatment, health professionals would be well advised to become more knowledgeable about folk medical beliefs and practices. When obtaining a health history, for example, health professionals should be prepared to acknowledge and discuss the existence of self-treatment practices, including perceived symptoms and remedies used, without attributing negative connotations to such practices. When teaching patients about the clinical conditions of hypertension or anemia the conversation might be structured to incorporate folk medical concepts pertaining to blood circulation so that the patient might more clearly understand the underlying pathology and appropriate biomedical treatment. An important point to be included in such a discussion would be the adverse effect on the patient of self-

treatment of hypertension with a folk remedy for high blood, for example, pickle juice. Such treatment may be appropriate from the patient's point of view. But the health professional with a knowledge of folk medical practices could warn the patient that such a practice would be unwise because of the high sodium content of pickle brine and the consequent effect on blood pressure (Wolfe 1981). Finally, such folk medical concepts as balance and moderation, self-responsibility for health, and the role of a proper diet in maintaining health are obviously relevant in treating hypertension and anemia, and such concepts provide an excellent basis for explaining desired or necessary therapeutic behaviors to patients.

Recommendations for Dissemination of Research Findings

The suggestion has been made earlier in this thesis that health professionals be aware of the folk medical beliefs and practices of their patients. The question is, how can this be accomplished.

Research findings which have application in patient care should be published in the literature of health professionals in addition to research or anthropological journals. Both Snow (1974) and Primack (1984) have done precisely this: Snow's research on folk medicine appeared in the *Annals of Internal Medicine*. *Urban Health* included reports by both Snow (1976) and Primack (1984)

regarding the importance of folk health concepts in biomedical care.

To reach health care professionals, research findings should be presented at conferences and workshops. Snow's research (1982) was included in a conference at the University of South Carolina School of Nursing, the focus of which was health care practices. Both these approaches constitute a direct link between the researcher and the health professional, and provide a means through which patient care can be positively affected.

Patients themselves should not be overlooked when considering how to utilize research findings. Patients can be instructed and encouraged to provide information to health professionals regarding their self-treatment. Such instruction can be done by printed as well as verbal methods. Posters or brochures in clinic waiting rooms and physicians' offices can communicate to patients the kinds of information that are important and why their physician needs to know this. Patients may also be reached as part of teaching directed toward the general public; this is accomplished, for example, at health fairs and through media such as television and radio talk shows. Since one of the functions of these kinds of events is the publicizing of issues, a social scientist may reasonably expect to find an audience to whom important suggestions regarding health may be directed.

Recommendations for Future Research

The importance of folk medical beliefs in determining how individuals perceive and treat illness has been documented by a large number of anthropologists (e.g., Murphree and Barrow 1970; Helman 1978; Blumhagen 1982). In order to make effective use of folk medical beliefs in health care, the health professional must know precisely how these beliefs are implemented by patients. With such information, the professional can incorporate concepts from folk medical systems into a discussion of illness and its treatment that avoids creating conflict for the patient. Avoidance of conflict between lay and biomedical explanations is essential for a successful treatment outcome:

Regardless of how much a patient may voice agreement with a doctor, after the patient returns home, the personal and lay network health beliefs as they have been modified by an encounter with a practitioner are the final arbiter of which interpretation of the illness is accepted and which treatment options are used. . . . Because of the importance of popular health belief systems and lay health networks, it is imperative that health professionals be aware of these and be taught to elicit information about them and negotiate treatment options in the light of this information (Blumhagen 1982:298-299).

Numerous research questions persist, however. Hopefully, future studies will go beyond the findings of this thesis to explore a variety of other topics pertaining to folk beliefs about blood. Answers to the following questions, for example, would provide health professionals with additional knowledge about folk medical practices.

