

A STUDY OF NURSE-FAMILY VERBAL INTERACTION

by

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A Thesis Submitted to the Faculty of the

COLLEGE OF NURSING

In Partial Fulfillment of the Requirements
For the Degree of

MASTER OF SCIENCES

In the Graduate College

THE UNIVERSITY OF ARIZONA

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Dedicated to my parents
Mr. and Mrs. Owen Seamands
who have strongly influenced my pursuit of education

ACKNOWLEDGMENTS

Acknowledgment is extended to my thesis committee members for their support, encouragement and advice. Gratitude is extended specifically to Lois Prosser, my thesis chairman, for her invaluable reassurance, guidance and creativity and for providing the original source from which the concept of the study developed; to Eleanor Bauwens, for her beneficial and contributive editorial suggestions; and to Gloria DiCenso, for her useful and helpful references.

Acknowledgment is also given to my son Shawn, with his track meets and his baseball, football, and basketball games. These activities, along with his boyish pranks and his wit, excitement and delight in living provided me with a very pleasant, happy and hectic diversion throughout this study.

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ABSTRACT

This exploratory study was designed to investigate the differences of verbal interaction of a given nurse as she visited two families with different health problems of morbidity and maternal child health.

Three successive home visits of the nurse to each family were tape recorded and analyzed according to eight communication categories. Comparison of the communication categories between the two families showed similar frequencies by percentage. This finding suggested that the verbal interaction of a nurse has commonalities applicable for various health problems.

An analysis of the absolute verbal output showed that the nurse talked more than one and one-half times as much in the family with the maternal child health problem as in the morbidity problem. Family characteristics may have influenced the individual reaction of the nurse in this result. That the nurse reacted to more silences and a tense home atmosphere with increased verbalizations is supported by other studies.

INTRODUCTION

Statement of the Problem

The most effective modes for verbal interaction between nurses and clients are unknown. Yet few would argue the fact that verbal exchange is a crucial aspect of professional nursing care. One can hardly dispute the impact on patient care related to increased knowledge of the effectiveness of verbal interaction. The possible applications involved are as numerous as are the situations in which there is a nurse patient interaction.

Health appraisal, health teaching, giving emotional support and influencing patient changes are a few areas in which research into this problem may have special relevance. "A broad conception of nursing that includes the totality of the patient's experience views the nurse-patient conversation as an important part of the nursing treatment or even as a treatment in itself (Diers and Leonard, 1966:225)."

The home setting situation is an applicable and relevant environment for studying nurse-family communication as a nursing treatment. Intervention by a nurse during the home visit is a meaningful and helpful experience for family members. In this setting verbal interaction through effective therapeutic communication techniques becomes an

essential component of nursing care. Anticipatory guidance with the focus on family growth during different phases of life is implemented through verbal interaction.

The components of interaction and verbal behavior of both nurse and client are appropriate focal points for studies of useful therapeutic interactions. In planning for care of a patient the nurse must be aware of method and pattern in the verbal approaches she employs in her attempt to evoke favorable change. She must be sensitive constantly to the importance and possible influence of the elements of the verbal interactions (Betty Sue Johnson, 1964).

Assessment of the extent to which the observed interaction of nurses with patients conforms to a given conception of nursing theory is a continual process by nurses today (Spring and Turk, 1962). Nursing research must concern itself with what goes on between the nurse and the client and the consequences this has for the client.

The verbal interaction between nurse and family participants is an area of study quite relevant to professional nursing.

Research Question

This study is concerned with the question, "How and to what extent does a given nurse alter her verbal interaction while visiting families with different health problems, that is, morbidity and maternal child health?" Research has

dealt with the description of a given nurse's interaction with common variables in regard to similar health problems. However, research comparing the verbal interactions of a given nurse as she deals with different health problems has not been undertaken. This research will attempt to describe the variations of verbal interactions of a given nurse as she interacts in two families with different health problems, maternal child health and morbidity.

The book, Content and Dynamics of Home Visits of Public Health Nurses by Walter L. Johnson and Clara A. Hardin (1962), stimulated the thinking of the researcher for the question and design of this study. One section of this work investigated the extent to which a given nurse altered her verbal interaction in a "duplicate sample." Visits were made by a given nurse to two families with "similar medical and nursing requirements." The nurse's verbal techniques were analyzed in relation to variations in interaction patterns. This study is concerned with different health problems in contrast to similar medical and nursing requirements. It is hoped that this study may in some way add to the present knowledge concerning the forces in operation during verbal exchange, and that this addition may result in an increased effectiveness of the nurse's communication during interaction.

Problem of Measurement

The attempt to identify sources in variations in verbal behavior indicates a need to specify components of the nurse-patient interaction. This is a tremendously complex task. Several sources comment and expand on this difficulty. Methven and Schlofeldt (1962:83) express "a need to have means for assessment of verbal interactions between nurses and persons with whom they come in contact in the performance of their nursing functions." Thornton and Leonard (1964:122) espouse that "the basic aim of research in nursing practice is to identify and test ways of measuring that will most often achieve the desired effect on the patient."

