

PATIENTS' KNOWLEDGE OF HYPERTENSION
AND SATISFACTION WITH HEALTH CARE

by

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This thesis is dedicated to my husband, Keith Rehn, who has always given me unending support, and to my parents, Truman and Viola Nelson, who have always encouraged me to reach for and achieve higher goals.

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ABSTRACT

The study was designed to answer two questions:

- (1) How much knowledge of hypertension selected hypertensive patients attending a chronic disease clinic have and
- (2) How satisfied are these patients with the care received from the staff of the clinic? Learning theory and attitudes were the bases of the conceptual framework of the study. A three part questionnaire was used to obtain information about the subjects' demographic data, level of knowledge of hypertension, and level of satisfaction with care.

The sample of 27 subjects, 14 men and 13 women, was chosen from a list of patients who were attending one of two hypertension clinics of a county health department. No essential demographic differences existed between the two groups.

A high level of patient knowledge of hypertension was found at both clinics, and all subjects in the sample were found to be generally satisfied with care. No significant relationship was found between patient knowledge and patient satisfaction. The results of this study substantiate the findings in the literature.

CHAPTER 1

INTRODUCTION

Hypertension is a major public health hazard in the United States today. According to recent data developed by the National High Blood Pressure Education Program (1978) the number of patients with hypertension now totals nearly 35 million, or approximately 16 percent of the U.S. population. Of these, 60 percent are believed to be aware of their disease, approximately a third are under adequate control, a third are on inadequate therapy, and roughly a third are not on therapy. Untreated high blood pressure is a major risk factor in heart disease. Many thousands die every year as a direct result of their disease.

To contend with the extensive problem of hypertension actions have been taken in several areas: public awareness campaigns; communities providing awareness, education, and motivation for evaluation and treatment; stress for research to be placed into practice; and screening programs for detection, referral, and follow-up.

Once a patient is diagnosed as having hypertension and a treatment regimen is prescribed difficulties may arise for the patient in managing the disease. These difficulties include noncompliance in taking medications,

keeping appointments, decreasing salt intake, and maintaining an optimum weight by appropriate caloric intake. The chronic nature of the disease requires the patient to manage the disease day to day and it is suggested the patient should have follow-up in an outpatient setting by a health-care provider. One way the health-care provider can help the patient to manage the difficulties that arise is to ensure the patient's satisfaction with the health care. Noonan (1972) discussed satisfaction of patients concerning appointment keeping. She concluded that the attendance rates of the consumer at ambulatory facilities are a reflection of the consumer's satisfaction with the health care.

Patient knowledge of hypertension is another factor that has been suggested as affecting the successful management of hypertension for the patient. Tagliacozzo and Ima (1970) found that patients with low knowledge scores of four different chronic diseases were more prone to terminate care prior to the fourth clinic visit than patients with high knowledge scores of chronic diseases.

This study focused on how much knowledge the patients had concerning hypertension and the level of patient satisfaction with care received by patients attending a hypertensive clinic. The focus was derived from my own experience with patients with hypertension,

which supported the influence of knowledge and satisfaction of the patient in managing hypertension.

Statement of the Problem

1. How much knowledge of hypertension do selected hypertensive patients attending a chronic disease clinic have?
2. How satisfied are these patients with the care received from the staff of the clinic?

Purpose of Study

The purpose of this study was to identify the knowledge and satisfaction levels of patients with hypertension who received care at a chronic disease clinic conducted by a county health department.

Significance of Problem

The National High Blood Pressure Education Program (1978) emphasized the growing problem of hypertension by comparing the 1976 figure of hypertension prevalence of 23 million and the 1978 figure of 35 million. These numbers indicate a 12-million increase in 2 years.

Stamler (1974) stated half of the people with hypertension are undetected, half of the patients with hypertension who are detected are untreated, and half of the treated are inadequately treated. The National High Blood Pressure Education Program (1978) has updated these

figures to 40 percent of all patients with hypertension are undetected, a third of the detected are not treated, a third of the detected are adequately treated, and a third of the detected are inadequately treated.

Now more than ever the nurse needs to become involved with this increasing problem. It is the nurse's responsibility to educate and motivate the hypertensive patient to continue the therapy regimen and, above all, to return to the ambulatory setting for follow-up appointments. The giving of support, time to answer questions, and personal interest all assist in motivating the patient.

Competence in fulfilling the responsibility of patient education and motivation requires research in the areas of patient needs, nursing interventions, and patient outcomes. The information obtained in this study concerning the patient's knowledge of hypertension and perception of satisfaction with health care should aid the nurse in identifying the education needed by the patient with hypertension and what changes are necessary in the process of care delivery. These changes should increase the patient's satisfaction with care and ability to manage the disease.

The Conceptual Framework

The conceptual framework for this study was based on learning theory and the effects of attitudes.

Learning Theories

Learning is complex, and the kinds of learning such as mastering motor skills, memorizing information, and learning concepts and intellectual skills such as generalizing and problem solving are varied. Concepts of man and his behavior are the basis of all learning theories (Taba, 1962).

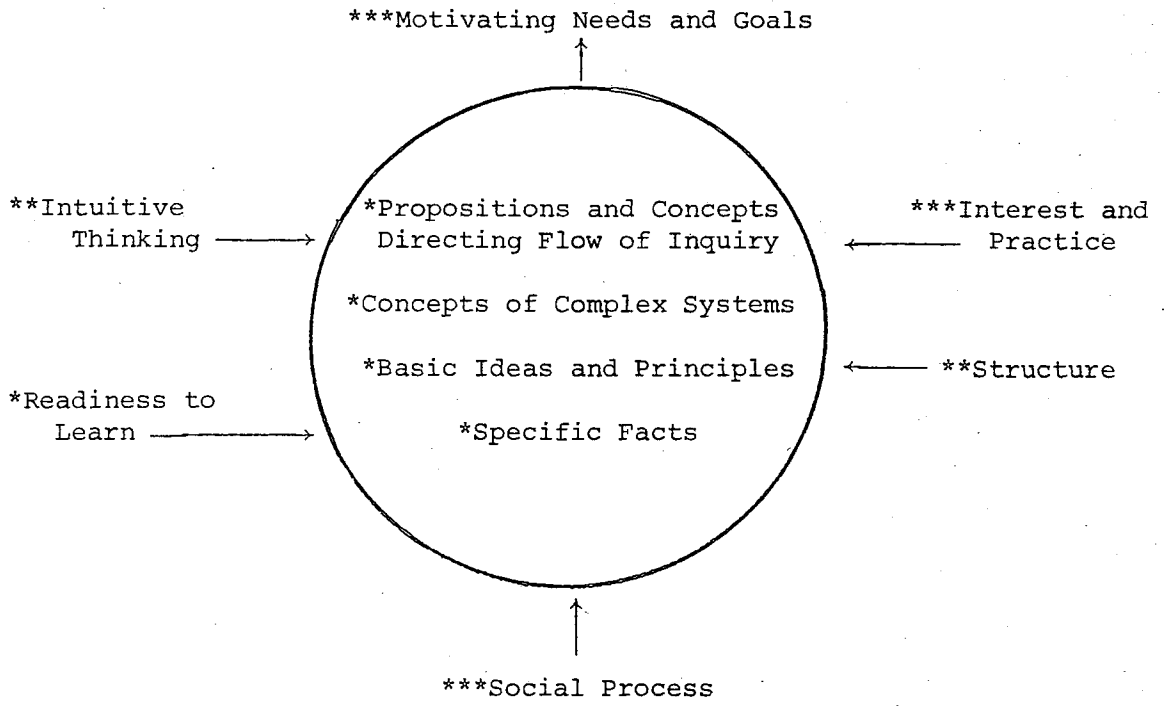
Taba (1962:178) proposed that knowledge has four levels or divisions. The first level is that of specific facts, descriptive ideas at a low level of abstraction, and specific processes and skills. Basic ideas and principles represent the next level of knowledge. The third level is composed of concepts or complex systems of highly abstract ideas. The last division, thought systems, is composed of propositions and concepts that direct the flow of inquiry and thought. Taba also discussed the importance of sequence in the learning steps that lead toward formation of ideas and development of cognitive processes. She suggested two sequences for the learning process: (1) ideas be arranged in order of complexity and abstractness, and (2) the cognitive processes be dealt with in order of increasingly demanding intellectual rigor.

