

TEACHING AND COMPLIANCE
IN THE PATIENT WITH HYPERTENSION

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DEDICATION

To my mother, Julia Ann, whose support, love
and patience were never - ending throughout this endeavor.

CHAPTER I

INTRODUCTION

Hypertension is a major health problem in the United States and throughout the world. Presently there are about 24 million Americans with hypertension (Dustan 1975). This disease, when undetected and uncontrolled, leads to cardiovascular, neurological, and renal problems which may eventually cause death among all age groups affected.

Hypertension is an easily detectable disorder of high prevalence which causes predictable morbidity and mortality. Surveys show that about half of the persons with hypertension are unaware of having the disease process and about half of the known hypertensives have been found to be without treatment. Hypertension can be treated effectively; the person's blood pressure can be reduced to within limits of what is considered to be "normal". Risk of complications can be reduced by medical management.

Community programs can be organized to detect those having high blood pressure and bring them under good medical management. Many people can be motivated to seek knowledge of their blood pressure status. However, after the diagnosis is made there can be considerable difficulty in maintaining the prescribed therapy.

The basic problem lies in the nature of the disease and the cause of the disease. A large number of patients fail to grasp the seriousness of hypertension since there are few symptoms to warn the patient. The diagnosis may be made years before the patient experiences any perceptible signs. Therefore, it is difficult to gain adherence to a strict program.

Efforts should be extended to increase patient compliance through patient education, establishment of effective rapport with the patient, and simplification of the therapeutic regimen. At times it is difficult for the physician to provide time to explain the management and treatment to each hypertensive patient. Many nurses today are in a unique position to assist and help with the detection, education, and at times, management of the hypertensive patient. This study was done in an effort to determine the outcome of teaching efforts on the part of the nurse and compare the level of compliance to the treatment regimen to the level of patient education.

STATEMENT OF THE PROBLEM

The problem of this study was twofold, to compare what nurses teach the patient with hypertension with what the patient with high blood pressure thinks he has been taught and should have been taught, and describe the patient's concurrent level of compliance to his treatment regimen.

PURPOSES OF THE STUDY

The purposes of this study of patients hospitalized with hypertension were to:

1. Identify what nurses teach about hypertension.
2. Identify what patients perceive is being taught about hypertension.
3. Identify what patients think should be taught about hypertension.
4. Compare nurses' teaching with patients' perception and opinion of content about hypertension.
5. Identify patients' concurrent level of compliance to the treatment regimen.

BACKGROUND AND SIGNIFICANCE

Patients are demanding more information about their treatment and medical management. The American Hospital Association published a twelve point hospitalized patient Bill of Rights that states that the patient has a right to receive complete current information about his diagnosis, treatment, and prognosis from the physician explained in terms that he can understand (Redman 1976). Batterman, Stegman, and Flitz (1975) contend that patient education is an important part of the therapeutic program. Patient education programs should be directed toward establishing the relationship between hypertensive cardiovascular disease,

the benefits to be gained by adequate treatment, and the possible consequences of the disease when uncontrolled.

Storlie (1971) stated that for a nurse to teach patients successfully, she must review her teaching philosophy and act according to the principles of that philosophy. To be effective, teaching must be both flexible and based on specific goals. Teaching is not effortless--it takes conscious consideration. It calls for a "listening ear" and respect for the patients' rights, both to know and not to know.

Careful planning and preparation are essential to good teaching. Baden (1972) stated a common mistake that is made is that nurses are told to teach patients when they have not been prepared for this role. The nurse must be an expert on the subject before she can intelligently initiate a plan. Both general and individual objectives for patient teaching should be formulated.

Clinical specialists Powell and Winslow (1975) established that patient teaching is a priority and divided it into two dimensions: (1) teaching nurses and (2) assisting nurses to teach patient. Teaching is not merely providing information to the learner. It includes all the activities utilized to effect and facilitate learning. The process of teaching should be guided by what the learner considers significant for him in terms of its meaning for his life and by his readiness to learn.

Evaluation is essential during and at the conclusion of the teaching-learning process. Evaluation reinforces successful behavior of both learners and teachers. Also, it enables analysis of lack of progress and redirection of activities. Redman (1974) contends that patient education will undergo a test of its potency as a therapy in the near future. Health personnel will be required to provide patient education as well as re-evaluate ways of communication with people.

The literature reveals that there is a need to improve patient compliance to their medical regimens. In a study designed to investigate methods for obtaining behavioral compliance with minimal pressure, Freedman and Fraser (1966) described a procedure known as the foot-in-the-door technique. This technique is based on the concept that "once a person has been induced to comply with a small request, he is more likely to comply with a large demand." They suggested that the mechanism underlying the increase in compliance is based on a person's feelings about getting involved or taking action. When an individual agrees to perform the small prior request, he begins to think of himself as the kind of person who does this sort of thing, who takes action on things he believes in, who cooperates with good causes. It is this self perception that increases the likelihood that he will comply with a larger request. This hypothesis is closely related to Bem's (1970)

theory of self perception which asserts that an individual infers his attitudes and beliefs from self observation of his own behaviors. Compliance with a small request causes the subject to infer that he has a positive attitude toward cooperating with good causes. Therefore, this positive attitude leads to compliance with a larger request.

Davis (1966) estimated that 35 percent of patients fail to comply with their physicians' medical recommendations. There are a variety of elements that may influence a patient's compliance with medical regimens. These include ethnic background, culture, work orientation, doctor-patient relationship, understanding about illness and the nature of the requirements. The problem of motivating and encouraging people to utilize preventive health measures and early diagnostic services and follow their physicians' recommendations are the function of physicians and nurses.

Francis (1976) stated that as the increasing numbers of patients are identified as hypertensive, the need to maintain follow-up and assure compliance with hypertensive medical regimen becomes a high priority. He found this to be very true in urban communities where the asymptomatic nature of hypertension and the need for a life-long therapy must be balanced against all the other psychosocial sociocultural environmental problems.

The problem of compliance with antihypertensive therapy is of special concern for the urban patient and physician.

Satcher (1974) reviewed data collected from patients during screening programs and identified some important barriers to hypertension control in an urban community. These include: (1) misconceptions about hypertension, (2) socioeconomic barriers, (3) communication gap between health providers and patients, (4) weakness in health care delivery system, (5) inefficient use of allied health professionals, and (6) duplication of services throughout the community with concomitant fragmentation. The problem of "non-compliance" continues to be a difficult one to solve in many urban hypertensive clinics and private physicians' offices (Francis 1976)

According to Long, Winslow, Scheuhing, and Callahan (1976), disability and death are directly related to the level of blood pressure. The higher the blood pressure the worse the prognosis. Mortality in men ages 35 to 45 with a blood pressure of 160/100 mm Hg is five times greater than in those with a blood pressure of 140/90 mm Hg or below. The risk of heart attack, stroke, or heart failure is two to six times greater in patients with even a slight elevation in blood pressure.

Freis (1972) stated if a hypertensive patient is young, male and black or has a family history of hypertensive complications, antihypertensive treatment should be instituted immediately to forestall cardiovascular damage. Schoenberger (1971) contended that actuarial data clearly shows the increasing mortality which can be assigned to relatively modest

increase in the systolic or diastolic blood pressure. "Men with a casual blood pressure of 140 mm Hg systolic and 90 mm Hg diastolic have a 50 percent increase in mortality over a twenty year period," (Schoenberger 1971) refers to the expected incidence of a modest increase in systolic or diastolic blood pressure. For values of 160 mm Hg systolic and 100 mm Hg diastolic there is an increase of over 100 percent, of the relationship of hypertension to accelerated atherosclerosis and coronary heart disease.

The Veterans Administration Cooperative Study group (1970) showed that compliance with active hypertensive treatment significantly reduced morbidity and mortality in male hypertensive patients with diastolic pressure averaging 90 to 114 mm Hg. In this study, the comparison in the incidence of morbid events between the control and treated groups was highly significant, in the subgroup averaging 105 to 114 mm Hg diastolic. The beneficial effects of treatment were evident in the patients with higher initial levels of blood pressure.

Shank and Ludewig (1975) stated that hypertension is being detected in increasing numbers in the high school population, but is more frequently seen in men over 35 years and women over 45 years of age. The black population has a higher incidence of hypertension than whites. Hypertension is widespread among all socioeconomic levels of the adult population all levels of educational preparation and in all geographic areas of the United States, from large cities to rural areas.

Nurses involved in the treatment and management of patients with hypertension are in a unique situation to teach the patient and/or family the necessary information to promote compliance. Nurses have frequent opportunities to participate in case finding, evaluation and education of patients to maximize participation in their individual health care. Nurses can make an outstanding contribution to public education and the detection and control of hypertension which is very much needed, by participating in the education, counseling, and follow-up care of hypertensive clients.

DEFINITION OF TERMS

For the purpose of this study, the following definitions were used:

1. Compliance - the adherence to a therapeutic treatment regimen.
2. Essential Hypertension - blood pressure reading above 140 mm Hg. systolic and/or 90 diastolic for three different consecutive readings over a period of time without known cause.
3. Nurse - person licensed to practice professional nursing in the State of Alabama.

LIMITATIONS

For the purpose of this study, the following limitations were identified resulting from no attempt or ability to control:

1. Length of time the subjects had hypertension.
2. The financial status of the subjects.
3. The subjects' recall of events.
4. The severity of the disease.
5. The complexity of the treatment regimen.