Conant (1965) is concerned with compressing and organizing interaction into a form that can be quantified without losing the essence of what has taken place. "It is not only necessary to describe the interaction accurately, but the key elements must be retained if one is to compare different patterns of interaction and study their effect on patients" (Conant 1965:304). Diers and Leonard (1966) and Conant (1965) also advance that measuring devices of interaction be based on theoretical concepts that help explain nursing practice and that tools designed for nurses are best when strongly grounded in nursing theory.

Diers and Leonard (1966) exhort a cautious, circumspect and discrete view of interaction analysis. They propose that if interaction is to be considered a treatment, then it must meet the criteria of any other treatment; that is, it must be specific to the patient's condition, its effects must be measurable and it must be teachable. Being able to describe an interaction that produces an effect is necessary if one is to identify or teach the elements of the nurse's approach. Interaction analysis then is the description of the content and structure of communication between people, and, therefore, provides the means of specifying, quantifying and hence communicating to others the components of different kinds of nursing processes. It is a "highly complicated procedure requiring an understanding of general methodological principles as well as specific technical skills (Diers and Leonard 1966:226)."

Diers and Leonard (1966) further comment that two dimensions of interaction are worth keeping distinct, content and process: content meaning semantic (what is said) and process meaning syntactic (how it is said). They argue that an effective measuring device reduces the amount of data collected which means losing information, but this also results in a gain of power in analysis. Although frustrating, this is necessary in preparing data for practical use. "It is possible to combine both kinds of categories in one

system but for the sake of the mental health of the researcher, it is probably better to confine any one system to either content or process (Diers and Leonard 1966:226)." In view of the comments by Diers and Leonard (1966), the researcher has limited the focus of verbal interaction in this study to that of content.

Review of the Literature

Introduction

Diers and Leonard (1966) define and discuss the concept of interaction analysis. Methven and Schlofeldt (1962:83) intimate that verbal exchange is one way the nurse can create an atmosphere in which a person can progress toward his own solution. By acceptance, interest in persons' feelings and conveyance of understanding, the nurse can present an atmosphere in which a person can reorganize and cope constructively.

Skipper and Leonard (1965) in their book, Social Interaction and Patient Care, focus on social and psychological aspects of patient care. They propose that the key phrases of professional practice are basically a communication process. They attempt to intertwine the key concept of the process of communication through the five sections in their book: Social and Psychological Aspects of the Nurse's Role, The Importance of Communication, the Patient's View of

His Situation, The Structural and Cultural Concept of Patient Care, and Doctor-Nurse and Patient Role and Status Relationships. They argue that skill in communicating with patients has basic elements that can be identified and taught and that skills of the future must be grounded in science and the scientific method approach to problems.

Review of Research Studies

Kerrigan (1957) using Bugental's scale of levels of responding, attempted to analyze the content of conversation between 32 students and their assigned patients during the morning care nursing assignment. The students were in their first clinical nursing experience in a four-year basic collegiate nursing program. The observational method was used for data collection. The 32 conversations were considered a composite conversation with the student group as one part of the composite and the patient group as the other part. Results included: Patients in their conversations reflected two principal interests: 1) themselves and their illness, and 2) persons giving them care. Student conversations were procedure centered in reference to nursing care. Students gave inadequate replies to patient initiated topics of patients' illnesses, pain and personal interests. Students showed interest in what patients talked about but frequently changed the topic of conversation and patients responded to the topics of the students and attempted to divert the

topics into aspects of their interests and return to previously discussed topics.

Betty Sue Johnson (1964) in her work describing the verbal patterns in operation during interaction was interested in determining if any quantifiable patterns of verbal exchange existed in relationship to effectiveness of the therapist. Her sample included 18 senior nursing students and patients who were observed four times for 20 minutes each time as they interacted. The observations were equally spaced over a four-week interval. The observations were made by psychology students who had training for this task. The judges of the observations were two psychiatric nurse experts who were not involved in instruction of the students. An empirical tool was developed to categorize verbal behavior into 10 major categories. Five of the proposed hypotheses complied significantly to the students who ranked high in therapeutic effectiveness. These five hypotheses were concerned with students who: 1) used a greater variety of verbal techniques, 2) used fewer factual statements, 3) formulated more about the patient, 4) used more feeling responses, and 5) focused more upon the patient.

Thornton and Leonard (1964) were interested in the possible existence of a linear relationship between effectiveness or "patient response" and time spent with the patient. The study measured the effect of the nurse's

approach on the patient's response to a hospital request. Post partum patients were asked to mail back a questionnaire on the baby's condition two weeks after discharge. The post partum patients were placed in three groups. Groups were defined according to the following: Group I, Control (routine), N = 63; Group II, Experimental I (nondirective), N = 27; Group III (focused, nondirective), N = 30. A nonlinear relationship was found between efficiency (amount of time) and effectiveness. The approach in which the nurse focused on her purpose and explored the patient's reaction to the request was most productive.

Conant (1965) using the Bale's Interaction Process Analysis examined the development and nature of role relationships between public health nurses and patients during home visits. The interaction of 12 nurses during 48 home visits were tape recorded and analyzed. The 12 nurses made two visits to 24 newly referred ante-partal patients. The results indicated a great deal of variation in the different nurses' behaviors but the individual nurses showed similar patterns of behavior with both of their patients.