Learning is further explained by Lewin (1954), who stated that behavior is a function of the present life space. Learning is an alteration in the cognitive structure, that is, in the way of perceiving events and applying

meaning to them. Lewin's (1954) field theory views learning as essentially a social process. To learn, one must interact with others. This theory emphasizes the importance of the health-care provider's being a part of the social interaction to enhance the patient's learning. Lewin also stated that learning happens largely in response to basic motivating needs and goals and is enhanced by interest, motivation, and practice.

The importance of interest or the desire to learn was elaborated by Bruner (1977), who stated that having an interest in what is to be learned provides motivation and is the best stimulus to learning. Bruner proposed three other factors in the process of learning: structure, which enhances learning by bringing about relatedness to the subject matter; readiness for learning (the foundations of any subject may be taught to anyone at any age in some form); and intuitive thinking, described as the acceptance and use of hunches and an essential feature of productive thinking.

In summary, the process of learning is built around Taba's (1962) four divisions of the nature of learning, Lewin's (1964) field theory, and Bruner's (1977) four factors that enhance learning. Taba's (1962) sequence or steps in the learning process are identified within Figure 1. Specific facts are the most basic steps and the arrows show the progression to the fourth and most complex level,



- *Taba (1962)
- **Bruner (1977)
- ***Lewin (1954)

Figure 1. Summary of the Nature of Learning

propositions and concepts directing flow of inquiry. Factors that have been identified by Lewin (1954) and Bruner (1977) are exterior to the circle but have a direct influence and enhancement on the learning process. These three theorists provide the foundation on which the health educator creates and presents health materials to the patient.

Attitudes

Attitudes, beliefs, and perceptions of an individual as he relates them to objects in his environment are generally the basis of satisfaction. Attitude is defined by Katz and Stotland (1959) as an individual's tendency or predisposition to evaluate an object or a symbol of that object in a certain way. They conceive attitudes as being derived from emotions, beliefs, and actions.

Attitudes cannot be directly observed but can be inferred from behavior as responses to items in a questionnaire or rating scale. An individual's behavior is likely to reflect his attitudes and motives at the time. Campbell (1963) stated that attitudes can be organized into consistent and logical structures known as value systems. Attitudes and values are integrated through consistency and determine the action an individual will take when faced with a given situation. Integration enables an individual to interpret and evaluate events around him (Figure 2, center).

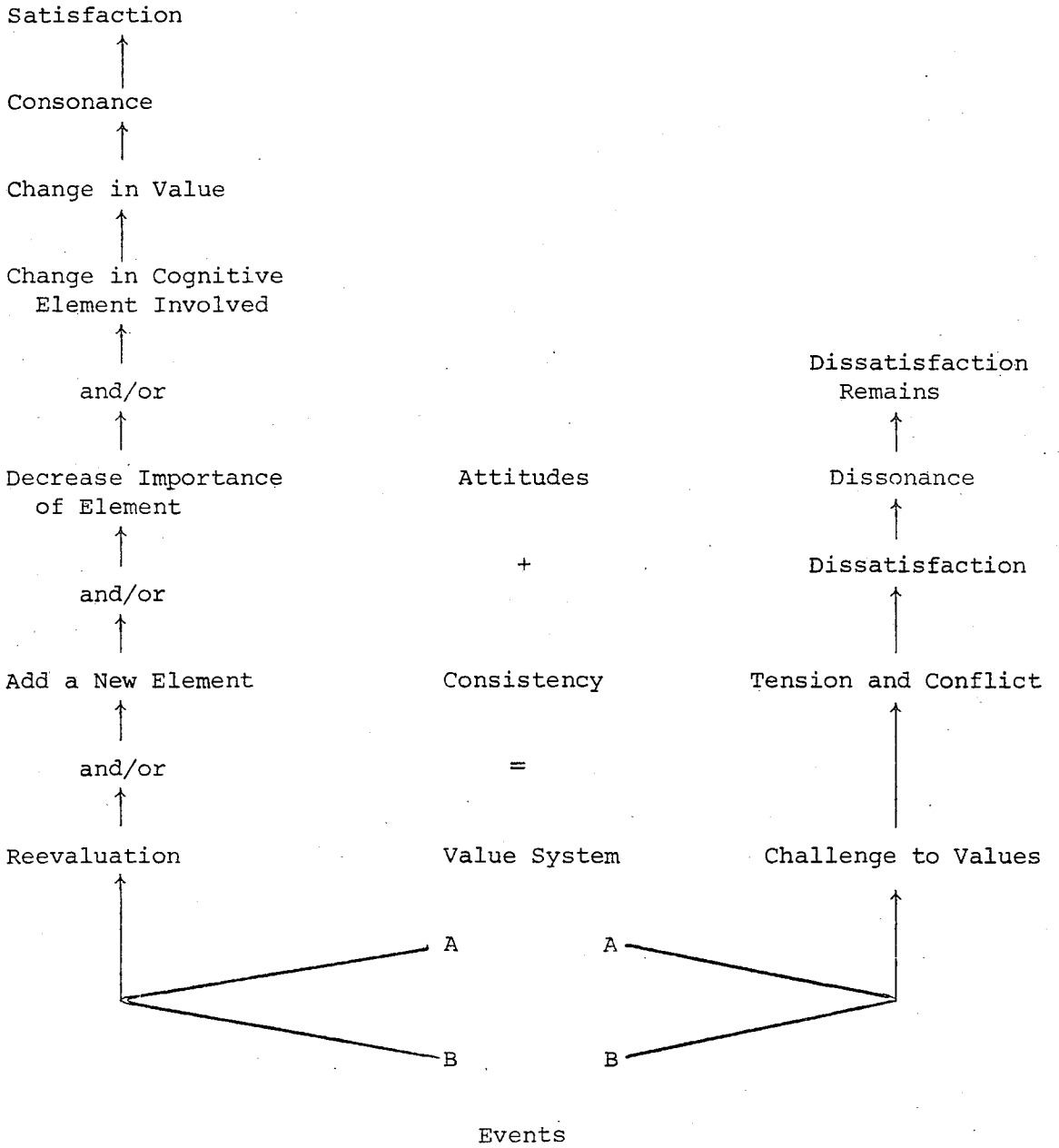


Figure 2. Process of Consonance and Dissonance

The patient may feel at conflict with his attitudes and values if the health-care provider presents new ideas to him. Festinger (1957) spoke to this occurrence when he proposed one of the most important concepts in social psychology today, cognitive dissonance. He stated that an individual attempts to secure internal harmony, consistency, or congruity among his opinions, attitudes, knowledge, and values, which Festinger (1957) terms "cognitive elements." He suggested that pairs of cognitive elements may prevail in irrelevant, consonant, or dissonant relationships with each other. A relationship is consonant and satisfactory if one element follows from the other (Figure 2, left). If the cognitive elements are consonant following interactions, the patient's expectations and attitudes are upheld and the patient is satisfied.