DELIMITATIONS

For the purpose of this study the following delimitations were observed:

1. All subjects had a diagnosis of essential hypertension.
2. All subjects were hospitalized in a private hospital.
3. Subjects were between the ages of 25 to 65.
4. The subjects were not taught by the special education team.
5. The nurses were not on the special education team.
6. The nurses were employed by the private hospital and work on the two medical units.

ASSUMPTIONS

The following assumptions were made for this study:

1. There is no known cure for essential hypertension.
2. The response to disease is individualized.
3. The patient has a right to information that will promote or maximize his health potential.
4. Learning is personal and may be demonstrated by a

change in behavior.

5. Teaching of patients is a part of the nursing role.

SUMMARY

Health education and motivation are very important health goals, when teaching the 24 million patients with hypertension to control their illness. Today most Americans do not benefit from the knowledge that has been accumulated about hypertension. It was found that half of all hypertensives were unaware of their disease and only about half of the known hypertensives were receiving treatment.

The literature shows that individuals with hypertension have difficulty in complying with their medical regimen. It is also documented in the literature that the nurse plays an important role in patient education. As nurses educate patients with hypertension in order to reduce the risk of cardiovascular disease, they must teach about other cardiovascular disease risk factors, cigarette smoking, hypercholesterolemia, obesity and lack of exercise and stress.

Chapter II reviews the incidence, mortality and morbidity of hypertension; the etiology of essential hypertension; rehabilitation; education; compliance; and follow-up of clients with hypertension. The nurse's role in management are also reviewed.

Chapter III discusses the setting, sample population,

the three questionnaires developed for the collection of data, clarity and content validity, and treatment of data.

Chapter IV gives the description of the sample population, results and interpretations of the two patient questionnaires, the nurse questionnaire, collection and analysis of the data and findings.

Chapter V discusses the summary of the study, conclusions drawn from the study, implications based on the results of the study, and recommendations for future research.

CHAPTER II
REVIEW OF LITERATURE
INTRODUCTION

There is an abundance of literature pertaining to hypertension, patient education and compliance. A thorough understanding of hypertension, its treatment and management is of vital importance when teaching clients to increase compliance. Chapter II conveys the idea that hypertension is a major health problem in the United States and can be freely detected. Antihypertensive therapy may be expected to prolong life and reduce the incidence of certain cardiovascular morbid events in a large proportion of the hypertensive population. The nurse should be involved in the management and education of hypertensive clients. Also, the nurse can play a major role in assisting to build bridges between research and practice.

INCIDENCE, MORTALITY AND MORBIDITY OF
HYPERTENSION

The number of patients identified as hypertensive in the United States is increasing rapidly. Stamler (1976) uses an equation, $\frac{1}{2} \times \frac{1}{2} \times \frac{1}{2}$, to describe the status of hypertension

in the United States. He explains the equation to mean there are 24 million Americans with hypertension. Twelve million of this group need to be detected, six million are known hypertensives who should be under treatment and are not, and three million need to have their treatment improved. Stamler found that twenty of the twenty-four million were undetected, untreated, or inadequately treated.

According to Smith (1976), awareness of hypertension has increased over the past ten years to over two-thirds, and the percentage of hypertensives under treatment is higher. However, the proportion of all hypertensives who are well controlled remains appallingly low, probably under 25 percent.

Hypertension and its complications are the leading cause of death in the black community. Francis (1976) wrote that the black population has a higher prevalence of hypertension and an increased incidence of complications resulting from hypertension. At the Martin Luther King Hospital in the city of Los Angeles, which serves a population made up of 85 percent Negroes and 15 percent Mexican-Americans, one out of three admissions has a problem relating to elevated blood pressure (Francis 1976).

Stamler (1976) stated that Blacks have more hypertension, they develop it at a younger age, have it more severely, and die from it more frequently and at an earlier age. In Stamler's article (1976) a comparison was made by the United States Public Health Service in its National Health

Examination Survey of 1960-62. A representative sample of the adult population was collected, and the information profiled cardiovascular disease in the United States. Hypertensive heart disease was strikingly more common in Blacks than in Whites, at every age level for both men and women. It was found that one of every twenty Black persons age 25-35 had a definite heart disease due to hypertension. The Stamler (1976) studies showed that men with high blood pressures at age 35 had a twenty year survival rate, and of the 45 year old men with original examination pressures of 162/100 mm Hg. approximately twenty-two of every one hundred died before the twenty years were up.

Long, Winslow, Schewhing and Callahan (1976) stated disability and death are directly related to the level of blood pressure; the higher the pressure the worse the prognosis becomes. "Mortality in men ages 35 to 45 with a blood pressure of 160/100 mm Hg. is five times higher than in those with a blood pressure below 140/90 mm Hg." Clients with a slight elevation in blood pressure have a two to six times greater frequency of heart attack, stroke and/or heart failure than normotensive individuals.

A long-term epidemiologic study of cardiovascular disease in Evans County, Georgia (Hames 1974), showed that elevated diastolic pressure occurs at an earlier age in Blacks and the prevalence is greater. Prevalence rates are: black males, 34.9%; black females, 31.6%; white males, 19.0%;

and white females, 12.7%. Also, clinical evaluation of thirty adolescents with elevated blood pressures and thirty normotensive adolescents were chosen for comparison on re-examination to show morbidity and mortality. Seven years later, the hypertensive individuals showed sustained hypertension had developed in eleven persons, six of whom had vascular complications. Two of the blacks died from cerebral hemorrhage, both were verified at autopsy. In the normotensive population, no sustained hypertension was detected and no death had occurred.

ETIOLOGY OF ESSENTIAL HYPERTENSION

Essential hypertension accounts for 90 percent of all cases of hypertension. The cause of essential hypertension is not known, but several theories of causation are being investigated. MacBryde and Blacklow (1974) and Beland and Passos (1975) give four theories pertinent to the etiology of hypertension:

1. Hypertension derives from the over-secretion of an adrenal cortical hormone. Attention is focused on over-secretion of aldosterone, which may be the results of a primary adrenal cortical defect or in response to the reninangiotensin system. It is thought that the increased blood pressure results from an expanded blood volume and an increased cardiac output resulting from excessive sodium and water overload.

2. Hypertension derives from the production of a renal-related vasoconstrictor substance. This theory focuses on renin secretion by the ischemic kidney, which indirectly produces vasoconstriction through the role of renin in the production of angiotensin II. Increase in blood pressure occurs because of angiotensin's direct vasoconstrictor effect on arterioles. This is an increase in peripheral vascular resistance, due to stimulation of the release of aldosterone, resulting in an increase in the cardiac output.

3. Hypertension derives from an inappropriate pressoreceptor response. The view put forward in this theory is that hypertension occurs when the baroreceptor bodies fail to send appropriate stimuli to the medullary vasomotor center.

4. Hypertension derives from failure of the kidney to produce a vasodilator substance. This theory purports that the kidney normally secretes a vasodepressor substance, which prevents an elevated blood pressure. The substance is thought to be a prostoglandin that has a direct effect on smooth muscle. Research has not been able to determine if the kidneys release a specific prostoglandin into the circulation.

SYMPTOMATOLOGY OF ESSENTIAL HYPERTENSION

The symptomatology of essential hypertension is due to pathologic changes in the cardiac, renal, and nervous systems. These changes range from asymptomatic periods to clinically observable symptomatic periods.

The onset is insidious; the majority of patients with hypertension are first discovered during routine physical examination. A client may have a blood pressure persistently elevated above 140/90 for 10 to 15 years before he experiences symptoms referable to the blood pressure elevation (Tuttle 1974).

Jagger and Braunwald (1977) indicated occipital headache is characteristic of severe hypertension. It is present when the client awakes in the morning and subsides spontaneously after several hours. Dizziness, light-headedness, vertigo, palpation and easy fatigability may also occur. The earliest complaint referable to vascular disease often is epistaxis or hematuria, but may include blurring of vision due to retinal changes, episodes of weakness and/or dizziness due to myocardial ischemia, and dyspnea due to cardiac failure. Frequently patients with hypertension have coronary occlusion, and intermittent anginal pain may be noted. Myocardial infarction and congestive heart failure are the major causes of death due to hypertension.

RISK FACTORS OF HYPERTENSION

The nurse and client goals, once hypertension is detected are to maintain control and prevent complications. Shank and Ludewig (1974) stated the hypertensive patient should avoid cigarette smoking, obesity, elevated serum cholesterol, stressful life situations, lack of exercise, and excess sodium

in diet. These factors should be avoided because they tend to accelerate the atherosclerotic process, causing susceptibility to heart attack, cardiac failure, stroke and renal failure.

Freis (1973), Moser (1974), Batterman, Stegman and Fitz (1975), pointed out that cigarette smoking causes the blood pressure to be acutely elevated, and the patient has a greater risk of developing cardiovascular disease. According to Freis and Stamler (1975) the risk is related to the quantity of cigarettes smoked and to inhalation of the smoke. Of the risk factors present with hypertension, the most lethal to a hypertensive patient for total cardiovascular mortality, is concomitant cigarette smoking. This conclusion is based on research done with white males in the 30 to 64 age range.

Freis (1973) and Dustan and Stamler (1975) reported hyperlipidemia and hyperglycemia do not cause hypertension; however, the presence of high lipid levels and high blood sugar in the hypertensive patient is associated with increased morbidity and mortality from vascular disease.

Kaplan (1974) reported that obesity, too much stress, and lack of exercise are correlated with hypertension. These risk factors should be discouraged in the hypertensive clients due to their relationship to coronary heart disease.