Content and Dynamics of Home Visits of Public Health Nurses, Part I by Johnson and Hardin (1962) is the report of a research project supported by the United States Public Health Service, and by the American Nurses' Foundation, Inc. Their research problem was "defined to emphasize the verbal

behavior of public health nurses and patients in face to face contact (Johnson and Hardin 1962:9)." The report was then completed in Part II by Walter Johnson (1969) with support from the Division of Nursing and the U.S. Public Health Service. The time span for the project took approximately 14 years and included interactions from 178 nurses. The nurses were from two regions: the New York-New Jersey Metropolitan Area and eastern parts of the United States including Indiana, Kentucky and Tennessee. Each nurse was followed by a nurse observer for a day and over 900 home visits were recorded. A variety of information was gathered during the research project. Some of the results will be given for each data collection category.

Data were gathered concerning the attributes and traits of the nurses. The nurses were drawn from diverse backgrounds, one-third were fully dependent on their own income from nursing, there was no evidence of serious morale problems among the nurses, long range attachments to nursing tended to be tenuous subject matter.

Data were gathered according to the verbal content of the home visits for each of seven diagnostic categories. Results suggested the subject matter in home visits tended to be concretely anchored in topics pertaining to household members and the household environment; the nurse played a predominant role in deciding what topics should be

introduced; the frequency of occurrence of topics pertaining to the physical status of the patient was conditioned by the nature of the diagnosis and by the kinds of nursing procedures prescribed. The greatest differences existed between the morbidity cases and the maternal child health cases.

Data for verbal involvement of the participants according to certain classes of variables were also collected. Results in this category were quite general. What was most consistently suggested was the need for flexibility by nurses in their contacts with diversely constituted families and households.

Data were also collected in a duplicate sample according to interaction patterns. Some of these results included: The absolute verbal output of the nurse appeared to be relatively stable from visit to visit; the relative output of the nurse and the relative initiation of ideas by the nurse were not stable; the mechanisms of communication employed by the nurse were subject to more variation in volume of uses from visit to visit than was verbal output. Certain uniform tendencies by nurses were suggested.

Johnson and Simon (1961) in a progress report of this study further discussed the results. Their findings included: The more a nurse focused verbally on physical care the more she was apt to do in terms of physical care; there was a large range in variation in behavior items among

nurses rendering care to patients with similar diagnoses; in post-partum visits the nurse seemed to assume a more dominant role than in other visits. This conclusion was reached because: 1) her output of words was greater, 2) in contrast to other visits she more frequently advised and instructed, and 3) she introduced more ideas.

Summary

The literature revealed a variety of different approaches for the examination of verbal exchange. Kerrigan (1957) examined the content of conversations of students and patients during morning care. Johnson (1964) described patterns of verbal exchange related to effectiveness of the therapist. Thornton and Leonard (1964) studied the results of three different types of approaches to patients. Johnson and Hardin (1962) undertook the enormous task of a research project supported by three grants, the United States Public Health Service, and the American Nurses Foundation, Inc. This project emphasized several aspects of the verbal behavior of public health nurses and patients in face to face contact.

The verbal interaction of a given nurse was also discussed in the literature. Conant (1965) was interested in the variation of patterns of behavior of individual nurses. In studying nurses who made two visits each to ante-partal patients she found that individual nurses showed

similar patterns but that there was a wide variation of patterns with different nurses. Walter Johnson (1969), in his duplicate study, found that uniform tendencies do seem to exist with individual nurses. The absolute verbal output seemed relatively stable. There was less stability in specific communication categories. He explains that household variation probably strongly affected the decreased stability in communication categories.

The literature review shows that to study verbal interaction congruent with the research process is not a novel idea, and that a better understanding of this concept has limitless applications.

THEORETICAL FRAMEWORK

Introduction

Communication and social interaction are concepts which are influential in gaining a better understanding of behavioral variations and verbal interaction. These concepts are critical components in this study. Communication as an integral, important and essential part of patient care is well accepted today. That people interact with each other bringing social, cultural and personal values as well as satisfied and unsatisfied social and psychological needs is also accepted.

To attempt to study communication through social interaction seems impossible when one considers the enormous amount of variables involved. Yet it is as absurd not to continue efforts directed toward a better understanding of verbal exchanges when the ultimate goal is improved professional client care. "By denying the importance of communication, one can often avoid doing anything about it (Skipper and Leonard, 1965:188)."

Social Interaction

For purposes of this study the concept of social interaction as presented by Skipper and Leonard (1965) and Johnson (1969) will be used. In understanding social

interaction an attempt is made to study what both the nurse and client expect of themselves and expect of each other as they contribute to a specific social system. A social system is defined as two or more people in interaction with each other. Any social system has certain functional problems which must be solved if the system is to maintain itself (Skipper and Leonard, 1965). In community health nursing the social system includes the nurse and any one or all of the family members. The social system must make progress toward realizing the purpose of the nurse and the family members; it must move toward a goal. The social system in this study consists of the nurse and the family members. The goal or purpose of the social system is prevention or amelioration of present or possible health problems through the intervention of the nurse. The social system must maintain internal equilibrium. Relationships between the social system members must be harmonious and integrated and each member must feel good both within himself and toward the others (Skipper and Leonard, 1965:30).