Dissonance occurs if the obverse of one element follows from the other (Figure 2, right). This creates dissatisfaction and leads to pressure to reduce the dissonance. Dissonance can be resolved or reduced by changing one of the cognitive elements involved. The health-care provider can intervene by adding new elements such as knowledge to facilitate consonance in the patient and satisfaction with care and treatment regimen.

CHAPTER 2

SELECTIVE REVIEW OF THE LITERATURE

The literature review is divided into two sections. The first section deals with the patient's knowledge of the disease process and its outcome. The second section deals with patient's satisfaction with health care.

Knowledge of Disease Process

A review of the literature revealed several studies dealing with hypertensive patients' knowledge of their disease. Given, Given, and Simoni (1978) conducted a 5-month prospective study to describe the associations between patients' knowledge of medications, perceptions of side effects, and benefits of medications. They also clarified the independent effects of knowledge and perceptions of side effects on patients' reports of compliance with their instruction to take their medications. Eighty-eight patients diagnosed with hypertension were interviewed at the onset of a medication regimen and at the end of 5 months. The results of the study suggested that knowledge about medication may serve to stimulate compliance at the beginning of a treatment regimen, whereas perceptions of the benefits derived from these medications are more effective stimulants to compliance once therapy has begun.

Tagliocozzo and Ima (1970) found that knowledge of the illness in patients with hypertension was positively related to clinic attendance. A knowledge test that focused on four diseases, hypertension, arthritis, diabetes, and cancer, was given to 159 outpatients. A statistically significant relationship was shown between knowledge and attendance behavior. Patients with low knowledge scores were more prone to terminate care prior to the fourth visit. Cross tabulations of knowledge and selected variables revealed strong association between knowledge with education and experience with illness. Knowledge of the illness and its consequences appeared to be relevant in an illness characterized by less-intensive past experiences with that illness and few complex problems of self-management, and less-demanding treatment. The role of knowledge in patient behavior was pronounced for patients with hypertension.

Glogow (1970b) conducted a study to determine why people who have been detected to have high intraocular pressure fail to keep diagnostic appointments. The study showed people failed medical appointments many times due to fear and denial, which can be alleviated by education. Glogow (1970a) in a study of effects of health education on appointment breaking stated that education had a greater effectiveness in people's keeping appointments than the traditional referral method of only giving the patient the

results of the screening test and a return appointment. The study suggested that this was probably due to the unhurried, personalized attention and "tender loving care" with which the education was carried out.

Kenney (1975) stated the amount of time the nurse spent with the patient in a one-to-one relationship influenced the results of her study. Knowledge scores of a nurse-manned chronic-care clinic ranged from 42 to 88 points while knowledge scores of patients in the physician-manned medical clinic ranged from 21 to 86 points. Dahl (1977) in his study of management of hypertension found patient compliance was significantly improved by using nurses to monitor and reinforce the principles set forth in a patient education program and by the direct involvement of the nurses with patient follow-up.

Several researchers (Finnerty, Mattie, and Finnerty, 1973; Freis, 1973; Garbus and Garbus, 1976) have stressed the importance of individuals with hypertension having an adequate understanding of the disease and being motivated to adhere to the therapeutic regimen.

Satisfaction with Care

Patient satisfaction is an important outcome in health care. According to Fink (1970:14), ". . . the patient's choice of medical care systems is related to satisfaction with his primary source of medical care." The

reasons to measure patient satisfaction given by Kaim-Caudle and Marsh (1975) were (1) underlying demand for higher standards of health care, and (2) the limitation of the resources available. Goyne and Ladoux (1973:628) stated that "patient assessment of therapy gives staff one criterion for broader evaluation of treatment effectiveness."

The major determinants of patient satisfaction were identified by Tauberhaus (1973) as availability of health services, quality of care, and attitudes of health-care personnel. Finnerty et al. (1973) in their analysis of 60 dropouts from hypertensive clinics determined that waiting time and poor doctor-patient relationship were major reasons for not returning. Fisher (1971) conducted a study with 150 patients to explore factors influencing patient satisfaction with medical care. The consumers expressed dissatisfaction and discontent with the lack of personal care, not seeing the same doctor each time, and the length of waiting time.

Goyne and Ladoux (1973) surveyed 240 patients concerning satisfaction of a county outpatient clinic. The areas examined were length of treatment, number of services, and the value of therapy sessions. They found that 78 percent of the patients were somewhat satisfied to very satisfied and that 22 percent were somewhat dissatisfied to very dissatisfied. Kaim-Caudle and Marsh (1975) also studied patient satisfaction with a type of primary medical

care that delegated much of the patient's care to a team of paramedical workers. The study conducted at the respondent's homes found that half of the sample (166) said they were in general very satisfied with the treatment they received from their doctor, and two-fifths (148) said they were satisfied. Fifty of 67 patients were satisfied with the advice and treatment they had received during home visits made by the nurse instead of the doctor.

Caplan and Sussman (1966) conducted a study to find factors associated with "general satisfactions" in the out-patient service. The results ranked satisfaction with medical care first, difficulty of instructions for home treatment second, and satisfaction with total time spent during a visit. They (1966:134) stated: "the patient's satisfaction with medical care is influenced by his option of the clinic physicians, his perception of the physician's interest. . . ."

Summary

Little data are available to document the direct relationship between knowledge and a specific patient behavior. It has been found, however, in several studies that knowledge can alleviate fear and denial of disease and can aid in motivating compliance. An increase in the time spent with education was found to decrease the tendency to break appointments.

Satisfaction with care was found to be influential in a patient's selection of a health-care system. Interpersonal relationships between patient and health-care provider was found to be the most important variable in satisfaction according to Finnerty et al. (1973), Kenney (1975), and Glogow (1970b). Having the same care provider at each visit was also emphasized by Finnerty et al. (1973).

CHAPTER 3

METHODOLOGY

This chapter describes the methods used to determine the knowledge level of hypertension and the satisfaction level with care received of selected patients from a local health department's hypertensive clinic.