1. Is high blood an acute, intermittent, or chronic condition?
That is, does the individual experience high blood one day, or one week, or is this a condition which exists over prolonged periods of time? Can high blood subside without active treatment? Does high blood require daily treatment during an episode, or only when symptoms are experienced?
2. Can high blood be prevented in an individual with a family history of this condition? What determines whether or not high blood occurs, and when?
3. Is there a progression from high blood to clinical hypertension, or vice versa? Which condition is more deleterious to the individual's health?
4. How do individuals choose among the different treatments for high blood, for example garlic, epsom salts, or pale astringent juices? Is this purely a matter of individual choice?
5. If an individual perceives himself as experiencing high blood, what kinds of symptoms would cause him to seek biomedical health care?
6. Is there a correlation between self-diagnosis of low blood and the existence of clinical depression? If this is the case, how could a health professional explain depression in folk terminology?
7. Do individuals utilize folk medical practices more in the prevention or in the treatment of illness? To what extent do

individuals receiving biomedical health care continue to use folk remedies? Are folk remedies added to, or substituted for, prescription medication?

8. To what extent do individuals consume the foods and substances perceived as therapeutic for high and low blood? Does individual behavior in this regard reflect differences in knowledge of folk medicine, something found in this study when comparing urban Blacks, rural whites and urban whites?
9. What other folk medical conditions and remedies exist in East Tennessee?

Folk medical beliefs are not easily changed. Therefore, health professionals are advised to become knowledgeable about such beliefs as the high-low blood belief system, and to incorporate this knowledge into practice so that conflict is not created for the patient. Additional study of the high-low blood belief system could provide additional knowledge about patient behavior that would be beneficial for improving health care delivery for patients adhering to various aspects of folk medical theory and practice.

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APPENDICES

APPENDIX A

INFORMANT DATA SHEET AND DATA COLLECTION INSTRUMENTS

INFORMANT DATA SHEET

Interview Site _____

Interview Date _____

Name _____

Sex _____ Age/Date of Birth _____

Birthplace _____

Length of East Tennessee Residence _____

Rural Resident _____

Urban Resident _____

Occupation _____

Education _____

INITIAL INTERVIEW SCHEDULE

What can you tell me about high blood?
low blood?

What is high blood? Low blood?

Do you know someone who has it or has had it? Who? Have you ever had it? Anyone in your family? Who?

How did this person feel/look/behave? Is that how must people with high/low blood feel/look/behave?

What did this person do for their high blood? Low blood?

Did the treatment help? What happened?

How do people get high blood? Low blood?

Do people need to see a doctor for high blood? Low blood?

Is high blood inherited? Is low blood inherited? Does it run in families?

Do people get high blood from eating the wrong foods? (Specify)
drinking too much?
overwork?
not enough exercise?
the weather?

How do people know they have high blood?

Does high blood have anything to do with high blood pressure?

Does low blood have anything to do with sugar?
nervousness?
drinking?
money worries?
smoking?

Are there other problems that people have with their blood?
Describe.

STATEMENTS ABOUT HIGH AND LOW BLOOD USED IN CARD-SORTING TASK

1. "Blacking out" can happen when you have it.
2. Your blood rushes to your head.
3. Your face is flushed.
4. You don't know you have it.
5. Your blood is too thick.
6. It can make your ankles swollen.
7. You have too much blood.
8. It can give you nosebleeds.
9. It gives you headaches.
10. You are pale looking.
11. You are anemic.
12. It can cause your mind to snap.
13. It gives you staggering spells.
14. You feel swimmy-headed.
15. Overweight people can get it easier.
16. Overwork makes it worse.
17. Being nervous makes it worse.
18. Being upset makes it worse.
19. You can get it if you are depressed.
20. You have dizzy spells.
21. You feel like you want to sleep all the time.
22. You have weak spells.
23. You have no energy.