Skipper and Leonard (1965:5) further add:

As with any other profession the nurse can make use of the social sciences in understanding the world of her work as well as the entire world in which she lives. It is worth pointing out specifically that for the helping professions, professional practice is a social process. . . . Professional process is a special case of social interaction between two persons; social interaction is to a large extent a communication process.

Johnson (1969:6-7) discusses theoretical considerations pertinent to the concept of interaction in a somewhat different framework. The following points from Johnson are relevant to this research.

1. The basic structure of interaction involves an exchange of cues between two or more participants.

In the process of exchange, the nature of the cues, the internal responses, and the covert overt behavior are ordinarily modified to take directions other than those they would have taken without the exchange. Cues may be but are not confined to verbal or linguistic ones. This point emphasizes that the nurse-client interaction does consist of direction, control, sequence, progress, time, and exchange.

2. The cues of verbal exchange are operationally defined to be mechanisms of interaction. In turn, mechanisms of verbal interaction are designated operationally in forms which allow empirical investigation.

The primary verbal mechanisms which Johnson (1969) found most useful consisted of the following units: 1) initiating ideas, 2) asking questions, 3) responding to questions, 4) making statements, and 5) offering advice. These primary verbal mechanisms form the groundwork for the measurement tool of this research.

Communication

Another concept of paramount importance in this study that needs further theoretical consideration is that of communication. Communication has been and is a subject and source of prolific writings under numerous circumstances.

Skipper and Leonard (1965:51) say that, "Communication is a basic social process. Through it interaction is possible." Sauber and Campbell (1974:24) espouse that communication is a vital determinant of the behavior of participants in social interaction.

Skipper and Leonard (1965:10) summarize Lockerby as follows:

One of the key concepts in the behavioral sciences is communication. The ability to symbolize experience and to communicate it through space and time, dramatically separates man from other animals and is the source of his social organization. In turn, his social organization is the basis of man's dominance over the rest of nature. Despite the basic necessity of communicating with others, the process can be extremely difficult; yet strangely enough, very often little attention is paid to the development of communication skills.

Communication in this research will be studied through the interpersonal theory developed by the psychiatrist Harry Stack Sullivan. Sullivan (1953:198) defined interpersonal accommodation as, "a reciprocal process in which (1) complementary needs are resolved, or aggravated; (2) reciprocal patterns of activity are developed, or

disintegrated; and (3) foresight of satisfaction, or rebuff, of similar needs is facilitated."

Heavy emphasis is placed on man as a social being. Communication is considered the connecting link between people. Both verbal and nonverbal cues are the means by which people interpret messages and actions of others. Only verbal cues are considered in this study. Communication patterns are of great importance in the achievement of satisfactory interpersonal relationships (Coleman, 1972:73).

Skipper and Leonard (1965:52) discuss five elements of communication: a sender, a receiver, a message, a channel of transmission, and a response or effect. Any person can be a sender or receiver. A message can be on a cognitive level or an affective level. The method of transmission may be by word of mouth or without the use of language. That a message is sent does not mean it will be received, and if received, does not mean it will be interpreted correctly.

Model

For purposes of a better understanding of the communication and social interaction theories of Sullivan (1953) and Skipper and Leonard (1965), the investigator has constructed a model (Figure 1). The model shows that the social system particular to this study is the nurse and family members. Both are senders and receivers of messages.

The method of interaction or verbal exchange is verbal cues. The base of the social system is harmony. The social system through the mechanism of verbal exchange of the nurse and the family strives toward the goal of optimal health for the family members.

RESEARCH DESIGN

An exploratory study of verbal interaction formed the research design of this study. The researcher analyzed the nurse-patient interaction in two families, each with a different health problem, that is, morbidity and maternal child health. Intervention was analyzed by the eight communication categories as defined by Johnson and Hardin (1962).

Operational Definitions

Maternal Child Health--condition specific to pregnancy, birth, and family and child growth and development.

Morbidity--condition specific to being diseased or unhealthy.

Family Descriptions

Family I

This family consisted of five members: Mrs. X., 34 year old, her daughter A., 19 years old, and Mrs. X.'s three other children, ranging in age from 16 years to 6 years. The nurse began visiting the family after a routine referral from the health department because of the pregnancy of the 19 year old girl.

Mrs. X.'s first husband, the father of A. and two of the other children, was Mexican-American. Mrs. X. was Caucasian. A. had completed the eighth grade and since had been living at home. A. had no other schooling or employment experience. The family was a recipient of financial assistance. The four-room home was made of adobe stucco, had no indoor plumbing, and was in need of repair. Environmental accident hazards were a problem both in the yard and inside the home.

The general emotional tone of the home visits was tense, guarded, and stiff. There were frequent silences. A. looked to her mother for verbal and nonverbal support. The nurse frequently took a directive role in the home visits in terms of selecting the content to be taught and in directing the subject of the verbal interaction.

Family II

This Caucasian family consisted of three members: Mrs. Y., 19 years old, her son B., 5 years old, and daughter, 3 years old. The grandmother of Mrs. Y. needs to be considered in the family description because she was an essential member of the family when baby sitting and transportation were needed. The nurse began visiting this family because one and one-half years earlier the son had been diagnosed with Hodgkins disease. Since then he had had periods of recurrence and remission of the disease.

Mrs. Y. had completed the eighth grade. She had been married, divorced and employed. Previous to the nurse's visits, Mrs. Y. had thought it necessary to terminate her employment because of the increased demands due to B.'s illness.