According to Mayer (1974), the control of hypertension is designed to prevent morbidity and mortality of cardiovascular diseases. Blood pressure reduction should be accomp-

anied by attention to risk factors such as obesity, hyperlipidemia and cigarette smoking. Weight control is important because the work load of the heart is increased by hypertension and the greater circulation required by the large amount of adipose tissue. Nicotine is both a sympathetic and parasympathetic stimulant having varying responses in different individuals. The client should stop smoking unless he finds it severely distressing.

Steinfied (1976) proposed that carbon monoxide and nicotine affect the heart, lungs, aorta and smaller arterioles. When the smoker inhales cigarette smoke he may take in from one to five percent carbon monoxide. Studies have shown that carbon monoxide, whether from cigarettes or automobile exhaust, hastens the onset of angina pectoris under controlled exercise conditions, with electrocardiographic monitoring.

Smoking and Heart Disease, a pamphlet distributed by the American Heart Association (1974) stated that death rates from heart attacks in men range from 50 to 200 percent higher among cigarette smokers. Cigarette smokers have a higher level of carbon monoxide in their blood. Research shows that in most people smoking makes the heart beat faster, raises the blood pressure and constricts the blood vessels of the skin, especially in the fingers and toes.

The risk of developing coronary heart disease has been shown to increase directly with the number of cigarettes

smoked. According to Fuhs (1976), the risk is about seventy percent greater for male smokers than non-smokers. Mortality rates for coronary heart disease are five times higher in individuals who smoke over two packs a day and are between the ages of 35 and 50 years old than in non-smokers.

DETECTION OF HYPERTENSION

The diagnosis of essential hypertension is considered among the top priority health problems today. The first step is to determine the presence of hypertension. According to Long, Winslow, Schewhing and Callahan (1976), Batterman, Stegman and Fitz (1976), individuals may be considered hypertensive if the average of three or more blood pressure readings taken at rest intervals several days apart exceeds that specified for each age group. The generally accepted limits of normal for each are listed below (Batterman, Stegman and Fitz (1976)).

UPPER LIMITS OF NORMAL BLOOD PRESSURE BY AGE GROUPS

Infants	90/60 mm Hg.
3 - 6 years	110/70 mm Hg.
7 -10 years	120/80 mm Hg.
11-17 years	130/80 mm Hg.
18-44 years	140/95 mm Hg.
45-64 years	150/95 mm Hg.
65-older	160/95 mm Hg.

The diagnosis of hypertension is confirmed by the client's history, physical examination and laboratory studies. Jagger and Braunwald (1977) identified three principle objectives in evaluating the client with hypertension:

(1) to identify secondary forms of hypertension; (2) to determine the presence of and extent of hypertensive vascular disease; and (3) to determine whether other risk factors for the development of arteriosclerotic cardiovascular disease are present.

The first major challenge is to find the more than ten million hypertensives now undetected. Stamler (1976) reported there are many ways to do this; through well-planned mass screenings, by periodic examinations in industry, through entry examinations into the army, employment, college or hospital clinics. Also, well-organized and publicized community screening programs with trained personnel are needed to supplement these incidental routine examinations for hypertension.

Moser (1976) said detection and making the patient aware are not enough. Stamler (1976) stated case finding by itself will do very little to aid the control of hypertension unless there is referral for further evaluation and needed care. For referred screens to benefit, physicians need to realize the importance of early and proper evaluation and treatment. Therefore, community programs must include physician education as one of its goals if the referral system is to be successful.

Studies have shown that improved detection of individuals with hypertension over the past ten years has had little effect on the mortality rates associated with hypertension.

Jessop (1976) reported that for health professionals an understanding of the dynamics of hypertension is the beginning. The challenge lies in creating a climate of overall public awareness and setting up of comprehensive detection and follow-up programs for hypertension clients.

TREATMENT OF HYPERTENSION

Treatment of hypertension is directed towards decreasing the clients' blood pressure as rapidly as possible to "normal". According to Jessop (1976), seven factors must be kept in mind when making the assessment and determining the management of the client with hypertension: (1) age, sex, and race, (2) the degree of atherosclerosis, (3) familial history of hypertension, (4) degree of psychologic stress and emotional lability, (5) pre-existing damage to major organs, (6) obesity, and (7) smoking habits.

Therapy for hypertension is simple; most clients can be controlled with a regimen of three drugs. According to Grim (1976), a combination of hydrochlorothiazide, propranolol and/or hydralazine have made antihypertensive therapy simple. Smith (1976), Long, Winslow, Scheuhing, Callahan (1976), Roll (1976), reported that most clients can be well controlled through a simple "stepped care" approach. The "stepped care" plan was developed by Task Force I of the National High Blood Pressure Education Program and has been accepted, adopted, and distributed by medical organizations.

"Stepped care," according to the above authors, calls for a thiazide-type diuretic as the first drug. If control is not achieved, then a second drug is added, a sympathetic inhibiting agent, usually propranolol, methyldopa or reserpine in small, then increasing doses. If the response remains unsatisfactory a vasodilator (hydralazine) is added. Lastly, a potent drug such as guanethidine may be added or substituted. In the few clients that remain uncontrolled by the "stepped care" plan, further workup and highly individualized therapy is indicated.

The Veterans Administration Cooperative Studies of the Effects of Antihypertensive Therapy (1970-76) evaluated patients with an initial diastolic pressure of from 115 to 130 mm Hg. and treated with either a placebo or a combination of hydrochlorathiazide, reserpine and hydralazine. In sixteen months of the study, the incidence of serious complications from hypertension was thirteen times more frequent in those patients in the control group than those on active antihypertensive therapy. With these results the Veterans Administration researchers decided to place all men who had severe hypertension on control for three years before the planned completion of the investigation.

REHABILITATION AND EDUCATION

It is essential for the treatment to go beyond antihypertensive medication in order to achieve optimal results

and prevent complications of hypertension causing death. Stamler and Stamler (1976) reported that when high blood pressure is combined with cigarette smoking or with a high cholesterol in the blood, or both, the risk of grim consequences rises markedly.

The hypertensive patient should be encouraged and helped to modify the typical American diet that is high in saturated fat, cholesterol, salt and calories. For the obese hypertensive patient weight loss is often an aid in bringing the blood pressure down and may help the client to avoid the complications of hypertension.

Hypertension is known to be concentrated in all strata of the population. Stamler and Stamler (1976) also state four traits found to be related to hypertension. These are a family history of hypertension, high normal or occasionally abnormal pressure, obesity, and rapid heart rate. The four traits are the best indicators of susceptibility and are very simple to ascertain.

Three simple nutritional and hygienic measures seem to have considerable potential in the effort to achieve the primary prevention of high blood pressure in susceptible persons. These consist of avoidance and correction of obesity, avoidance of high salt intake and improvement in cardiopulmonary fitness.

The Alabama Advisory and Coordinating Council on Hypertension (1975) stated that thoughtful client education and

should be done to increase adherence, not only to the therapeutic regimen, but also life-style changes. The major points covered are as follows: (1) hypertension has no reliable symptoms. This does not mean that it is less serious than a disease which has a symptom which brings the client to the doctor. (2) the rationale for long term therapy with agents which may make the client feel worse in the absence of symptoms must be carefully examined. The explanation should include the adverse effects of hypertension on the brain, heart and kidney. (3) The importance of the role of excess salt intake should be discussed as a preamble to the importance of reducing the intake of sodium as a way of life. Emphasis should be placed on the difference between fresh and canned foods as to sodium content. (4) Include the client in the thought process by discussing laboratory data and showing him the progression of his blood pressure to the goal pressure.

COMPLIANCE AND FOLLOWUP

No program of antihypertensive therapy will be effected by or have any impact on the long term health of individuals unless they will remain under observation and care.

In Nursing Update (1974), a group of seven people, all diagnosed as hypertensive, along with eight physicians in a roundtable discussion revealed the problems of compliance and maintenance are problems of communication and understanding. Early control of hypertension is often hampered by a lack of incentive in the physician, nurse and/or patient or all.

Curry, Eastman, Finnerty, Freis, Moser, Page, Coutant, Lake, and Weis (1974) stated that maintaining the client is to provide him with an adequate explanation of his condition and proposed treatment plan. When telling the client about his condition, one should impress upon the newly diagnosed asymptomatic individual what the serious consequences of uncontrolled hypertension are. He should see his condition as threatening, but should be assured that his blood pressure can be controlled and the danger probably avoided without radical changes in his way of living. The client should be warned of the most common side effects of the medications he will be taking and the appropriate action to take. Appointments should be scheduled with minimal waiting time and an unhurried climate should be established to allow each individual as much time as he needs to discuss his current status and receive additional explanations. Sackett (1976) reported attention is the key, that simply spending more time with patients, regardless of the content of the interchange, is associated with increased compliance.

Galton (1977) stated clients should know all there is to know about their health problems and the medical regimen. The client has every right to expect his physician to answer questions, even to anticipate many, to give adequate information without the client's questioning and to write his prescriptions as precise and understandable as possible.

Francis (1976) stated in order to control hypertension, the client, his doctor and the nurse must be involved in a coordinated effort. Energy should be expended to increase compliance through client education, establishment of effective rapport with client and simplification of the therapeutic regimen. The personal relationships of the client with the physician, nurse, and assistant are of paramount importance.

The physician and nurse remain the most influential sources of client information. The responsibility for initiation and continuance of treatment rests with the physician and nurse and depend largely upon recognition of the need for antihypertensive treatment. They must have the desire to and ability to educate the asymptomatic client to increase compliance with his medical regimen.