24. People with it lay around a lot.
25. You feel dragged out when you have it.
26. You are rundown.
27. It's the same as iron-poor blood.
28. It's dangerous to have this.
29. Smoking makes it worse.
30. Drinking alcohol makes it worse.
31. It can give you a stroke.
32. You can get it if you don't take care of yourself right.
33. It runs in families.
34. You don't have enough blood in your body.
35. Your blood is bitter.
36. Your blood is sweet.
37. Worry makes it worse.
38. Only a doctor can treat it.
39. You should eat red meat if you have it.
40. You take epsom salts for it.
41. If you have it you shouldn't eat pork chops.
42. If you have it you shouldn't eat ham.
43. Pickle juice is a good treatment for it.
44. Garlic is a good treatment for it.
45. Grapefruit juice is good for it.
46. Vinegar is good for it.
47. Lemon juice is good for it.
48. Sassafras or sassafras tea is good for it.

49. If you have it you shouldn't eat greasy foods.
50. You can treat it just fine with home remedies.
51. If you have it, you should eat liver.
52. Molasses is good for it.
53. Grape juice is good for it.
54. Red wine is good for it.
55. Beets are good for it.
56. Eating raw eggs is a good treatment for it.
57. Sauerkraut juice is good for it.
58. You shouldn't eat a lot of sweets and pastry if you have it.
59. You feel sluggish if you have it.
60. Your blood is not red or rich enough.
61. Your blood is too thin.
62. You feel cold all the time.

Additional Statements Regarding Folk Beliefs About Blood

1. Drinking sour fruit juice can bring high blood down.
2. A pregnant woman will naturally have low blood.
3. Some foods can thin the blood too much and give you low blood.
4. Being very depressed can make your blood go high.
5. Very hot weather can make your blood go high.
6. Blood needs purifying in the spring.
7. Blood is naturally thicker in the winter.
8. You need to thin your blood in the spring.
9. High blood is the same thing as high blood pressure.
10. Medicine for high blood can give you low blood.
11. Men get high blood easier because they have more blood than women.
12. Some bible passages can bring high blood down just like medicine.

HYPOTHETICAL SITUATIONS: HIGH BLOOD

Male

I heard about this man, past 50, that hasn't been feeling well lately. He gets headaches and sometimes feels swimmy-headed. He's been overweight for many years and really has a hard time during hot weather. His face is kinda flushed. His wife died last year. His mother is all the time after him to take garlic, because she says this is good for high blood. He's been to the doctor and doesn't have high blood pressure.

Female

I heard about this woman, past 50, that hasn't been feeling well lately. She gets headaches and sometimes feels swimmy-headed. She's been overweight for many years, and really has a hard time during the hot weather. Her husband died last year. Her mother is all the time after her to take garlic, because the mother thinks she has high blood. This lady has been to the doctor and doesn't have high blood pressure, although her face is kinda flushed.

Questions Pertaining to High Blood

1. Do you agree that this individual has high blood?
2. Do you agree that garlic, or sour fruit juice daily, is a good idea for this person?
3. This person's father also has high blood pressure. Does this make any difference in his/her having high blood?
4. This person's children think she/he ought to stop eating starchy, greasy foods. Do you agree?
5. Do you think this person has high blood because he/she is overweight?
6. If this person were 25 instead of 50, would it make any difference in having high blood?
7. Would wine or liquor make high blood worse?
8. Would you say that because this person has high blood she/he is easily excited or upset?

9. This person's mother says he/she has high blood even though the doctor says he/she does not have hypertension. Do you agree?
10. Is the spouse's death related to this person having high blood?
11. If this were a woman/man instead of a man/woman, would it make any difference?
12. Do you have anything else to say about high blood, or about health?

HYPOTHETICAL SITUATIONS: LOW BLOOD

Female

A friend was telling me about somebody she knows, in Straw Plains, who isn't feeling well lately. This woman feels weak and dizzy a lot of the time, gets headaches and is pale looking. She has three small children and her husband doesn't work steady. She's not overweight and sometimes she gets staggering spells. Her mother says she has low blood.

Male

A friend was telling me about somebody they know, in Straw Plains, who was laid off from his job last fall. He hasn't been able to find another job. He's not feeling well lately--feels weak and dizzy, has headaches and is pale looking. He sits around the house a lot, and sometimes he has staggering spells. He's not overweight. His wife says he has low blood.