This family lived in a small, two-bedroom, clean trailer in a trailer park. The trailer, yard and fence were in good repair. The family were recipients of financial assistance. Mrs. Y. brought in additional income at times by babysitting.

The general emotional tone of the home visits was relaxed, friendly and spontaneous. Subjects with strong emotional implications were freely and openly discussed. The nurse's role was frequently assistance in exploring, clarifying and/or supporting.

Summary of Similarities and Differences of Family I and Family II

Similarities and differences of the two families will be discussed. There was an absence of a consistent adult male figure living in the home in both families. Much of the interaction in both families revolved around a 19 year old adult female family member. Both families were recipients of financial assistance; and extended family members, whether living in the household or in other family settings, were consistently and obviously influential in the

total functioning of the family. Both families verbally indicated they were interested in learning about growth and development of children.

The emotional tone of the families during home visits was strikingly different. The home atmosphere of Family I seemed rigid, guarded and controlled, while the home atmosphere in Family II appeared flexible, open and spontaneous. The orderliness and cleanliness of the home and yard settings were different. Financial independence seems to be valued differently. In Family I there were three family members over 17 years of age who appeared employable. When the subject of employment or job training was introduced the family indicated they were not interested. In Family II job training, types of employment and employment consequences, for example, baby sitting, were frequent topics of conversation. The attitude toward and satisfaction obtained from family initiated health care services also seemed different. In Family I the nurse had given information about flu immunization clinics, and the post-partum check-up. Immunizations were not received and a cancelled post-partum check-up was not rescheduled. Monthly prenatal appointments were missed because of "oversleeping." In Family II, the nurse was unaware of any missed or cancelled routine check-up appointments. Time and transportation problems with possible

alternative solutions in respect to future routine clinic appointments were often discussed during the home visit.

Methodology

The method of data collection was a tape recording of three successive visits of a given nurse to each family. Four alternating five-minute intervals of the six tapes were analyzed beginning with the second five-minute interval of each tape. Data were analyzed by the nurse making the home visit.

Approval to conduct this study was obtained from the Human Subjects Committee of The University of Arizona. Subject's Consent Forms were such that the families remained anonymous because data from only two families were analyzed. To protect the families involved, signature forms will not be included in this thesis but will be available in the College of Nursing file. Forms designed for signatures appear in Appendix A.

The families from whom data were collected were families who had been visited by the nurse weekly for approximately two and one-half months. During the initial two and one-half month visitation period, the visits of both families had been tape recorded. Three successive visits were then made and tape recorded after the initial two and one-half month visitation period. It was hoped that since the nurse had been visiting the families for two and one-half

months and that since these visits had been tape recorded, some of the anxiety associated with initial home visits and with the activity of tape recording would have been resolved by the time the actual data were collected. It was hoped that the three successive visits made after the two and one-half visitation period would, therefore, produce more reliable data. The participants would have had time to deal with the normal and expected anxiety of any first encounter and of the tape recording process.

Measurement Tool

The measurement tool which was used for the analysis of the verbal interaction is the dimension of communicative mechanisms used in the research work of Johnson and Hardin (1962), Content and Dynamics of Home Visits of Public Health Nurses. Permission was granted from the American Nurses' Foundation through Carol Lindeman, Dean, School of Nursing, University of Oregon, for use of this tool.

The measurement tool is chiefly concerned with the introduction and discussion of ideas. The scoring is dependent upon the frequency of certain types of responses. The scorer will identify and rate the type of response by the given nurse.

The communication categories and their definitions follow:

QI--asks for information

R --replies to question for information

QA--asks for advice for self

SA--gives advice for self

OA--gives advice for other

Ac--accepts advice

Re--rejects advice

S --makes statement

QI: Questions requesting information. Person initially asking question has purpose of gaining information from other participant. The following types of questions are not included: 1) repeated questions, 2) questions which ask for repetition, 3) questions which repeat prior statements or information, 4) questions which are statement, no reply expected, 5) questions asking expressions of understanding, and 6) questions which contain should, ought, might, could, must.

R: Replies to questions for information. Reply to a prior question seeking information paired with QI question only.

QA: Asks for advice for self. Questions which seek cause of action or opinion. Advice given in response to QA is classified under OA, not R.

SA: Gives advice for self (plans for self). Statements of plans, intentions and statements about what the speaker will, should, must or ought to do or not to do.

OA: Gives advice to other participants. Used mainly when nurse makes a suggestion to other participant. Responses with should, ought, must, could, might belong here to be used by participants if they suggest course of action for nurse related to family care. Items about personal life of nurse are not included. Impersonal events or situations outside house are not included, e.g., "I think Carter should stick with peanuts."

Ac: Accepts advice. Verbalization indicating accepting advice.

Re: Rejects advice. Verbalization indicating rejection of advice.

S: Statement. Residual category for any verbal material not previously classified.

The scoring will be made according to single units dependent upon their placement in the communication category. The entire conversation for each of the five-minute intervals will be analyzed. A unit in the interaction extends from the beginning of one category to the beginning of another according to the placement by definition in a category.