ROLE OF THE NURSE

The nurse caring for the client with hypertension usually has the responsibility for educating him in a life-long blood pressure control as well as reinforcing the physician's instructions (Luckman and Sorensen 1974). There is general agreement that client's cooperation with treatment increase as they learn about hypertension and the rationale for the therapeutic regimen. Winslow (1976) stated the nurse is the best person to teach the client. She knows his diagnosis, treatment, and prognosis. When the client is

hospitalized nurses are with him twenty-four hours a day, and are often more able than the physician to comprehend the client's point of view and speak at his level of understanding.

New medications are providing years of useful, happy living for the hypertensive individual. The nurse who has a sound knowledge of the medications, mechanism of action, side effects, and nursing implications can make a difference between failure and success with therapy (Shank and Ludewig 1974).

Alderman has established nine hypertensive clinics. The first one was started at Gimbel's in New York City in 1974. These clinics are managed by nurses using Alderman's protocol as a guideline; the nurses tailor antihypertensive drugs to each individual's needs, starting with a minimal drug and dosage working up to the regimen that maintains the client's normal blood pressure (Horoshak 1976). Alderman states that nurses make the difference. Clients with hypertension are keeping their appointments and their blood pressures are consistently staying down.

Lancour (1973) reported nursing embodies these essential components: comprehensive patient assessment; problem identification; nursing intervention and evaluation of nursing actions. The nurse specialists are changing the risk picture of clients with heart disease through intervention, according to Dunbar (1977). Research shows that nurses are contributing to research and providing services in programs to reduce the cardiac risk factor. Dunbar (1977) reported that nurses must

thoroughly assess clients who find adherence to their medical regimen a problem. When contributing causes are identified help is possible. Experience cautions against tactics of simple persuasion or health warnings. Persuasion is ineffective and health warnings may raise anxiety level that would immobilize the patients. Continued teaching of specific skills and guidance in solving problems redefining goals and practicing new health regimens do more to promote client adherence than any amount of general counseling.

Nurses may play a major role in the detection evaluation and management of the hypertensive individual. According to Batterman, Stegman and Fitz (1975), a patient education is an important part of the therapeutic regimen. The public and patients are generally inadequately informed about hypertension. Nurses are in a unique position to further the educational efforts concerning hypertension, and they often possess expertise in the health teaching area. Teaching should be directed to all age groups, with emphasis on the young whose living habits are still in the formative stages. The nurse's frequent contact with the public in various nursing roles offers a good opportunity to fill the educational gap and eliminate misconceptions.

SUMMARY

A review of the literature revealed hypertension is a major health problem affecting twenty to twenty-five million Americans, many who are undetected, uncontrolled, untreated,

or inadequately treated. Hypertension often is asymptomatic, and must be systematically sought out in apparently well individuals if the condition is to be treated in its earliest stages and complications prevented. Physicians and nurses have a major responsibility to direct the person into treatment and to assure the effectiveness of his follow-up care, participation in exercise, hypertension, stress management or adherence intervention.

Noncompliance is a direct challenge to everyone caring for the patient. The individual must be motivated to accept and continue his medical regimen through education, attention, and by the establishment of a good interpersonal relationship with the nurse and/or the physician.

With the advent of effective antihypertensive medications, treatment is available once the individual has been diagnosed.

CHAPTER III
PROCEDURE FOR COLLECTION AND
TREATMENT OF DATA

INTRODUCTION

This study was conducted in order to obtain information regarding the comparison between what nurses teach the patient with hypertension with what the patient with high blood pressure thinks he has been taught, and describe the patient's concurrent level of compliance to his treatment regimen. An exploratory study was conducted utilizing three questionnaires and two demographic tools designed specifically for this research. Chapter III describes the setting of the study, the population and sample, the tool used, the collection of data and the procedure for treatment of the data.

SETTING

The data were collected from patients in a nonproprietary hospital. The hospital is located in a large southern metropolitan city with a population of 300,000. The hospital whose capacity is 350 beds annually provides in-patient and out-patient care for many thousands of medical and surgical patients.

Two medical-surgical units were used. One unit had a 37-bed capacity and employed nine full-time and two-part time Registered Nurses on the three shifts. The second unit had a 65-bed capacity and employed twelve full-time and three part-time Registered Nurses on the three shifts.

Both units have educational and rehabilitation programs for the patient with hypertension, and use selected teaching materials. The hospital employs a staff of four nurses to teach patients. Teaching is begun by the hospital education staff only on request of the doctor. None of the patients included in this study had been visited by the educational staff of the hospital.

POPULATION

The population for this study consisted of patients hospitalized on the two medical surgical units who had a diagnosis of hypertension. The population also consisted of nurses employed full time on the two medical surgical units.

The Human Research Review Committee of Texas Woman's University, Dallas, Texas, reviewed and approved the protocol for this study (Appendix F). Written permission to use the hospital facilities to do this study was obtained from the administration and nursing service departments (Appendix G).

The study was explained to each patient and they were given the assurance that all information would remain confidential and that the patient's name would not be used in

any way during or in the reporting of the study. If the patient consented to answer the inventory, a written consent form was signed by the patient (Appendix F). Demographic data were collected from the patients at the time of consent.

Initial contact with the patient was made while he/she was hospitalized. In order to establish a relationship with the patient to insure cooperation and participation in the proposed study, each patient was assured that he or she could withdraw from the study at any time.

SAMPLE

Convenience samples of both patients, determined by their diagnosis and Registered Nurses determined by their employment on the two medical surgical units were selected for this study. Abdellah and Levine (1965) stated that a convenience method of sampling is a common type of nonprobability sampling which has a degree of randomness. With this type of sampling, subjects are selected because of their presence within the research area during a particular time, and because they meet the prescribed criteria for inclusion in the study (Abdellah and Levine 1965).

Leedy (1974) emphasized that randomization is one of the greatest guarantees of validity. Randomization is a necessary and constant factor in the selection of all groups, both experimental and control.

TOOL

An appropriate tool for this study was not found, therefore three questionnaires were designed. The three questionnaires were constructed after review of literature and consultation with a cardiologist, cardiovascular clinical nurse specialist, and a professor of education with a background in tests and measurements. The three experts in the field were used to determine clarity and content validity.

The validation of an instrument requires that it measure what it purports to measure (Leedy 1974). The questionnaires were reviewed and judged by an advisory panel of three scholars, to establish primary validity and evaluate the clarity and content of each questionnaire used in this study.

The demographic data sheet for nurses consisted of age, educational background, present position held and the number of years in nursing were collected to describe the sample (Appendix E). The nurse questionnaire consisted of twenty items to determine what the nurses are teaching the hypertensive patient (see Appendix C).

The demographic data for patients consisted of age, sex, race, marital status, education, risk factors, and length of time the individual has had hypertension (see Appendix D). The patient questionnaire consisted of twenty-two items designed to measure the patient's perception of

what he was taught about the nature, management and treatment of hypertension and the degree of compliance with the medical regimen (see Appendix A). Patient Questionnaire Two consisted of nineteen items designed to determine what the patient would like to be taught about hypertension disease and its management and treatment, in order to increase compliance.

The test reliability of the tools was not pre-determined. Fox (1976) stated that the techniques for checking the reliability have been developed to compare the results of two sets of data, which are collected under the same circumstances. The questionnaires were administered twice; once as a pretest, before actual use with the clients, and the data acquired under different circumstances. The purpose of the pretest, according to Abdellah and Levine (1975), is to establish validity of the data collecting instrument and procedures.

METHODOLOGY

The design guiding this exploratory study (Leedy 1974) called for two groups of subjects. One group consisted of patients admitted to the hospital with a diagnosis of essential hypertension that had not previously been taught by Registered Nurses. The second group was made up of Registered Nurses employed full time on a medical surgical unit, who assisted with the education of patients with a diagnosis of hypertension. No other control measures were placed on

selection of the sample. Treece and Treece (1973) explained that the exploratory research has limited control over extraneous variables.

One interviewer administered all of the questionnaires. Each patient was visited two to three days prior to discharge to obtain his permission for inclusion in this study. When the interviewer received permission, appointments setting the time and place were made. A day before the interview the client was telephoned to confirm the appointment. On the day the questionnaires were to be answered the interviewer arrived promptly. When taken to see the client to be interviewed, she introduced herself, stated briefly that she had come in accordance with the previously made arrangements, asked whether the interviewee wished a copy of the questionnaire. Each person was visited one to two weeks after discharge to answer the questionnaires. The interviewer gave directions for answering the questionnaires and then read each statement on the questionnaires and recorded the patient's responses. She made every effort to guide the interview, keeping to the agenda of questions and seeking to preserve an easy, friendly, yet professional atmosphere. Each interview took approximately thirty minutes.

The head nurse on each unit was contacted after permission had been granted from administration and nursing

service. A supply of questionnaires was left on each unit with a cover letter of explanation to be completed by the Registered Nurses. The questionnaires were placed in a large brown envelope designated for the same.

TREATMENT OF DATA

Data from the questionnaires were compiled and presented in appropriate tables, using frequencies and percentages. The mean and standard deviation were calculated for age. The other variables on the demographic data sheet were compiled using frequencies and percentages.

SUMMARY

This chapter describes the setting of the study, the sample population, the methods of data collection, and the treatment of data. Data were collected from patients with a diagnosis of essential hypertension, and nurses employed full time on two medical surgical units.

The tool used for this study was designed by the researcher. Data were collected and analyzed to determine if there is a comparison between what nurses teach the patient with hypertension and the patient's level of compliance to his treatment regimen. The analysis of this data was made by the use of frequencies and percentages.