Questions Pertaining to Low Blood

1. Do you agree that this person has low blood?
2. Do you agree that she/he should eat red meat every day?
3. Do you agree that if this person ate right, he/she wouldn't have low blood?
4. Do you agree that she/he could be overweight and have low blood?
5. Do you think that his/her age makes any difference in getting low blood?
6. Do you agree that this person does not need to see a doctor?
7. Do you agree that alcohol would make low blood worse?
8. Do you agree that this person's (or spouse's) loss of a job had something to do with their getting low blood?
9. If this were a woman/man instead of a man/woman, would it make any difference?
10. Do you have anything else to add about low blood, or about health?

PHYSICIAN INTERVIEW QUESTIONS

1. Have you found cultural differences to be a problem in developing relationships with patients or in prescribing and carrying out treatment?
2. Have you ever had problems with patients because you did not understand something that had meaning for them? How was this resolved?
3. In your opinion, to what extent do patients modify prescribed treatment, fail to follow through, or do self-treatment?
4. Have patients ever mentioned or discussed folk or home remedies to you? Describe symptoms or conditions that you would describe as folk illness?
5. Have you ever thought or suspected that what you were prescribing for patients created conflicts with their beliefs about illness?
6. In your opinion, when a patient says he/she has high blood, does this mean the patient has hypertension?

APPENDIX B
TABULATED DATA

Table 14. Total Responses to Card-sorting Task.

	High Blood		Low Blood		Both		Neither		Don't Know		Other	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent
Your face is flushed	23	92	0	0	1	4	0	0	1	4	0	0
It can give you nosebleeds	16	64	0	0	1	4	0	0	8	32	0	0
You feel swimmy-headed	13	52	2	8	9	36	0	0	1	4	0	0
It can make your ankles swollen	13	52	2	8	0	0	0	0	9	36	1	4
It gives you headaches	12	48	4	16	7	28	0	0	2	8	0	0
Your blood rushes to your head	21	84	0	0	2	8	1	4	1	4	0	0
It can give you a stroke	21	84	2	8	1	4	0	0	1	4	0	0
Overweight people get it easier	19	76	0	0	1	4	3	12	2	8	0	0
Being upset makes it worse	19	76	1	4	3	12	0	0	2	8	0	0
Being nervous makes it worse	15	60	2	8	5	20	0	0	3	12	0	0
Worry makes it worse	15	60	0	0	6	25	1	4	3	12	0	0
Smoking makes it worse	10	40	0	0	7	28	0	0	8	32	0	0
Drinking alcohol makes it worse	11	44	0	0	7	28	0	0	5	20	3	12
Your blood is too thick	13	52	2	8	0	0	2	8	8	32	0	0
You have too much blood	10	40	1	4	0	0	1	4	12	48	1	4
You can get it if you don't take care of yourself right	9	36	3	12	9	36	0	0	3	12	1	4
It runs in families	11	44	0	0	7	28	0	0	6	25	1	4
You can get it if you are depressed	13	52	5	20	2	8	1	4	4	16	0	0
Overwork makes it worse	8	32	0	0	8	32	1	4	7	28	1	4
If you have it, you shouldn't eat greasy foods	20	80	0	0	3	12	0	0	2	8	0	0
If you have it, you shouldn't eat pork chops	22	88	0	0	2	8	1	4	0	0	0	0
Garlic is good treatment for it	11	44	0	0	3	12	1	4	10	40	0	0
You take epsom salts for it	13	52	1	4	0	0	0	0	10	40	1	4
Grapefruit juice is good for it	10	40	1	4	2	8	0	0	11	44	1	4
Vinegar is good for it	9	36	0	0	1	4	1	4	12	48	2	8

Table 14 (Continued)