The following will illustrate an example of the scoring procedure:

| | | | |
|----------------|--------------------------------------|--------|----|
| Nurse: | How much did you sleep last night. | 1 unit | QI |
| Family Member: | Four hours. | 1 unit | R |
| Nurse: | You should get more sleep than that. | 1 unit | OA |
| Family Member: | I don't think so. | 1 unit | Re |

Validity and Reliability

Johnson and Hardin (1962) discuss the composite results of validity and reliability for the tools used in their study. They do not indicate the specific reliability and validity results for the individual tools.

Validity of Measurement Tools

Johnson and Hardin (1962) developed almost entirely their own scheme of analysis. Regarding the validity of the tool categories they reported, "It is conceivable and probable that more valid or more revealing categories for the analysis of such a phenomenon as verbal involvement could be obtained if the researcher had some control over the contents of data collected. We had no such resource (Johnson and Hardin, 1962:75)."

Johnson and Hardin (1962) based their validity on the following assumptions which guided the selection and use of indices:

1. Major components in verbal interaction may be broken down into subcomponents. In the case of verbal involvement, major subcomponents are initiative in introducing topics, word output, and modes of communication.

2. Components or subcomponents are inferred concepts, hence not ordinarily directly observable, but they reveal themselves through surface manifestations which can be observed.

3. These surface phenomena, when quantified, may be appropriately defined as indices.

4. In this study, the fundamental units of measurement of these surface phenomena are either duration or frequency of occurrence.

5. An ordinal relationship is assumed between values or scores on indices as derived from the above described units of measurement and the magnitude of manifestation of the subcomponents.

6. One may move from the statistical analysis of particular indices and their interrelations to more general levels which attempt to state the nature of relations between the major components and the fundamental forces and factors which induce variation.

Reliability of Measurement Tools

Walter Johnson (1969), in order to measure reliability of the tools, utilized 24 home visits which were randomly selected from the pool of shorter visits in the main sample. The reliability was tested as persons were paired to cases, processed the cases, and the results were allocated to the main sample or to the reliability sample. For most of the critical indices the degree of similarity was near or above 90 percent. The differences between observers tended to increase with most measures which were more demanding and required qualitative classifications. This was associated with the concepts being ambiguous. The proposed measurement tool was one such tool with ambiguous concepts. Making judgments was unavoidable during the analysis of the tapes (Johnson, 1969:129).

Pilot Study

A tape from a previous home visit was analyzed according to the eight communication categories for a variety of purposes. The researcher was concerned that in fact the tool could be understood and deciphered so that it was usable and applicable to this research. This was found to be so.

The researcher was concerned with reliability of the tool and what constituted sufficient quantity of data. The

tape was analyzed with another citizen. There were approximately three to four differences of opinion of classification placement in the eight communication categories during a five-minute interval. This was considered acceptable when compared to the reliability results of the measurement tools used by Walter Johnson (1969).

The tape was analyzed in order to approximate sufficient quantity of data for statistical inference. Consultation with a statistician suggested that approximately 80 units per variable of the nurse's verbal responses were necessary. The tabulations should consist of 80 unit measurements from the nurse's verbal responses in respect to the variable of morbidity and 80 unit measurements from the nurse's verbal responses in respect to the variable of maternal child health. In a basic matrix, in order to have any confidence or credence in the results of the study, it is necessary to have approximately 10 unit measurements per category per variable. Ten unit measurements per each of the eight categories yields 80 unit measurements. This approximation, after the tabulation of the units in a five-minute interval, helped clarify the quantity specifications in the design.

How do you go about actually analyzing the verbal components of a tape recording? What is possible and what is not? Should the entire tape be analyzed? These were

some of the broad questions the investigator had in mind when she first attempted the analysis. The researcher first attempted to analyze the entire tape. This seemed very draining, overwhelming and extremely difficult. Alternate intervals of five minutes each were then attempted. A clock timer was repeatedly set for five-minute intervals. There was no analysis during the first five minutes. During the next five-minute interval the verbal responses were scored according to the eight communication categories. The timer was again set for five minutes with no scoring during this period. This system repeated itself through the entire tape. This seemed to work much better. Concentrating during a time interval seemed easier and less overwhelming. The results of the pilot study are shown in Table 1.

Table 1. Results of Pilot Study

| 5-minute interval | QI | R | QA | SA | OA | Ac | Re | S | Total |
|-------------------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|
| 1 | 4 | 4 | 3 | 1 | | 1 | | 8 | 21 |
| 2 | 1 | 1 | | 3 | 1 | 1 | | 10 | 17 |
| 3 | 8 | 8 | 4 | 5 | | 1 | | 9 | 35 |
| 4 | <u>6</u> | <u>6</u> | <u>2</u> | <u>—</u> | <u>2</u> | <u>4</u> | <u>—</u> | <u>6</u> | <u>26</u> |
| Total | 19 | 19 | 9 | 9 | 3 | 7 | 0 | 33 | 99 |

Analysis of Data

The average number of units per five-minute interval was 25. The total range of units per five-minute interval was from 17 to 35. With 100 measurement units per tape, analysis of six tapes should amply produce sufficient data for statistical analysis.

The highest frequency of units falls in the statement category, followed respectively by: asks for information, replies to question for information, asks for advice for self, gives advice for self, accepts advice, and gives advice for other. There were no unit scores in the category rejects advice.