CHAPTER IV
ANALYSIS OF DATA
INTRODUCTION

An exploratory study (Jahoda, Deutsch, and Cook (1958) Treece and Treece (1973) was done to determine the compliance level of the hypertensive patient to his treatment regimen. The data from the teaching related questionnaire was compiled and is presented in appropriate tables using frequencies and percentages. The mean and standard deviation were calculated for age of the respondents. The other variables on the demographic data sheet were compiled and are presented using frequencies and percentages.

DESCRIPTION OF THE SAMPLES

Patients

Twenty-eight hypertensive patients were selected from two medical surgical units based on the established criteria. Information pertaining to the age, sex, race and risk factors and the length of time that the individual had had hypertension was obtained from each subject in order to describe the group's composition.

The sample included eleven male and seventeen female subjects. Their ages ranged from twenty-seven to sixty-five years; mean age for the total sample was 43.7 years of age.

Male subjects ranged from thirty to sixty years with a mean age of 47.5. The ages for females ranged from twenty-seven to sixty-two years with a mean age of 41.2.

TABLE 1
Age and Sex Distribution of Subjects

Sex	Number	Age Range	Mean Age
Male	11	30 - 65	47.5
Female	17	27 - 62	41.2
Total	28	27 - 65	43.7

The mean and standard deviation is given for the ages of all subjects (Table 2). Eight of the subjects were black males and three were white males. The ages of the black male subjects ranged from thirty to sixty-five with a mean age of 44.8. Stamler (1974) shows that the mortality in black men ages 35 to 45 is five times greater with a higher risk of complications from the disease if untreated than for comparable white men. The ages of the white male subjects ranged from forty-eight to fifty-six with a mean age of 54.6.

TABLE 2

Mean Standard Deviation and Range
of Age by Color

Race	Sex	Mean	Standard Deviation	Range
Black	Male	44.8	11.4	30-65
	Female	40.	8.6	27-57
White	Male	54.6	4.9	48-60
	Female	47.	11.5	34-62

Table 3 represents the race and sex of the subjects: eight black male subjects (29 percent), fourteen black female subjects (50 percent), three white male subjects (11 percent), and three white female subjects (11 percent). For the 28 subjects, eleven male subjects (39 percent) and seventeen female subjects (61 percent) were included in the study. The number of females was higher and the percentage of blacks was higher.

TABLE 3

Distribution of Subjects by Race
and Sex

	Black		White		Total	
	N	%	N	%	N	%
Male	8	28	3	11	11	39
Female	14	50	3	11	17	61
Total	22	78	6	22	28	100

Table 4 shows additional variables from the patient demographic data sheet. Fifteen of the subjects (54 percent) were married, three (11 percent) were divorced, three (11 percent) were widowed, and no response seven (24 percent) to the variables on marital status. Two of the subjects (7 percent) had gone to middle school, ten (36 percent) had gone to high school, ten (36 percent) had some college, One (3 percent) had completed college and no response five (18 percent) to the variables on education. Twenty (71 percent) of the subjects smoke and eight (29 percent) did not smoke. Twenty (71 percent) of the subjects had a family history of hypertension eight (29 percent) did not have a family history of hypertension.

TABLE 4

Frequency and Distribution of Marital Status,
Education, Smoking,
Family History

Variables	Number	Percent
Marital Status		
Married	15	54
Separated	0	0
Divorced	3	11
Widow	3	11
Widower	0	0
No Response	7	24
Education		
Middle School	2	7
High School	10	36
Some College	10	36
College	1	3
No Response	5	18

TABLE 4 (Continued)

Variables	Number	Percent
Smokes	20	71
Yes		
No	8	29
Family History		
Yes	20	71
No	8	29

Nurses

Twenty Registered Nurses were selected from the two medical surgical units based on the criteria established. Information pertaining to the age, education, present position, and the number of years in nursing was obtained from each nurse.

The sample included two male subjects and eighteen female subjects with an age range of twenty to forty-nine years of age. Two had obtained an associate degree in nursing, seventeen were diploma graduates and one had a baccalaureate degree, (Table 5).

TABLE 5
DISTRIBUTION OF SUBJECTS BY AGE, EDUCATION,
POSITION, AND YEARS IN NURSING

Sex	Number	Age Range	EDUCATION			POSITION		YEARS IN NURSING	
			Associate Degree	Diploma	Baccalaureate Degree	Head Nurse	Staff Nurse	Number	Year Range
Male	2	20-29	-	2	-		2	2	1
Female	18	20-49	2	15	1	2	16	18	1-20
TOTAL	20	-	2	17	1	2	18	20	-

RESULTS OF QUESTIONNAIRES

Questionnaire I

The results of the questionnaire relating to patient teaching content are presented in Tables 6 - 8. Part one relates to what nurses teach the patient about the nature of the disease.

Ten patients (36 percent) perceived having been taught about specific symptoms, twelve (43 percent) symptoms persist, twenty (71 percent) symptoms control, fifteen (54 percent) no cure, fifteen (54 percent) affects all ages, and twenty-eight (100 percent) perceived being taught how hypertension may be detected (Table 6).

TABLE 6

Results of Patient Questionnaire I
Part 1

<u>Nature of the Disease</u>				
<u>Teaching Content</u>	<u>Taught this Information</u>			
	<u>Yes</u>		<u>No</u>	
	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>
Specific Symptoms	10	36	18	64
Symptoms Persist	12	43	16	57
Symptoms Control	20	71	8	29
No Cure	15	54	13	46
Affects All Ages	15	54	13	46
Detection	28	100	0	0

The results obtained for part two of the questionnaire relating to medication therapy revealed twenty-four (86 percent) of the patients perceived being taught to take their medications regularly. Twenty of the patients (71 percent) perceived being taught about decrease complications, twenty (71 percent) regular blood pressure checks, sixteen (57 percent) side effects, and twenty-three (82 percent) to keep doctor's appointments (Table 7).

TABLE 7

Results of Patient Questionnaire I
Part II

Medications				
Teaching Content	Taught this Information			
	Yes		No	
	N	%	N	%
Taken Regularly	24	86	5	18
Decrease Complications	20	71	8	29
Regular Blood Pressure Checks	20	71	8	29
Side Effects	16	57	12	43
Keeps Doctor's Appointments	23	82	5	18

Part three relating to Risk Factors for developing hypertension shows that nine patients (32 percent) perceived being taught about cigarette smoking. Other risk factors twenty-three (82 percent) perceived being taught about obesity, thirteen (46 percent) lack of exercise, sixteen (57 percent) sodium in diet, and thirteen (46 percent) the importance of minimizing intake of saturated fat and cholesterol (Table 8).

TABLE 8

Results of Patient Questionnaire I
Part III

Risk Factors				
Teaching Content	Yes		No	
	N	%	N	%
Cigarette Smoking	9	32	9	32
Obesity	23	82	5	18
Lack of Exercise	13	46	15	54
Sodium in Diet	16	57	7	25
Serum Cholesterol	13	46	15	54

Questionnaire II

Patient Questionnaire II gives the results of desired patient teaching about hypertension Tables 9 - 12. Fifteen patients (54 percent) agree and eight (29 percent) strongly agree that patient teaching should include definition, thirteen (46 percent) agree and fifteen (54 percent) strongly agree types, twelve (43 percent) agree and sixteen (57 percent) strongly agree symptoms, five (18 percent) agree and twenty (71 percent) strongly agree cure, eight (29 percent) agree and twenty (71 percent) strongly agree ages, and five (eighteen percent) agree and twenty (71 percent) strongly agree detection, were reported as information that should be taught patients about the nature of hypertension (Table 9).

TABLE 9

Results of Patient Questionnaire II
Part I

Nature of the Disease

	Information that Should Be given to Patients									
	Strongly Disagree		Disagree		No Opinion		Agree		Strongly Agree	
	N	%	N	%	N	%	N	%	N	%
Definition							15	54	8	29
Types							13	46	15	54
Symptoms							12	43	16	57
Cure							5	18	20	71
Ages							8	29	20	71
Detected							5	18	20	71
TOTAL							58	208	99	353

Three patients (11 percent) agree and twenty-five (89 percent) strongly agree that patient teaching should include name and purpose, eight (29 percent) agree and twenty (71 percent) strongly agree dosage and how to take, eight (29 percent) agree and twenty (71 percent) strongly agree side effect, and five (18 percent) agree and twenty-three (82 percent) strongly agree, this information should be taught about medications (Table 10).

TABLE 10

Results of Patient Questionnaire II
Part II

Medications	N	%	N	%
Name and purpose	3	11	25	89
Dosage and How to Take	8	29	20	71
Side Effects	8	29	20	71
What to Report	5	18	23	82
Total	24	87	88	313

When the subjects were asked what they thought about risk factors, ten (36 percent) agree and ten (36 percent) strongly agree information should be given on cigarette smoking and five respondents stated not applicable. Type of diet, ten (36 percent) agree and eighteen (64 percent) strongly agree that information should be given the patient. Dietary information, twenty (71 percent) agree and eight (37 percent) strongly agree this information should be given the patient. When the information was tabulated for the

the factor of stress, it showed ten (36 percent) agree and eighteen (64 percent) strongly agree. Activities causing stress, thirteen (46 percent) agree, and fifteen (54 percent) strongly agree and activities reducing stress, eight (29 percent) agree, twenty (71 percent) strongly agree that the patient should be given this information about stress (Table 11).