Design of the Study

This was a descriptive study to determine the patient's knowledge of hypertension and the level of satisfaction with care. The sample population was selected from individuals who met the study criteria and attended one of the hypertensive clinics conducted by a local county health department in the southwestern part of the United States. Approval to conduct the study was obtained from The University of Arizona's Human Subjects Committee and from the medical director of the health department (Appendices A and B). The investigator first met with the director of the chronic disease division of the health department and informed him of the nature of the study. A written request was submitted to the chronic disease division director who gave his approval. The written request was then forwarded to the director of the health department for permission and approval signature. A copy of the approved request form

was sent to the investigator and one copy was kept at the health department.

Setting

Two of the six hypertensive clinics conducted by a southwestern Arizona health department were used for the study. One of the clinics was located in a downtown metropolitan area and the patient population included many health department employees and elderly people who lived in the vicinity. The second clinic was located in the northwestern area of the county, approximately 8 miles from the first clinic site. Elderly patients living in the area made up most of the population in the second clinic.

Sample

The subjects for this study were selected from the patient population of these two clinics. The population for this study consisted of 27 subjects, 14 male and 13 female, who met the following criteria:

1. At least 21 years of age.
2. Diagnosed as having hypertension.
3. Able to read, write, and speak English.

The investigator first discussed the process of the study interview with the registered nurse in charge of the clinics, without disclosing the content of the questionnaire. The second step was to acquire a list of all the

patients attending the two selected hypertensive clinics. The list was obtained from the follow-up summary manual at the health department. From this list, the investigator selected as possible subjects 42 subjects who met the criteria established for the study.

When the selected patients came to the clinic the investigator identified herself and explained the purpose of the study. Each patient was informed that participation was voluntary, that no risks were involved, and that participation or refusal would in no way affect health care at the clinic. The patient was informed that the questionnaire would take approximately 30 minutes to complete and was assured of individual anonymity and confidentiality of replies. Of the 42 who met the criteria 27 agreed to participate and 15 could either not be contacted by the clinic nurses or did not keep their clinic appointments.

Instruments

The questionnaire (Appendix C) was divided into three parts: demographic data, knowledge of hypertension, and satisfaction with care.

Demographic Information. Part I of the questionnaire included five questions. These questions were developed to obtain information about the subject's age, race, sex, marital status, and number of school years completed.

Knowledge of Disease. The second part of the questionnaire included 20 questions to measure the subject's knowledge about hypertension. The questionnaire was adapted from one developed by Pergrin (1974). The original questionnaire included 15 items, but for this study several of the items were broken down into two distinct questions, for a total of 20 items. The content areas of the questions included general knowledge of hypertension and questions about diet, exercise, and medication. The revised questionnaire was not pretested. However, the investigator had five registered nurses in the graduate program in Community Health complete the questionnaire to assure face validity.

Each question in the questionnaire was assigned a score value of 1. The possible range of scores for Part II was from 0 to 20, with the higher score indicating a higher level of knowledge about hypertension.

Satisfaction with Health Care. Part III of the questionnaire was developed to measure the subject's level of satisfaction with the health care from the clinic staff. This included 33 questions that were taken from the two patient satisfaction instruments developed by Pergrin (1974) and Padilla (1978). Padilla modified the Ware, Snyder, and Wright (1976) questionnaire. Permission to use the two instruments was obtained from Pergrin, and Padilla (Appendix D). The wording of each question was changed from

"satisfaction with medical care" or "the family nurse practitioner" to "satisfaction with clinic care" or "nursing."

The subscales in the Pergrin questionnaire were professional competence, personal qualities, and cost-convenience. The Padilla (1978) questionnaire subscales were access, availability of resources, continuity of care, finances, nurse conduct (humaneness), quality and competence, and general satisfaction. The investigator used 12 items from Pergrin's (1974) 36-item questionnaire and 21 items from the Padilla (1978) 43-item questionnaire for a total of 33 items in the study instrument. The 10 subscales were reduced to 4 in this study: (1) availability and access of resources, a 5-item subscale; (2) personal qualities of the nurse, a 10-item subscale; (3) continuity of care and quality-competence-continuity of care, a 14-item subscale; and (4) general satisfaction, a 4-item subscale. The items that related to finance and cost-convenience were deleted because they did not apply to the free clinic study setting. The revised questionnaire was not pretested, but the investigator had five nurses in the graduate program complete the questionnaire to assure face validity.

Each of the 33 statements allowed the subject to make one of four choices: strongly agree, agree, disagree, strongly disagree. Each item response was placed on a continuum from 1 to 4 with strongly agree at 1 and strongly disagree at 4. Each statement could be characterized as

either positive or negative; for example, in the patient satisfaction questionnaire (Appendix C, Part III) question 1 is negative and question 3 is positive. The positive and negative questions were scored as follows: "strongly agree" on a positive question was worth 4 points and "strongly disagree" on a negative question was worth 4 points. A higher score indicated a higher level of satisfaction with the care received. The possible range of scores for Part III was from 33 to 132. The subject's satisfaction mean scores were determined by taking the sum of the scores divided by the number of statements. Satisfaction was defined as a score of 3 or more and dissatisfaction was a score of less than three.

CHAPTER 4

PRESENTATION AND ANALYSIS OF DATA

This study was designed to answer two questions:

(1) How much knowledge of hypertension do selected hypertensive patients attending a chronic clinic have, and (2) How satisfied are these patients with the care received from the staff of the clinic? This chapter presents the findings from the data analysis. The data were analyzed by clinic to see if there were any differences between the two.

Characteristics of Sample

The sample consisted of 27 subjects who attended one of two chronic disease clinics at a county health department and met the criteria established for the study. Tables 1 through 5 present frequency distributions of selected patient characteristics.

The mean age of the total sample was 65 years. The subjects' mean age varied from clinic 1 to clinic 2 by 5 years, as seen in Table 1. At clinic 1, 10 subjects (52.6 percent) were over 65 years of age, while only 3 subjects (15.9 percent) were under 55 years of age. Clinic 2 had 5 subjects (62.5 percent) who were over 65 years of age and no subjects were below the age of 55 years.

Table 1. Distribution of Subjects by Age

	Age of Subjects in Years					Total by Clinic
	35-44	45-54	55-64	65-74	75-85	
Clinic 1 ^a						
Number	2	1	6	7	3	19
Percent	10.6	5.3	31.5	36.8	15.8	100
Clinic 2 ^b						
Number	0	0	3	1	4	8
Percent	0.0	0.0	37.5	12.5	50.0	100
Total in Study						
Number	2	1	9	8	7	27
Percent	7.4	3.7	33.4	29.6	25.9	100

a. Mean age 64 years.

b. Mean age 69 years.

Eighty-eight percent of the total sample were White. At clinic 1, 16 subjects (84.2 percent) were White and 3 subjects (15.8 percent) were Mexican-American, as seen in Table 2. At clinic 2 all 8 subjects were White.

The sex of the subjects was equally distributed in both clinics as shown in Table 3. Clinic 1 had 10 males (52.6 percent) and 9 females (47.4 percent) and clinic 2 had 4 males (50 percent) and 4 females (50 percent) represented in the sample.