PRESENTATION, ANALYSIS, INTERPRETATION
AND DISCUSSION OF DATA

Characteristics of Analysis

After two and one-half months of visits to each of the families with the specified health problems of either morbidity or maternal child health, the nurse tape recorded the nurse-family interaction of three consecutive visits to each family. Tables 2 through 5 present frequency distribution of the communication categories of the nurse's verbal interaction during these visits.

The data were first analyzed according to the research design (Table 2 and 3). As the author analyzed alternating five minute intervals she became skeptical that the specified alternating intervals may not be a true representation of the data. Some of the data included content of a nurse's conversation during a phone call to a hospital. Other data content included the nurse and family members saying good-bye to clinic staff personnel. Other data reflected social conversation content which was not included in the data, yet the social conversation consumed a large amount of a few of the five-minute intervals analyzed. Some visits did not allow time enough for data to be collected from four alternating intervals.

Table 2. Original Research Design, Morbidity

| Tape Interval Number | QI | R | QA | SA | OA | Ac | Re | S | Total* |
|-------------------------|------------------------|----------|------------|------------|----------|------------|------------|----------|----------|
| Visit I | | | | | | | | | |
| 2 | 1 | | | | 2 | | | 5 | 8 |
| 4 | 1 | | | | 2 | | | 5 | 8 |
| 6 | 4 | | 1 | | | | | 9 | 14 |
| 8 | <u> </u> | <u>2</u> | <u> </u> | <u> </u> | <u>1</u> | <u> </u> | <u> </u> | <u>4</u> | <u>7</u> |
| Total | 6 | 2 | 1 | | 5 | | | 23 | 37 |
| Visit II | | | | | | | | | |
| 2 (Total) | 1 | 1 | | | 2 | | | 6 | 10 |
| 4 | Visit completed | | | | | | | | |
| Visit III | | | | | | | | | |
| 2 | 7 | | | | 1 | | | 2 | 10 |
| 4 | 4 | | 1 | | | | | 6 | 11 |
| 6 | 2 | | | | 3 | | | 2 | 7 |
| 8 | <u>Visit completed</u> | | | | | | | | |
| Total | 13 | | 1 | | 4 | | | 10 | 28 |
| Cumulative Total | 20 | 3 | 2 | | 11 | | | 39 | 75 |
| ----- | | | | | | | | | |
| Rank | 2 | 4 | 5 | 6 | 3 | 6 | 6 | 1 | |
| | | | | 7 | | 7 | 7 | | |
| | | | | 8 | | 8 | 8 | | |

*Average frequency per interval = 9.4.

Table 3. Original Research Design, Maternal Child Health

| Tape Interval Number | QI | R | QA | SA | OA | Ac | Re | S | Total* |
|-------------------------|------------------------|----------|----------|----------|----------|----------|----------|----------|-----------|
| Visit I | | | | | | | | | |
| 2 | 3 | 5 | 1 | | 5 | | | 3 | 17 |
| 4 | 14 | | | 1 | | | | 3 | 18 |
| 6 | 1 | 1 | | | 2 | | | 5 | 9 |
| 8 | <u>Visit completed</u> | | | | | | | | |
| Total | 18 | 6 | 1 | 1 | 7 | | | 11 | 44 |
| Visit II | | | | | | | | | |
| 2 | 10 | 1 | | | | | | 8 | 19 |
| 4 | 8 | 1 | | | 3 | | | 5 | 17 |
| 6 | 15 | 1 | | | 1 | | | 3 | 20 |
| 8 | <u>7</u> | <u>—</u> | <u>—</u> | <u>1</u> | <u>2</u> | <u>—</u> | <u>—</u> | <u>7</u> | <u>17</u> |
| | 40 | 3 | | 1 | 6 | | | 23 | 73 |
| Visit III | | | | | | | | | |
| 2 (Total) | 8 | 1 | | 1 | 2 | 3 | 3 | 5 | 23 |
| 4 | <u>Visit completed</u> | | | | | | | | |
| Cumulative Total | 66 | 10 | 1 | 3 | 15 | 3 | 3 | 39 | 140 |
| Rank | 1 | 4 | 8 | 7 | 3 | 5 6 | 5 6 | 2 | |

*Average frequency per interval = 15.5.

Table 4. Revised Research Design, Morbidity

| Tape Interval Number | QI | R | QA | SA | OA | Ac | Re | S | Total* |
|-------------------------|----|---|----|----|----|----|----|----|--------|
| Visit I | | | | | | | | | |
| 2 | 1 | | | | 2 | | | 5 | 8 |
| 4 | 1 | | | | 2 | | | 5 | 8 |
| 5 | 8 | | 1 | | 2 | | | 4 | 15 |
| 7 | 1 | | | | | | | 4 | 5 |
| 8 | | 2 | | | 1 | | | 4 | 7 |
| 9 | 6 | | | | 1 | | | 4 | 11 |
| 10 | 6 | 1 | | | 2 | | | 5 | 14 |
| Total | 23 | 3 | | 1 | 10 | | | 31 | 68 |
| Visit II | | | | | | | | | |
| 2 | 1 | 1 | | | 2 | | | 6 | 10 |
| 3 | 3 | | 1 | | 2 | | | 8 | 14 |
| Total | 4 | 1 | 1 | | 4 | | | 14 | 24 |
| Visit III | | | | | | | | | |
| 2 | 7 | | | | 1 | | | 2 | 10 |
| 5 | 7 | | | | 1 | | | 3 | 11 |
| 6 | 2 | | | | 3 | | | 2 | 7 |
| 7 | 10 | | | | | | | 1 | 11 |
| Total | 26 | | | | 5 | | | 8 | 39 |
| Cumulative Total | 53 | 4 | 1 | 1 | 19 | | | 53 | 131 |
| ----- | | | | | | | | | |
| Rank | 1 | 4 | 5 | 5 | 3 | 7 | 7 | 1 | |
| | 2 | | 6 | 6 | | 8 | 8 | 2 | |

*Average frequency per interval = 10.