TABLE 11

Results of Patient Questionnaire II
Part III

Risk Factors				
	N	%	N	%
Cigarette Smoking	10	36	10	36
Type of Diet	10	36	18	64
Dietary Information	20	71	8	34
Stress (effects)	10	36	18	64
Activities causing stress	13	46	15	54
Activities reducing stress	8	29	20	71
Obesity	18	64	10	36
Exercise	5	18	13	46
TOTAL	94	336	112	435

Ten patients (36 percent) agree and eighteen (61 percent) strongly agree patient teaching should include information on keeping appointments, eight (29 percent) agree and twenty (71 percent) strongly agree written appointments, eight (29 percent) agree and twenty (71 percent) strongly agree instructions and eight (29 percent) agree and twenty (71 percent) strongly agree how to measure blood pressure should be covered in order to increase compliance (Table 12).

TABLE 12

Compliance				
	N	%	N	%
Keeps Appointments	10	36	18	64
Written Appointments	8	29	20	71
Instructions	8	29	20	71
Measure Blood Pressure	8	29	20	71

Nurse Teaching Content

The results of the nurse questionnaire are presented in (Tables 13-15). Part one on the nature of the disease shows that three (15 percent) of the nurses do not teach the client about the type of hypertension he has. Five nurses, (25 percent) taught about the type occasionally, five (25 percent) always taught the type of hypertension the client has. One nurse (5 percent) occasionally taught symptoms, three (15 percent) usually, six (30 percent) most of the

time and ten (50 percent) always taught no symptoms.

Three nurses (15 percent) occasionally taught hypertension lasts indefinitely, twelve (60 percent) most of the time, five (25 percent) always taught hypertension lasts forever.

Information on complications, twelve nurses (60 percent) taught most of the time and eight (40 percent) always taught about the complications of hypertension. Two nurses (10 percent) occasionally taught no cure, three (15 percent) usually, five (25 percent) most of the time and ten (50 percent) always taught affects all ages. The responses showed that six nurses (30 percent) most of the time and fourteen (70 percent) always taught the client how hypertension may be detected (Table 13).

TABLE 13

Results of Questionnaire filled out
by the nurses

Nature of the Disease

	Never		Occas- ionally		Usually		Most		Always	
	N	%	N	%	N	%	N	%	N	%
Types	3	15	5	25	2	10	5	25	5	25
No Symptoms			1	5	3	15	6	30	10	50
Last In- definitely			3	15			12	60	5	25
Compli- cations							12	60	8	40
No Cure			2	10	3	15	5	25	10	50
Affects all ages			2	10	3	15	5	25	10	50
Detection							6	30	14	70

Part II, medications shows that twenty nurses (100 percent) occasionally, usually, most of the time, or always taught clients about their medications and follow-up care. Four of the nurses (20 percent) did not teach the patients about side effects and how to manage their medications. Also three of the nurses (15 percent) did not teach the patients the importance of follow-up care and the need for continuity of care (Table 14).

TABLE 14

Results of Questionnaire filled out
by nurses

Medications

	N	%	N	%	N	%	N	%	N	%
Taken regularly even if no symptoms					4	20	5	25	11	55
Decrease the chance of stroke, heart attack and kidney disease			1	5			2	10	17	85
Periodic Blood Pressure Checks							5	25	15	75
Side effects and how to manage	4	20								
Continuity of Care and Follow-up	3	15								

Risk factors and their influence on the cardiovascular system was rated as being very important. All twenty of the nurses (100 percent) indicated that they usually, most of the time, or always taught the patient how the effects of cigarette smoking, obesity, elevated serum cholesterol, stressful life situations, lack of exercise and excess sodium in the diet would effect the condition (Table 15).

TABLE 15

Results of Questionnaire filled
out by nurses

Risk Factors and their Influence on the Cardiovascular System						
	N	%	N	%	N	%
Cigarette Smoking			5	25	15	75
Obesity			7	35	13	65
Elevated Serum Cholesterol	2	10	10	50	8	40
Stressful Life Situations	3	15	7	35	10	50
Lack of Exercise	3	15	10	50	7	35
Excess sodium in Diet			10	50	10	50

Summaries of Teaching Content

The purpose here is to compile the data from the teaching content on the patient questionnaires and the nurse questionnaires in order to compare the responses of both groups. The sixteen variables in the three tables were tabulated into frequency distributions for each criterion. These frequencies were then converted into percentages and corrected for instances in which the criterion did not apply to a given variable. Percentages were rounded to one decimal place.

Each table contains columns for what the nurses taught, what the patient perceived was taught and said should have been taught about hypertension.

The nurses agreed one hundred percent that all the content on the nature of the disease should be taught the hypertensive client. In comparison the patients agreed eighty-nine to one hundred percent of the content on the nature of the disease should be taught the individual with hypertension. Patients perceived that from thirty-six to one hundred percent of the content on the nature of the disease was taught (Table 16).

TABLE 16

Comparison of Patient Education

Nature of the Disease						
Teaching Content	Nurses Taught		Patients Perceive Was Taught		Patients Want to Be Taught	
	N	%	N	%	N	%
Specific Symptoms	20	100	10	36	28	100
Symptoms Persist	20	100	12	43		
Symptom Control	20	100	20	71		
No Cure	20	100	15	54	25	89
Affects all ages	20	100	15	54	28	100
Detection	20	100	28	100	25	89

One hundred percent of the nurses taught information relating to medications, name and purpose, dosage and how to take. Side effects to medications were taught by four (20 percent) of the nurses. What to report/follow-up care was taught by three of the nurses (15 percent).

Patients showed they wanted to be taught all the content on medications. Patients perceived, twenty (71 percent) had been taught about the dosage and how to take their medications, side effects, sixteen (fifty-seven percent) had been taught and twenty-three (82 percent) had been taught what to report and encouraged to keep follow-up appointments (Table 17).

TABLE 17

Comparison of Patient Teachings

Medications

Teaching Content	Nurses Taught		Patients Perceive Was Taught		Patients Want to Be Taught	
	N	%	N	%	N	%
Name and Purpose	20	100			28	100
Dosage and How to take	20	100	20	71	28	100
Side Effects	4	20	16	57	28	100
What to Report/ Follow-up Care	3	15	23	82	28	100

One hundred percent of the nurses taught all the content on risk factors. In comparison the patients wanted to be taught about the lack of exercise, eighteen (64 percent) cigarette smoking, twenty (82 percent), and one hundred percent wanted to be taught the content on obesity, elevated serum cholesterol, excess sodium in diet, and stressful life

situations. Patients perceived the content on cigarette smoking was taught, nine (32 percent), obesity, twenty-three (82 percent), elevated serum cholesterol, thirteen (46 percent) lack of exercise, thirteen (46 percent), and excess sodium in diet, sixteen (57 percent) (Table 18).

TABLE 18

Comparison of Patient Teachings

Risk Factors

Teaching Content	Nurses Taught		Patients Perceive Was Taught		Patients Want to Be Taught	
	N	%	N	%	N	%
Cigarette Smoking	20	100	9	32	20	82
Obesity	20	100	23	82	28	100
Elevated Serum Cholesterol	20	100	13	46	28	100
Stressful Life Situations	20	100			28	100
Lack of Exercise	20	100	13	46	18	64
Excess Sodium in Diet	20	100	16	57	28	100

Compliance

Part four Compliance reports the adherence to medical regimen for the different variables. Seven (25 percent) of the patients usually comply with their medications, fifteen (54 percent) most of the time, and six (21 percent) always

take their medications as prescribed. Five (18 percent) of the patients never follow their diet instructions, ten (36 percent) occasionally, thirteen (46 percent) usually, and ten (36 percent percent) most of the time. Ten of the patients (36 percent) never follow instruction about rest, ten (36 percent) occasionally, four (14 percent) usually and four (14 percent) most of the time. Thirteen (46 percent) of the patients never adhere to instructions on the use of tobacco, eight (twenty-nine percent) occasionally and seven (25 percent) not applicable. Ten of the patients (36 percent) adhere to instruction on the use of alcohol occasionally, ten (36 percent) usually and it was not applicable for eight (29 percent). Four of the patients (14 percent) occasionally came for their physician's appointments, ten (36 percent) usually, and ten (36 percent) mostly, four (14 percent) always maintained follow-up care with their physicians (Table 19).

TABLE 19

Results of Patient Compliance Questionnaire I

	Never		Occas- ionally		Usually		Mostly		Always		Not App.	
	N	%	N	%	N	%	N	%	N	%	N	%
Medications	-	-	-	-	7	25	15	54	6	21	-	-
Diet	5	18	10	36	13	46	10	36	0	0	-	-
Rest Habits	10	36	10	36	4	14	4	14	0	0	-	-
Use of Tobacco	13	46	8	29	-	-	-	-	-	-	7	25
Use of Alcohol	-	-	10	36	10	36	-	-	-	-	8	29
Doctors Appointment	-	-	4	14	10	36	10	36	4	14	-	-

In response to the question, "Who would you prefer to talk to you about hypertension?" ten (36 percent) answered "the nurse" and eighteen (65 percent) answered "the physician" (Table 20).

TABLE 20

Results of Patient Questionnaire II

Question One - Talk to you about hypertension

	Number	Percent
Nurse	10	36
Physician	18	65
Other	0	0

In regard to the question, "Do you have any suggestions on how nurses and physicians could provide more and better information to patients and their families who have to live with the diagnosis of hypertension?" fifteen (54 percent) made no suggestions, eight (28 percent) wrote in "clinics run by nurses that charge less to evaluate your blood pressure", and five (18 percent) just stated "clinics".