	High Blood		Low Blood		Both		Neither		Don't Know		Other	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent
Lemon juice is good for it	9	36	1	4	1	4	0	0	14	52	1	4
Sassafras/sassafras tea is good for it	8	32	1	4	0	0	0	0	14	56	2	8
Pickle juice is a good treatment for it	8	32	0	0	0	0	0	0	10	64	1	14
You are pale-looking	0	0	22	88	2	8	0	0	0	0	1	4
You feel "dragged out" when you have it	2	8	18	72	5	20	0	0	0	0	0	0
You feel like you want to sleep all the time	4	16	14	56	3	12	0	0	4	16	0	0
You have no energy	0	0	16	64	7	28	0	0	2	8	0	0
You are rundown	3	12	14	56	2	8	0	0	6	24	0	0
People with it lay around a lot	3	12	12	48	6	24	0	0	4	16	0	0
You have weak spells	1	4	12	48	7	28	0	0	2	8	3	12
You are anemic	1	4	17	68	1	4	0	0	5	20	1	0
You don't have enough blood in your body	1	4	12	48	0	0	0	0	11	44	1	4
It's the same as iron-poor blood	3	12	11	44	0	0	1	4	10	40	0	0
If you have it, you should eat liver	2	8	18	72	1	4	0	0	3	12	1	4
You should eat red meat if you have it	5	20	14	56	2	8	0	0	4	16	0	0
Beets are good for it	3	12	11	44	3	12	0	0	6	24	2	8
Red wine is good for it	1	4	10	40	1	4	0	0	12	48	1	4
Grape juice is good for it	4	16	6	24	1	4	0	0	12	48	2	8
You don't know you have it	5	20	2	8	14	56	3	12	1	4	0	0
If you have it, you shouldn't eat ham	21	84	0	0	3	12	0	0	0	0	1	4
"Blackening out" can happen when you have it	8	32	5	20	11	44	0	0	1	4	0	0
It gives you staggering spells	7	28	2	8	14	56	0	0	2	8	0	0
You have dizzy spells	8	32	2	8	13	52	0	0	1	4	0	0
It's dangerous to have this	10	40	1	4	13	52	0	0	1	4	0	0
Only a doctor can treat it	0	0	0	0	17	68	4	16	1	4	3	12

Table 14 (Continued)

	High Blood		Low Blood		Both		Neither		Don't Know		Other	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent
You can treat it fine with home remedies	3	12	2	8	4	16	8	32	7	28	1	4
Molasses is good for it	2	8	3	12	1	4	1	4	17	68	1	4
Eating raw eggs is good treatment for it	0	0	3	12	2	8	0	0	18	72	2	8
It can cause your mind to snap	6	24	1	4	3	12	1	4	14	56	0	0
Your blood is bitter	1	4	0	0	0	0	0	0	23	92	1	4
Your blood is sweet	0	0	0	0	0	0	0	0	24	96	1	4

Table 15. Total Responses to Questions about Blood Beliefs.

Questions	No.	Percent
1. Getting very angry can make your blood "go high." (n=20)		
Yes	19	95
No	1	5
Don't know	0	0
2. Being very depressed can make your blood "go high." (n=20)		
Yes	14	70
No	4	20
Don't know	2	10
3. Very hot weather can make your blood "go high." (n=21)		
Yes	15	71
No	2	10
Don't know	4	19
4. Blood isnaturally thicker in the winter. (n=20)		
Yes	13	65
No	7	35
Don't know	0	0
5. Some foods can thin the blood too much and give you low blood. (n=20)		
Yes	7	35
No	13	65
Don't know	0	0
6. Drinking a lot of sour fruit juice can bring high blood down. (n=21)		
Yes	10	48
No	9	43
Don't know	2	10
7. High blood is the same thing as high blood pressure. (n=20)		
Yes	9	45
No	4	20
Don't know	7	35
8. Blood needs purifying in the spring. (n=20)		
Yes	8	40
No	10	50
Don't know	2	10

Table 15 (Continued)