Table 2. Distribution of Subjects by Race

	Race		Total by Clinic
	White	Mexican- American	
Clinic 1			
Number	16	3	19
Percent	84.2	15.8	100.0
Clinic 2			
Number	8	0	0
Percent	100.0	0.0	100.0
Total in Study			
Number	24	3	27
Percent	88.8	11.2	100.0

Table 3. Distribution of Subjects by Sex

	Sex of Subjects		Total by Clinic
	Male	Female	
Clinic 1			
Number	10	9	19
Percent	52.6	47.4	100.0
Clinic 2			
Number	4	4	8
Percent	50.0	50.0	100.0
Total in Study			
Number	14	13	27
Percent	51.8	48.2	100.0

Sixty-three percent of the total sample were married (Table 4). The subjects from clinic 1 included 11 married subjects (57.9 percent), 4 widowed (21.1 percent), and 1 subject (5.3 percent) never married. Six of the subjects (75 percent) from clinic 2 were married and the other 2 subjects (25 percent) were widowed.

Table 4. Distribution of Subjects by Marital Status

	Marital Status					Total by Clinic
	Mar- ried	Widowed	Sepa- rated	Divorced	Never Married	
Clinic 1						
Number	11	4	1	2	1	19
Percent	57.9	21.0	5.3	10.5	5.3	100.0
Clinic 2						
Number	6	2	0	0	0	8
Percent	75.0	25.0	0.0	0.0	0.0	100.0
Total in Study						
Number	17	6	1	2	1	27
Percent	62.9	22.2	3.8	7.4	3.7	100.0

The distribution of subjects by years of schooling ranged from 2 to 17 years. Approximately 59 percent of the total sample had 12 to 17 years of schooling. As shown in Table 5 clinic 1 had 6 subjects (26.3 percent) with 10 or

Table 5. Distribution of Subjects by Years of Schooling

	Number of Years				Total Years
	8	8-10	10-12	12-17	
Clinic 1 ^a					
Number	5	1	3	10	19
Percent	26.1	5.3	15.8	52.8	100.0
Clinic 2 ^b					
Number	2	0	3	3	8
Percent	25.0	0.0	37.5	37.5	100.0
Total in Study					
Number	7	1	6	13	27
Percent	25.9	3.8	22.2	48.1	100.0

a. Mean years of schooling 12.2 years

b. Mean years of schooling 11.8 years

less years of schooling and 10 subjects (52.8 percent) with more than 12 to 17 years of schooling. The mean years of schooling and the findings for the personal characteristics of the sample showed essentially no differences between the two clinics.

Knowledge Scores

Part II of the questionnaire contained a total of 20 questions to determine the subjects' knowledge of

hypertension. The possible range of knowledge scores was from 0 for no questions answered correctly to 20 for all questions answered correctly. Incorrect answers and "don't know" responses were classified as incorrect answers. Twenty-three subjects (85 percent) had knowledge scores of 17 to 20 as shown in Figure 3. All subjects with scores below 17 were from clinic 1. The subjects in clinic 1 had scores ranging from a low of 12 (1 subject) to a high of 20 (2 subjects). Seven subjects (36.8 percent) received a knowledge score of 18. The number of correct responses for patients seen in clinic 2 ranged from 17 (2 subjects) to 20 (2 subjects). The mean knowledge score for clinic 1 was 17.2 and for clinic 2 18.5, a difference of only 1.3 points. No essential differences were found between clinic 1 and 2; therefore the 2 clinic samples were considered as 1 sample.

Satisfaction Scores

Part III contained 33 statements to determine the subjects' satisfaction with health care. These were divided into four subscales: availability and access of resources; personal qualities of the nurse; quality, competence, and continuity of care; and general satisfaction. Possible scores for each statement ranged from "1" to "4", with "1" representing the least satisfaction and "4" the most satisfaction. The subjects' mean score for each

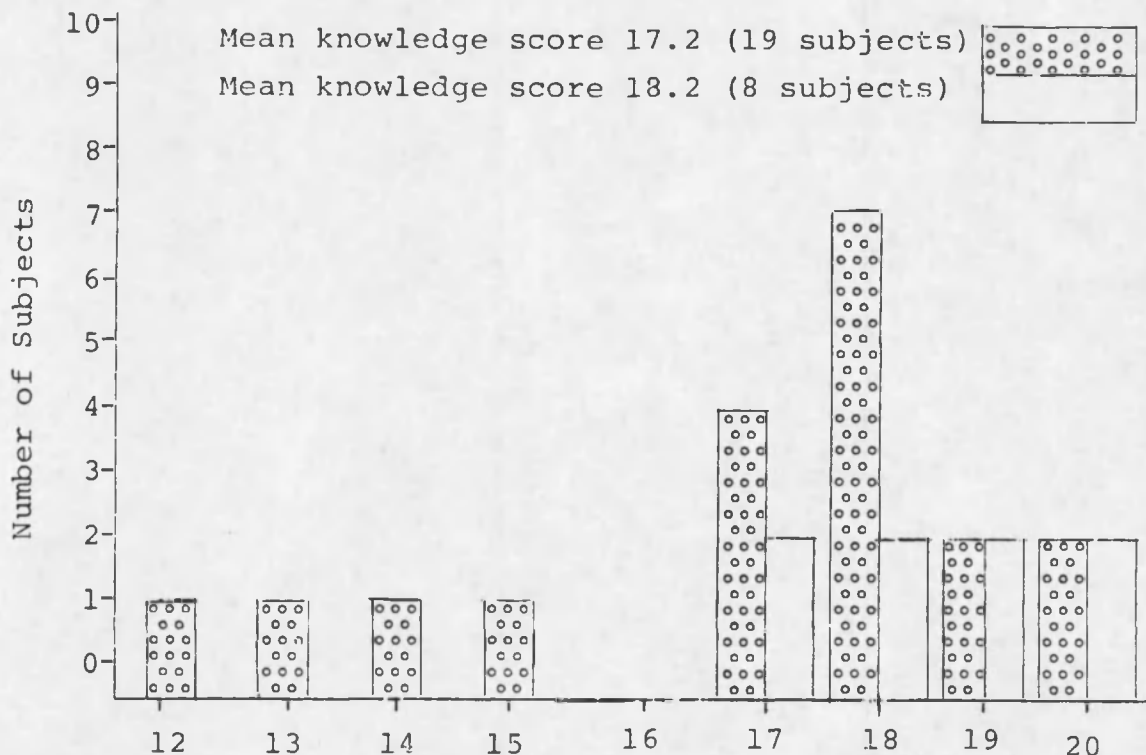


Figure 3. Distribution of Subjects' Knowledge Scores by Clinics

subscale was calculated by dividing the total score for the subscale by the number of questions in the subscale.

To determine if there was internal consistency in each subscale a reliability analysis was done for each subscale (Table 6). The findings showed a high inter-item correlation in each subscale with the alpha readings from .74 to .91. In other words, the responses to the items from subject to subject were almost the same and it can be

inferred that the items do measure the areas identified for each subscale.