SUMMARY

The analyses of the data were carried out through the use of frequencies and percentages. Questionnaire I was used to determine what information was taught the client by the nurse. The data obtained reported that nurses did not teach patients about symptoms 64 percent of the time, and 57 percent were not taught that hypertension lasts forever. Forty-six percent were not taught that there is no cure. The data also reported that 100 percent of the patients indicated they had been told about detection. It was reported that 73 percent of the patients had been taught about medications and 52 percent were taught about risk factors. According to the data on compliance there appears to be no pattern for the different variables.

Questionnaire II was used to determine what information the client would like to know or believed should be included in the information given to the hypertensive patient. The data indicated that patients with hypertension would like to be taught everything about the "nature of the disease", 92 percent "medications and risk factors" 100 percent, and be given information that would increase "compliance" 100 percent. A majority of the patients prefer to have their physician talk to them initially about the nature of the disease, management and treatment of hypertension. The data indicated 36 percent preferred the nurse and 65 percent the physician

as the information source. An additional question asked patients, "Do you have any suggestions on how nurses and physicians could provide more and better information to patients and their families who have to live with the diagnosis of hypertension?" Twenty-nine percent would like to have clinics managed by nurses.

The Questionnaire completed by the nurses revealed that most of the nurses taught what the clients would like to know about hypertension. Twenty-five percent of the nurses teach about the type of hypertension the patient has. Information on the nature of the disease was reported to be taught seventy to one hundred percent of the time by nurses. All of the nurses indicated that they usually, most of the time, or always taught the patient how the effects of cigarette smoking, obesity, elevated serum cholesterol, stressful life situations, lack of exercise, and excess sodium in the diet would effect their condition.

A summary comparison of patient teachings indicated the nurses taught the content on the nature of the disease one hundred percent of the time, and the patients indicated they wanted to be taught this content one hundred percent of the time. Patients perceived that from thirty to one hundred percent of the content on the nature of disease was taught.

The content on medications the patients agreed one hundred percent all of the information should be taught.

The nurses taught from fifteen percent to one hundred percent of the content on medications. The patients perceived from fifty-seven to eighty-two percent of the content on medications had been taught.

One hundred percent of the nurses taught all the content on risk factors. The patients perceived from thirty-two to eighty-two percent of the information was taught. The patients wanted to be taught eighty-two to one hundred percent of the content on risk factors.

CHAPTER V

SUMMARY, CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

SUMMARY

An exploratory study was undertaken to determine the comparison existing between what the patient with high blood pressure thinks he has been taught and what the nurses teach the patient with high blood pressure, and describe the level of compliance to his treatment regimen. The purposes of this study were (1) identify what nurses teach about hypertension, (2) identify what patients perceive is being taught about hypertension, (3) identify what patients think should be taught about hypertension, and (4) identify patients level of compliance to the treatment regimen.

A total of twenty-eight patients on two medical - surgical units of a nonproprietary hospital met the criteria for inclusion in this study, and were visited to answer the questionnaires one to two weeks after discharge from the hospital. Two questionnaires were used to gather information from the patients. Questionnaire I was used to determine what information was taught the patient by the nurse. Questionnaire II was used to determine what information the client would like to know or believed should be in the information

given to the hypertensive patient. This study also included twenty registered nurses employed full time on the medical surgical units. They were given a questionnaire to determine what they taught the hypertensive patient.

Data from the questionnaires were compiled and presented in appropriate tables, using frequencies and percentages. The mean and standard deviation were calculated for age. The other variables on the demographic data sheet were compiled using frequencies and percentages.

Conclusions

Based on the findings of this study, it can be concluded that the compliance level of hypertensive patients can be improved by nurses teaching and counseling patients about their condition, and medical regimen. The Alabama Advisory and Coordinating Council on Hypertension (1975) stated that thoughtful client education and counseling should be done to increase adherence to the therapeutic regimen. Ward, Bandy, Fink (1978) concur that the hypertensive patient needs information about the disease, and an opportunity to discuss findings. The nurse should teach the patient to assure his understanding of (1) the seriousness and lifelong nature of hypertension, (2) the consequences of not treating the disease, (3) the importance of taking medication as prescribed, (4) the asymptomatic nature of the disease, and, (5) the importance of keeping follow up appointments.

Patient Questionnaire II gave the results of what the patients thought should be taught the patient about hypertension. The research showed that from 89-100 percent of the patients agreed that all the information on the questionnaire should be taught to the person with hypertension. The nurse questionnaire showed that 80-100 percent of the nurses taught aspects of all the information. Risk factors and their influences on the cardiovascular system were rated as being very important by the nurses. This is concurrent with the position of Shank and Ludewig (1974) who stated the hypertensive patient should avoid cigarette smoking, obesity, elevated serum cholesterol, stressful life situations, lack of exercise, and excess sodium content in diet. These factors should be avoided because they tend to accelerate the atherosclerotic process, causing susceptibility to heart attack, cardiac failure, stroke, and renal failure.

The findings indicated that patients complied to a great extent with the part of their treatment regimen, which they had been taught or counseled. Curry, et al. (1974) revealed that the client complied when provided with an adequate explanation of his condition and proposed treatment plan.

It could be concluded that a comparison exist between what nurses teach the client with hypertension and his level of compliance. Patients complied to a greater extent

with their medical regimen when taught the content on the nature of the disease, medications, and risk factors of hypertension. Patients indicated they would like to be taught all the information on hypertension that the nurses teach.

Comparison of teaching content was believed to be useful in identifying the degree of compatibility of teaching content as to what the nurses taught and the client wanted to be taught. With teaching needs so closely paralleled, the nurse and the client may have been looking for the same satisfaction from the teaching content. Further, individuals with similar needs are likely to have a capacity to understand the motives of the other, and develop successful parallel goals and objectives.

Patients chose physicians as preferred source of information probably because they are accustomed to physicians talking to them about their condition. Hypertension is a major health problem and physicians do not have the time to spend teaching and counseling every client. Robinson (1974) stated some physicians have declared that the medical profession alone cannot cope with the overwhelming number of hypertensive patients. Francis (1976) stated in order to control hypertension, the client, his physician and the nurse must be involved in a coordinated effort.

Alderman has established nine hypertensive clinics managed by nursing personnel using his protocol as a guideline. Alderman states that nurses make the difference. Hypertensive clients attending the clinics are keeping their appointments and their blood pressures are consistently staying down. The responsibility for initiation and continuance of treatment rests with the physicians and nurses and depend largely upon recognition of the need for antihypertensive treatment. They must have the desire and ability to educate the asymptomatic client to increase compliance with their medical regimen.

Implications

Based on the results of this study, the following implications are suggested for nursing practice, medical practice and nursing education.

Nurses in practice: Nurses must teach clients and their families who are diagnosed as hypertensive about the disease, management, follow-up care and prognosis of hypertension. Nurses should be knowledgeable about the nature of hypertension, risk factors and what constitutes proper care for the client with hypertension in order to formulate teaching plans that will benefit the client and his family. Nurses should involve the client in determining his regimen and the behavioral strategies to achieve symptom control. The nurse must remember to be a

primary provider of care to clients, working collaboratively with other health care professionals. Accepting a high degree of accountability for one's own actions requires assertiveness and willingness to seek change in both one's self and the system of health care.

Physician in Practice: Physicians who see hypertensive patients should instruct patients in the nature of the disease, risk factors, medications and their side effects and the prognosis of hypertension. Physicians should start the patient on the correct treatment and medical regimen. Physicians should make sure that the client is taught constantly by themselves or some other health care person.

Nurses in Education: Nursing educators should have knowledge of hypertension, risk factors, medications, and their side effects, treatment and medical management. They should teach the student nurses about the nature of hypertension, medications, risk factors, and methods to increase compliance in the hypertensive individual. They should include theory and clinical practice in the curriculum that increases the student's awareness of hypertension and its complications.

Recommendations

Based on the findings of this study, the following recommendations are made:

1. This study be replicated using a larger sample.
2. Studies be conducted to determine if constant education increases compliance with medical regimen.
3. Studies be conducted to determine nurses role in monitoring of patient progress, continuing education and encouragement.
4. Studies be conducted to determine if learning about hypertension in a group setting will help clients comply more to their medical regimen than learning one to one.

APPENDIX A

PATIENT QUESTIONNAIRE I

Directions: Read each statement or item carefully, then circle "yes" if you were taught the information; "no" if you were not taught the information.

Did the nurse teach you the following about hypertension?

Nature of the disease:

Usually there are no symptoms	Yes	No
The problem may last forever	Yes	No
Keeping blood pressure under control will prevent complications (heart attack, stroke, and kidney failure)	Yes	No
While there is no cure, medications will usually control high blood pressure	Yes	No
Hypertension affects all ages	Yes	No
High blood pressure can be detected only by having your blood pressure measured	Yes	No

Did the nurse teach you the following about

Medications:

Medications must be taken regularly, even if no symptoms are present	Yes	No
Taking medications regularly will decrease the chance of stroke, heart attack, and kidney disease	Yes	No
Regular blood pressure checks are necessary	Yes	No
Medications explained, their side effects and how to take them	Yes	No
Encouraged to keep doctor's appointments	Yes	No

Did the nurse teach you the following

Risk Factors and their influences on the cardiovascular system:

Cigarette Smoking	Yes	No
Obesity	Yes	No
Lack of exercise	Yes	No
Excess sodium in diet	Yes	No
Elevated serum cholesterol	Yes	No

Measurement of compliance: for the following questions will you estimate how you comply with your physicians' recommendations. Circle the one that most closely expresses what you do.