Questions	No.	Percent
9. You need to thin your blood in the spring. (n=17)		
Yes	6	35
No	8	47
Don't know	3	18
10. Some Bible passages can bring high blood down just like medicine. (n=19)		
Yes	5	26
No	14	74
Don't know	0	0
11. Men can get high blood easier because they have more blood than women. (n=15)		
Yes	3	20
No	12	80
Don't know	0	0
12. Medicine for high blood pressure can give you low blood. (n=19)		
Yes	4	21
No	14	74
Don't know	1	5
13. A pregnant woman will naturally have low blood. (n=17)		
Yes	2	12
No	15	89
Don't know	0	0

Table 16. Total Responses to Questions Pertaining to Hypothetical Individuals with High Blood (n=16)

	Agree		Disagree		Don't Know	
	No.	Percent	No.	Percent	No.	Percent
1. Do you agree that this individual has high blood?	12	75	1	6	3	19
2. Do you agree that garlic or sour fruit juice daily is a good idea for this person?	10	63	1	6	5	35
3. Does the fact that this person's father had high blood pressure make any difference in him/her getting high blood? (Agree=yes; Disagree=no)	11	69	2	13	3	19
4. This person's children think she/he ought to stop eating starchy, greasy foods. Do you agree?	12	75	1	6	3	19
5. Do you think this person has high blood because he/she is overweight?	11	69	2	13	3	19
6. If this person were 25 instead of 50, would it make any difference in having high blood? (Agree=yes; Disagree=no)	12	75	2	13	2	13
7. Would wine or liquor make high blood worse? (Agree=yes; Disagree=no)	12	75	3	19	1	6

Table 16 (Continued)

	Agree		Disagree		Don't Know	
	No.	Percent	No.	Percent	No.	Percent
8. Would you think that because this person has high blood he or she is easily excited or upset?	9	56	2	13	5	31
9. This person's mother says he/she has high blood even though the doctor says he/she does not have hypertension. Do you agree?	11	69	0	0	5	31
10. Is the spouse's death related to this person having high blood? (Agree=yes; Disagree=no)	9	56	5	19	2	13
11. If this were a person of the opposite sex, would it make any difference in having high blood?	4	25	8	50	4	25

Table 17. Total Responses to Questions Pertaining to Hypothetical Individuals with Low Blood (n=16).

	Agree		Disagree		Don't Know	
	No.	Percent	No.	Percent	No.	Percent
1. Do you agree this individual has low blood?	13	81	2	13	1	6
2. Do you agree this person should eat red meat every day?	14	88	1	6	1	6
3. Do you agree that if this person ate right, she/he wouldn't have low blood?	10	63	2	13	4	25
4. Do you agree that he/she could be overweight and have low blood (1 No Reply)	10	63	1	6	4	25
5. Do you think this person's age makes any difference in having low blood? (Agree=yes; Disagree=no)	4	25	7	44	5	31
6. Do you agree that this person does not need to see the doctor	0	0	16	100	0	0
7. Do you agree that alcohol would make low blood worse?	4	25	9	56	3	19
8. Do you agree that this person's (or spouse's) loss of a job had something to do with the person getting low blood?	6	38	7	44	3	19
9. If this were a person of the opposite sex, would it make any difference in getting low blood?	5	31	6	38	3	19

VITA

Joan Wojey Wagner was born in Detroit, Michigan on December 2, 1934. She attended parochial school in Detroit and graduated from Holy Redeemer High School in Detroit in 1952. Ms. Wagner completed a nursing diploma program at Borgess Hospital School of Nursing in 1955 and graduated from Wayne State University in Detroit with a Bachelor of Science in Nursing degree in 1962.

In 1964 Ms. Wagner received the Master of Science in Nursing degree from Yale University in New Haven, Connecticut. Until 1979 when she began the study of cultural anthropology at The University of Tennessee, Knoxville, she taught psychiatric nursing in Buffalo, New York and Knoxville, Tennessee.

Joan has been the recipient of scholarships from the Michigan Nurses' Association, the Wayne State University College of Nursing, and the Anthropology Department at The University of Tennessee, Knoxville. She is a member of the Council on Nursing and Anthropology of the American Anthropological Association.