Table 6. Reliability Coefficients for Satisfaction Subjects

Subscales	Alpha
Availability--access of resources	0.74140
Personal qualities of the nurse	.91861
Quality-competence-continuity of care	.85948
General satisfaction	.84373

The distribution of subjects' mean scores by satisfaction subscales showed that clinic 1 had at least 54 percent of its subjects who were satisfied in each subscale area (Table 7). Clinic 2 had at least 62 percent of its subjects satisfied in all of the subscale areas except availability and access of resources, where 75 percent of the sample were dissatisfied. Clinic 1 had a few subjects in the lowest and highest mean score ranges. This differed in clinic 2, for all of its subjects were in the middle two score ranges.

Table 7. Distribution of Subjects' Mean Satisfaction Scores by Satisfaction Subscales

Subscales	Subjects' Mean Satisfaction Scores							
	Dissatisfied				Satisfied			
	1<2		2<3		3<4		4	
	Num- ber	Per- cent	Num- ber	Per- cent	Num- ber	Per- cent	Num- ber	Per- cent
Availability- Access of Resources								
Clinic 1	1	5.	7	36.	10	54.	1	5.
Clinic 2	0		6	75.	2	25.	0	
Total sample	1	3.	13	48.	12	44.	1	3.
Personal Qualities of the Nurse								
Clinic 1	0		5	26.	10	54.	4	20.
Clinic 2	0		0		8	100.	0	
Total sample	0		5	18.	18	66.	4	14.
Quality-Competence- Continuity of Care								
Clinic 1	0		4	46.	10	54.	0	
Clinic 2	0		3	38.	5	62.	0	
Total sample	0		7	25.	15	55.	0	
General Satisfaction								
Clinic 1	1	5.	1	5.	14	75.	3	15.
Clinic 2	0		2	25.	6	75.	0	
Total sample	1	3.	3	11.	20	74.	3	11.

The mean scores for satisfaction for clinics 1 and 2 were 3.0 or above for every subscale except at clinic 2, where the mean subscale score for availability and access was 2.8. Throughout all categories clinic 1 had higher mean scores for each subscale (Figure 4). In general there was essentially no difference found between the clinics in the area of satisfaction.

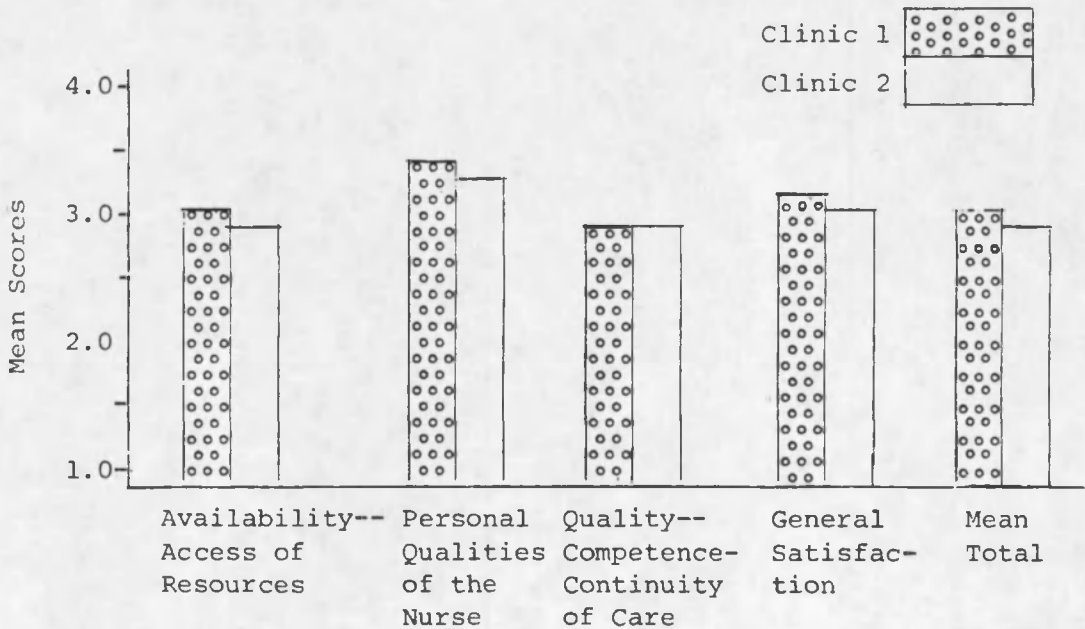


Figure 4. Distribution of Clinic Mean Scores of Subjects by Satisfaction Subscales

Correlation between Knowledge
and Satisfaction Scores

Pearson product moment correlations were done to determine if there was an association between the subjects' knowledge about hypertension and satisfaction with health care. No statistical significance was found. Further statistical analysis was not done due to lack of variation in the demographic data.

CHAPTER 5

DISCUSSION OF FINDINGS AND RECOMMENDATIONS

This chapter discusses the relationship of the conceptual framework and the findings of the study to the review of literature. The conclusions and the recommendations are also presented.

The study was designed to answer two questions:

(1) How much knowledge of hypertension do selected hypertensive patients attending a chronic disease clinic have? and (2) How satisfied are these patients with the care received from the staff of the clinic?

The questionnaire was divided into three parts with questions seeking information about subjects' demographic data, patients' knowledge of the disease, and patients' satisfaction with care. The three-part questionnaire was completed by 23 of the 27 subjects on their own. Four of the subjects had impaired vision and the investigator presented the questions to them orally.

Two previous studies using the same knowledge questionnaire were by Pergrin (1974) and Watanabe (1976). They revealed a lower percent of correct answers than in this study. The mean percentage of correct answers in Pergrin's study was 62 percent, Watanabe's study was 76.2

percent, and an even higher percentage in this study (87.5 percent). Factors that influence higher scores in this study could have been the social process, as mentioned by Lewin (1954). The social process takes place at the clinic not only when the patient sees the nurse, but before when the patient is in the waiting room. The patient will discuss his disease and treatment with other patients reinforcing knowledge. Interest and motivating needs and goals (Lewin, 1954) and readiness to learn (Bruner, 1977) would also influence the high scores. The patient sees a need to reduce his blood pressure and comes to the hypertensive clinic. The nurse encourages returned visits by giving the patient new information, which leads to increased knowledge. The patient may have an increased interest in the disease and a readiness to learn about it once a screening test is positive and the nurse has emphasized the importance of reducing the blood pressure level.

Satisfaction scores for this study revealed an overall satisfaction for personal qualities of the nurse, quality, competence and continuity of care, and general satisfaction. Dissatisfaction was found in the area of availability and access of resources. These areas are similar to those found by Tauberhaus (1973) to be determinants of satisfaction, which he identified as availability of health services, quality of care, and attitudes of health-care personnel.

Subjects in this study reported dissatisfaction in not seeing the same nurse at each clinic visit. The mean satisfaction scores on a scale of 1 to 4 were 2.8 in clinic 1 and 2.5 in clinic 2. Fisher's (1971) subjects also revealed dissatisfaction with not seeing the same physician at each clinic visit. Availability and access was another area of dissatisfaction found in this study (52% of the total sample). These findings differed from Goyne and Ladoux's (1973) results for their subjects were somewhat to very satisfied with the number of services.

The high level of satisfaction in this study was a reflection of consonance of the patients' attitudes and values with the health care at the clinics and the health-care providers.