Follow instructions on:

Medications - never; occasionally; usually; most of the time; always

Therapeutic diet - never; occasionally; usually; most of the time; always

Changes in rest habits - never; occasionally; usually; most of the time; always

Curtailement of the use of tobacco - never; occasionally; usually; most of the time; always

Curtailement of the use of alcohol - never; occasionally; most of the time; always

Keep doctor's appointments - never; occasionally; most of the time; usually; always

APPENDIX B

PATIENT QUESTIONNAIRE II

Directions: Read each statement or item carefully.

Circle the corresponding number beside the following categories that most closely expresses what you would like to know or believe should be included in information given to the hypertensive patient.

1. Strongly disagree
2. Disagree
3. No opinion
4. Agree
5. Strongly agree

Nature of the disease:

Definition of hypertension -	1	2	3	4	5
Types of hypertension -	1	2	3	4	5
Types of symptoms -	1	2	3	4	5
If there is a cure -	1	2	3	4	5
What ages hypertension affects -	1	2	3	4	5
How blood pressure can be detected -	1	2	3	4	5

Medications:

Name and purpose -	1	2	3	4	5
Dosage and how to take -	1	2	3	4	5
Side effects -	1	2	3	4	5
What to report about side effects to the doctor or nurse	1	2	3	4	5

Risk factors:

Cigarette smoking (effects) If applicable-	1	2	3	4	5
Type of diet -	1	2	3	4	5

How to obtain dietary information -	1 2 3 4 5
Stress (effects) -	1 2 3 4 5
To recognize activities and situations that cause stress -	1 2 3 4 5
Changes in everyday activities and/ or situations that would help to reduce long-term stress -	1 2 3 4 5
Obesity -	1 2 3 4 5
Exercise -	1 2 3 4 5

Compliance: (following of instructions)

Encouraged to keep appointments by nurse -	1 2 3 4 5
Given written appointment and/or instructions -	1 2 3 4 5
Taught how to measure own blood pressure	1 2 3 4 5

Who would you prefer talk to you about the nature of the
disease, management, and treatment of hypertension?

_____Nurse _____Physician _____Other

Do you have any suggestions on how nurses and physicians
could provide more and better information to patients and
their families who have to live with a diagnosis of hyper-
tension?

May Use Back of Page.

APPENDIX C
NURSE QUESTIONNAIRE

HYPERTENSIVE TEACHING QUESTIONNAIRE

Directions: Read each statement or item carefully. Circle the corresponding number of the following categories that most closely expresses what you teach the hypertensive patient.

1. Never
2. Occasionally
3. Usually
4. Most of the time
5. Always

Nature of the disease:

Types of hypertension - 1 2 3 4 5

Usually there are no symptoms - 1 2 3 4 5

The problem may last indefinitely - 1 2 3 4 5

There is an increased incidence to heart attacks, stroke, and kidney failure in patients with high blood pressure - 1 2 3 4 5

There is no cure; medications will usually control high blood pressure - 1 2 3 4 5

Hypertension affects all ages not just the elderly - 1 2 3 4 5

High blood pressure can be detected only by having blood pressure measured - 1 2 3 4 5

Medications:

Medications must be taken regularly even if no symptoms are present - 1 2 3 4 5

Taking medications regularly will decrease the chance of stroke, heart attack, and kidney disease - 1 2 3 4 5

Periodic blood pressure checks are necessary whether taking medications or not 1 2 3 4 5

Side effects from medications are usually mild and can be avoided by altering the dose or type of medications, therefore, these should be reported immediately 1 2 3 4 5

Explain the medications, their side effects, and how to manage them 1 2 3 4 5

Assure adequate follow-up and continuity of care 1 2 3 4 5

Risk factors and their influence on the cardiovascular system:

Cigarette smoking - 1 2 3 4 5

Obesity - 1 2 3 4 5

Stressful life situations - 1 2 3 4 5

Lack of exercise - 1 2 3 4 5

Excess sodium in diet - 1 2 3 4 5

APPENDIX D

PATIENT DATA SHEET

CHARACTERISTICS OF HYPERTENSIVE PATIENTS

Directions: Read each statement or item carefully,
then circle the response that is true for you.

Age: _____

Sex: Male Female

Race: Black White

Marital Status: single; married; separated; divorced;
widow; widower

Education completed: elementary school, 1 - 6;
middle school, 7 - 9; high school, 10 - 12;
some college; college

Do you smoke? Yes No

Family history of hypertension, stroke, or heart attack;
mother; father; brother; sister; grandmother;
grandfather

How long have you had hypertension? _____

APPENDIX E

NURSE DATA SHEET

CHARACTERISTICS OF REGISTERED NURSES

Your completion of this questionnaire will contribute to research that is being conducted in order to improve the level of compliance of hypertensive patients. Circle the response that is true for you.

Age: 20 - 24 25 - 29 30 - 39 40 - 49
 50 - 59 Over 60

Education: associate degree; diploma; baccalaureate;
 masters

Present position: Staff nurse; head nurse; other (specify)

Number of years in nursing:

APPENDIX F

CONSENT TO PARTICIPATE FORM

TEXAS WOMAN'S UNIVERSITY

(Form B--Oral presentation to subject)

Consent to Act as a Subject for Research and Investigation:

I have received an oral description of this study, including a fair explanation of the procedures and their purpose, any associated discomforts or risks, and a description of the possible benefits. An offer has been made to me to answer all questions about the study. I understand that my name will not be used in any release of the data and that I am free to withdraw at any time.

Signature

Date

Witness

Date

Certification by Person Explaining the Study:

This is to certify that I have fully informed and explained to the above named person a description of the listed elements of informed consent.

Signature

Date

Position

Witness

Date

TEXAS WOMAN'S UNIVERSITY
COLLEGE OF NURSING
DENTON, TEXAS

DALLAS CENTER
1810 Inwood Road
Dallas, Texas

HOUSTON CENTER
1130 H.D. Anderson Blvd.
Houston, Texas 77025

AGENCY PERMISSION FOR CONDUCTING STUDY*

THE PROVIDENCE HOSPITAL, MOBILE, ALABAMA

GRANTS TO GERALDINE C. FELS

a student enrolled in a program of nursing leading to a Master's Degree at Texas Woman's University, the privilege of its facilities in order to study the following problem:

The conditions mutually agreed upon are as follows:

1. The agency (may) (~~may not~~) be identified in the final report.
2. The names of consultative or administrative personnel in the agency (may) (~~may not~~) be identified in the final report.
3. The agency (wants) (~~desires~~) a conference with the student when the report is completed.
4. The agency is (willing) (~~wishes~~) to allow the completed report to be circulated through interlibrary loan.
5. Other: Patient will not be identified unless they indicate and
Appendix F of the thesis proposal will be completed by each patient.

Date October, 1976

[Signature]

Signature of Agency Personnel

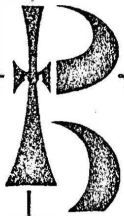
[Signature]

Signature of student

[Signature]

Signature of Faculty Advisor

*Fill out and sign three copies to be distributed as follows: Original - Student; first copy -- agency; second copy -- T.W.U. College of Nursing.



PROVIDENCE SCHOOL OF NURSING

1504 SPRINGHILL AVENUE • POST OFFICE BOX 4358 • MOBILE, ALABAMA 36604 • (205) 433-0541

September 27, 1976

Sister Julie
Director, Nursing Service
Providence Hospital
Mobile, Alabama

Dear Sister Julie:

I am a graduate nursing student at Texas Woman's University. In partial fulfillment of the requirements for the Masters of Science degree at Texas Woman's University I am investigating the opinions of nurses and hypertensive patients regarding teaching needs of patients and their level of compliance.

To identify these opinions a questionnaire developed by this investigator will be left on the units for the nurses. The selected patients will be given the questionnaire orally by the investigator. The collection of data will take place the months of September, October and November.

I would like very much to have some of the nurses and patients at your hospital pretest the instrument and use some in the actual study. Should you have any questions regarding this study, I shall be happy to answer them.

Sincerely,

Geraldine C. Fells, R.N.

Enclosures



PROVIDENCE SCHOOL OF NURSING

1504 SPRINGHILL AVENUE • POST OFFICE BOX 4358 • MOBILE, ALABAMA 36604 • (205) 433-0541

September 27, 1976

Mr. Frank A. Ahn
Administrator
Providence Hospital
Mobile, Alabama

Dear Mr. Ahn:

I am a graduate nursing student at Texas Woman's University. In partial fulfillment of the requirements for the Masters of Science degree at Texas Woman's University I am investigating the opinions of nurses and hypertensive patients regarding teaching needs of patients and their level of compliance.

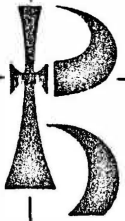
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I would like very much to have some of the nurses and patients at your hospital pretest the instrument and use some in the actual study. Should you have any questions regarding this study, I shall be happy to answer them.

Sincerely,

Geraldine C. Fells, R.N.

Enclosures



PROVIDENCE HOSPITAL

1504 SPRINGHILL AVENUE • POST OFFICE BOX 3201 • MOBILE, ALABAMA 36601 • (205) 433-0541

MEMORANDUM

TO: Ms. Geraldine C. Fells
Providence School of Nursing

FROM: Sister Julie, Assistant Administrator

DATE: October 14, 1976

RE: Questionnaire

The Nursing Service Department will be more than happy to help in any way with your study of the patient with hypertension. You know the people at Providence Hospital much better than I do, so feel free to ask anyone who could assist you in this study. If you need my further assistance, please let me know.

I have briefly read your presentation and find it most impressive. Good luck!

SJ/kh

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