Discussion

The two clinic samples had little variation in demographic data; the ratio of males to females was almost equal, mean ages varied by only 5 years, all of the 8 subjects in clinic 1 were White and 16 of the 19 subjects in clinic 2 were White, and the mean years of schooling varied by only .4 of a year. Correlations were therefore not done to compare knowledge and satisfaction scores with the demographic data due to lack of variability.

All the subjects had knowledge scores above 11 and the total mean score was 17.5. Twenty percent of the

subjects in clinic 1 had scores between 12 and 15 and all the subjects in clinic 2 had scores above 16. There was overall satisfaction with health care. The verbal comments made by the subjects were in general very positive, praising the clinic nurses for the education and counseling they had given and referrals they had made.

Recommendations

1. The study should be replicated with a larger sample.
2. The study should be replicated with a larger sample at different clinics.
3. The study should be conducted to compare how much knowledge the patient has at the initial clinic visit with the amount of knowledge after the third or fourth clinic visit. This could be accomplished by a pre- and posttest.
4. The amount of patient knowledge and satisfaction should be compared with the variables; distance from the clinic, age of the subject, length of time the subject has had the disease, type of setting (physician's office, nurse practitioner's clinic, or health department), and the number of broken clinic appointments.

APPENDIX A

APPROVAL TO CONDUCT STUDY BY THE UNIVERSITY
OF ARIZONA HUMAN SUBJECTS COMMITTEE



THE UNIVERSITY OF ARIZONA
TUCSON, ARIZONA 85724
HUMAN SUBJECTS COMMITTEE
ARIZONA HEALTH SCIENCES CENTER 2305

TELEPHONE 626-6521 OR 626-7575

May 2, 1979

Ms. Betty Marie Rehn
College of Nursing
Arizona Health Sciences Center

Dear Ms. Rehn:

We have reviewed your proposal entitled, "Patients' Knowledge of Hypertension and Satisfaction with Care," which was submitted to the Human Subjects Committee and concur with the College Review Committee's examination and recommendations of this minimal risk project. Therefore, approval is granted effective May 2, 1979.

Approval is granted with the understanding that no changes will be made in the procedures followed or the questionnaire used (copies of which we have on file) without the knowledge and approval of the Human Subjects Committee and the College Review Committee. Any physical or psychological harm to any subject must also be reported to each committee.

Sincerely yours,

Milan Novak

Milan Novak, M.D., Ph.D.
Chairman
Human Subjects Committee

MN:pd

xc: Ada Sue Hinshaw, Ph.D.
College Review Committee

APPENDIX B

APPROVAL TO CONDUCT THE STUDY AT THE
LOCAL HEALTH DEPARTMENT

College of Nursing, University of Arizona

N410 Thesis

Student: Betty Marie Rehn

Location of Study: Pima County Health Department Chronic Disease Division.

Thesis Chairperson: Dr. Jessie Pergrin

Statement of the Problem:

Question #1: What is the knowledge level of hypertension among selected hypertensive patients attending the Pima County Hypertensive Clinic?

Question #2: What is the satisfaction level with the care received among selected patients from the Pima County Hypertensive Clinic staff?

Purpose: The purpose of the study is to identify the knowledge and satisfaction levels of a maximum sample size of forty hypertensive patients who have received care at two of the Hypertensive Clinic settings conducted by the Pima County Chronic Disease Division.

Population Criteria:

1. Age: 21-34 years.
2. Sex: Equal numbers of male and female.
3. Ability to read, write, and speak English.
4. Have attended a primary clinic session and at least two secondary clinic sessions.
5. Have been diagnosed as having hypertension within the past year, as of 1-1-78.

Selection: A random sample of 40 persons, maximum, will be obtained from the Main and South Clinics, 10 male and 10 female from each site.

Methodology: The population will be contacted by phone or in person to obtain consent to have me present the questionnaire to them in person, at which time I will fully explain the study and questionnaire to the participants and that services from the Health Department are not dependent upon their participation. A written consent will be obtained from each person to participate in the study. There will not be accessing to client medical records in the study, all persons will be selected through the Director of the Chronic Disease Div. Approval will be obtained from the College of Nursing Faculty Thesis Committee and processed through the Human Subjects Committee and receive approval, before the onset of the study.

Approved by: J. Marshall
 Title: Director Chronic Disease Div.
 Date: March 20, 1979

Approved by: [Signature]
 Title: Director, Pima Co. Health
 Date: Mar 22, 1979 Dept.

APPENDIX C

QUESTIONNAIRE

Study Title: Patients' Knowledge of Hypertension and Satisfaction with Care

I am requesting your voluntary participation in the completion of this questionnaire. The purposes and objectives of this study are to identify the knowledge you have concerning high blood pressure, and how satisfied you are with the care you received at this Hypertensive Clinic. If you decide to participate, please answer the following questionnaire to the best of your ability and according to the directions given.

The questionnaire will take approximately thirty minutes to complete. There will be no costs, risks or benefit to you from your participation in this study. You are free to withdraw from the study at any time without incurring ill will or effect to the usual health care you receive at this clinic. Should you have any questions about the questionnaire I will be available to answer them.

All data received will be treated with anonymity and confidentiality. Your name will not be utilized.

A copy of this consent form is available to you upon request.

Betty Marie Rehn
The Researcher

Subject ID# _____
 Date of Interview _____
 Location _____

Part I: Demographic Data

First of all, I would like to ask you a few questions about yourself.

1. How old were you on your last birthday?

_____ 1.

2. Race of patient (by observation):

_____ 1. White

_____ 2. Black

_____ 3. Other (specify) _____

3. Sex of patient (by observation):

_____ 1. Male

_____ 2. Female

4. Are you now married, widowed, separated, divorced, or never married?

_____ 1. Married

_____ 4. Divorced

_____ 2. Widowed

_____ 5. Never married

_____ 3. Separated

5. What is the highest grade of school you have completed?

_____ 1. None 0

_____ 2. Elementary 1 2 3 4 5 6 7 8

_____ 3. High School 9 10 11 12

_____ 4. College 1 2 3 4 5+

_____ 5. Technical

Please specify _____

Subject ID# _____
Date of Interview _____
Location _____

Part II: Knowledge Questionnaire

The following questions are about High Blood Pressure. After reading each question, please place an "X" beside the answer you feel is correct. If you do not know the answer, place an "X" beside "Don't Know."

1. Can strokes be caused by high blood pressure if it is not treated?
_____ 1. YES
_____ 2. NO
_____ 3. DON'T KNOW

2. It won't hurt a person with high blood pressure to keep busy and active.
_____ 1. TRUE
_____ 2. FALSE
_____ 3. DON'T KNOW

3. Do you think worrying (tensions, anxiety) has a bad effect on people who have high blood pressure.
_____ 1. TRUE
_____ 2. FALSE
_____ 3. DON'T KNOW

4. Do you think pills help high blood pressure?
_____ 1. YES
_____ 2. NO
_____ 3. DON'T KNOW

5. It is not good for a person with high blood pressure to eat too much salt.
- 1. TRUE
 - 2. FALSE
 - 3. DON'T KNOW
6. High Blood Pressure is:
- 1. Hypertension
 - 2. Pressure on the temples with headache
 - 3. Being overly anxious or excited
 - 4. DON'T KNOW
7. Medicine taken for the treatment of high blood pressure can prevent many complications.
- 1. TRUE
 - 2. FALSE
 - 3. DON'T KNOW
8. Doctors may prescribe low salt diets for people with high blood pressure because:
- 1. Low salt diets are easy to follow
 - 2. Low salt diets are low in calories
 - 3. Salt can cause your body to retain water and increase your blood pressure
 - 4. DON'T KNOW
9. People who are older are more likely to develop high blood pressure than younger people.
- 1. TRUE
 - 2. FALSE
 - 3. DON'T KNOW
10. Do you think high blood pressure can cause kidney trouble if it is not treated?
- 1. YES
 - 2. NO
 - 3. DON'T KNOW

11. High blood pressure cannot be cured but it can be controlled.
- _____ 1. TRUE
_____ 2. FALSE
_____ 3. DON'T KNOW
12. Once a person has high blood pressure he will always have it even though his high blood pressure may be controlled with medicine.
- _____ 1. TRUE
_____ 2. FALSE
_____ 3. DON'T KNOW
13. Do you think smoking has a bad effect on people who have high blood pressure?
- _____ 1. YES
_____ 2. NO
_____ 3. DON'T KNOW
14. A diet which could help to lower your blood pressure might be:
- _____ 1. Low in salt
_____ 2. High in calories
_____ 3. High in salt
_____ 4. DON'T KNOW
15. It is not necessary to take your blood pressure medicine when you are feeling well.
- _____ 1. TRUE
_____ 2. FALSE
_____ 3. DON'T KNOW
16. Do you think being overweight has a bad effect on people who have high blood pressure?
- _____ 1. YES
_____ 2. NO
_____ 3. DON'T KNOW

17. Can eating less salt help high blood pressure?
- _____ 1. YES
 - _____ 2. NO
 - _____ 3. DON'T KNOW
18. All of the following may raise your blood pressure except:
- _____ 1. Eating salty foods
 - _____ 2. Worrying too much
 - _____ 3. Losing weight
 - _____ 4. DON'T KNOW
19. A person with well treated high blood pressure:
- _____ 1. Should avoid exercise
 - _____ 2. Should exercise on a regular basis
 - _____ 3. Is really invalid
 - _____ 4. DON'T KNOW
20. Do you think losing weight helps high blood pressure?
- _____ 1. YES
 - _____ 2. NO
 - _____ 3. DON'T KNOW

Subject ID# _____
 Date of Interview _____
 Location _____

Part III. Satisfaction Questionnaire

On the following pages are some statements about nursing care. Please read each one carefully, keeping in mind the nursing care you are now receiving at this clinic. On the line which is next to each statement, circle the number for the opinion which is closest to your view.

	Strongly Agree	Agree	Disagree	Strongly Disagree
Nursing service is too expensive	1	2	3	④

In the example above, the circle around the number 4 shows that the person "strongly disagrees" with the statement that nursing service is too expensive. If you agree that the nursing service is too expensive, you would circle number 2 under "agree" or number 1 under "strongly agree."

Some statements look similar to others, but each statement is different. You should consider each statement by itself.

This is not a test of what you know. There are no right or wrong answers. We are only interested in your opinion or best impression.

Please circle only one number for each statement.

	Strongly Agree	Agree	Disagree	Strongly Disagree
1. Nurses don't tell their patients the things that could go wrong with their treatment.	1	2	3	4
2. Nurses cause people to worry a lot because they don't explain medical problems to patients.	1	2	3	4
3. There are enough nurses around here.	1	2	3	4
4. Nurses hardly ever explain the patient's medical problems to him.	1	2	3	4
5. Nurses should be a little more friendly than they are.	1	3	3	4
6. Nurses don't advise patients about ways to avoid illness or injury.	1	2	3	4
7. There are enough clinics in this area.	1	2	3	4
8. Most nurses let you talk out your problems.	1	2	3	4
9. I'm very satisfied with the nursing care I receive.	1	2	3	4
10. Nurses ask what foods patients eat and explain why certain foods are best.	1	2	3	4

	Strongly Agree	Agree	Disagree	Strongly Disagree
11. The care I have received from nurses in the last few years is just about perfect.	1	2	3	4
12. Many nurses treat the disease but have no feeling for the patient	1	2	3	4
13. Nurses aren't as thorough as they should be.	1	2	3	4
14. Patients are usually kept waiting a long time when they come to the clinic.	1	2	3	4
15. Most nurses take a real interest their patients.	1	2	3	4
16. If I have a medical question, I can reach a nurse for help without any problem.	1	2	3	4
17. Nurses respect their patients' feelings.	1	2	3	4
18. No matter how long you have to wait to see a nurse it is worth it.	1	2	3	4
19. I hardly ever get the same nurse when I come to the clinic.	1	2	3	4
20. There are things about the nursing care I receive that could be better.	1	2	3	4

	Strongly Agree	Agree	Disagree	Strongly Disagree
21. Nurses don't even care how long the patients have to wait.	1	2	3	4
22. More clinics are needed in this area.	1	2	3	4
23. There is a big shortage of nurses around here.	1	2	3	4
24. Most people receive nursing care that could be better.	1	2	3	4
25. Many nurses just don't know what they're doing.	1	2	3	4
26. Nurses always treat their patients with respect.	1	2	3	4
27. I get the same nurses just about every time I need nursing care.	1	2	3	4
28. Sometimes nurses make the patient feel foolish.	1	2	3	4
29. Too many nurses think you can't understand the medical explanation of your illness, so they don't bother explaining.	1	2	3	4
30. Most nurses spend plenty of time with their patients.	1	2	3	4

31. Most nurses have no feeling for their patients.
32. Nurses always do their best to keep the patient from worrying.
33. Nurses spend as much time as necessary with each patient.

Strongly Agree	Agree	Disagree	Strongly Disagree

APPENDIX D

APPROVAL TO USE THE PATIENT SATISFACTION
QUESTIONNAIRE BY PADILLA



CITY OF HOPE NATIONAL MEDICAL CENTER

1500 EAST DUARTE ROAD • DUARTE, CALIFORNIA 91010 • (213) 359-0111

DIVISION OF NURSING

February 14, 1979

Betty Marie Rehn
3045 N. Bear Canyon Road
Tucson, AZ 85715

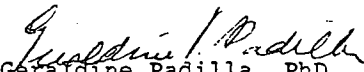
Dear Miss Rehn,

I've enclosed a copy of a patient satisfaction questionnaire we are trying out. It's a modification of one developed and used by Ware (1976). The reference for this is at the back of the technical report I've enclosed.

You may be interested in another questionnaire developed by Risser. The reference is: Risser, N.L. Development of an Instrument to Measure Patient Satisfaction with Nurses and Nursing Care in Primary Care Settings. Nursing Research, 24:1:45-52, Jan-Feb 1975.

Best of luck to you in your research. I would be grateful for an unbound copy of your thesis once it's completed. If Ada Sue is your advisor, it has to turn out well. Good luck and keep in touch.

Sincerely,


Geraldine Padilla, PhD
Director Nursing Research

GPD:tfm

cc: Dr. Ada Sue Hinshaw

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