Table 5. Revised Research Design, Maternal Child Health

| Tape Interval Number | QI | R | QA | SA | OA | Ac | Re | S | Total* |
|-------------------------|----------|----------|----------|----------|-----------|----------|----------|----------|-----------|
| Visit I | | | | | | | | | |
| 2 | 3 | 5 | 1 | | 5 | | | 3 | 17 |
| 3 | 8 | 1 | | | 4 | | | 7 | 20 |
| 4 | 14 | | | 1 | | | | 3 | 18 |
| 5 | 10 | | | | | | | 10 | 20 |
| 6 | <u>1</u> | <u>1</u> | <u>—</u> | <u>—</u> | <u>2</u> | <u>—</u> | <u>—</u> | <u>5</u> | <u>9</u> |
| Total | 36 | 7 | 1 | 1 | 11 | | | 28 | 84 |
| Visit II | | | | | | | | | |
| 3 | 12 | 1 | | | 2 | | | 5 | 20 |
| 4 | 10 | 1 | | | 1 | | | 2 | 14 |
| 5 | 16 | 1 | | | 1 | | | 2 | 20 |
| 6 | 9 | | | | 1 | | | 3 | 13 |
| 7 | 4 | 2 | | | 3 | | | 4 | 13 |
| 8 | <u>7</u> | <u>—</u> | <u>—</u> | <u>1</u> | <u>10</u> | <u>—</u> | <u>—</u> | <u>7</u> | <u>25</u> |
| Total | 58 | 5 | | 1 | 18 | | | 23 | 105 |
| Visit III | | | | | | | | | |
| 2 | 8 | 1 | | 1 | 2 | 3 | 3 | 5 | 23 |
| 3 | <u>3</u> | <u>1</u> | <u>—</u> | <u>—</u> | <u>1</u> | <u>—</u> | <u>—</u> | <u>5</u> | <u>9</u> |
| Total | 11 | 2 | | 1 | 3 | 3 | 3 | 10 | 32 |
| Cumulative Total | 105 | 14 | 1 | 3 | 32 | 3 | 3 | 61 | 221 |
| ----- | | | | | | | | | |
| Rank | 1 | 4 | 8 | 5 | 3 | 5 | 5 | 2 | |
| | | | | 6 | | 6 | 6 | | |
| | | | | 7 | | 7 | 7 | | |

*Average frequency per interval = 17.

Because of these limitations, the data were then also analyzed using the alternate intervals when the content of the intervals included health related content. Other intervals also were analyzed in which there was only nurse-family interaction or in which health related content was the main focus (Tables 4 and 5). Although some degree of social interaction is considered a necessary part of a home visit, it was not in the realm of this study to include the social components of verbal interaction. Analysis according to the original design showed limitations and therefore the design was intentionally changed. The investigator had more confidence in the second method of data collection. The analysis, interpretation and discussion of data are reflective of the second method of data collection.

Analysis of Health Problems

The revised research design showed data for 13 five-minute intervals for both the morbidity and maternal child health problems.

Maternal Child Health Data

The data from the maternal child health problem showed these communication categories as progressing from the most frequent to the least frequent, respectively: asks for information, makes statement, gives advice for other, and replies to questions for information. The categories:

gives advice for self, accepts advice and rejects advice follow at the same frequency. The category asks advice for self had the least frequency.

The total range of unit frequency was from 105 in asks for information to 1 in asks for advice for self. The frequency of communication categories with their numerical measurement units were as follows:

| <u>Communication Category</u> | <u>Number of Units</u> |
|-------------------------------------|------------------------|
| asks for information | 105 |
| makes statement | 61 |
| gives advice for other | 32 |
| replies to question for information | 14 |
| gives advice for self | 3 |
| accepts advice | 3 |
| rejects advice | 3 |
| asks for advice for self | 1 |

The total number of units represented by the nurse's verbal interaction was 221. The combined totals of the two highest frequency communication categories accounted for 75 percent of the nurse's verbal interaction. The combined total of the three highest frequency communication categories accounted for 90 percent of the nurse's verbal interaction. The combined total of the four highest frequency communication categories accounted for 96 percent of the

nurse's verbal interaction. Figure 2 shows these cumulative relationships.

The combined totals for the four smallest frequencies of the remaining communication categories represented less than four percent of the nurse's verbal interaction. Figure 3 shows their cumulative relationships.

Table 6 shows the total individual communication category percentage tabulations of the communication categories for the nurse's verbal interaction.

Visit I consisted of five intervals, Visit II consisted of six intervals and Visit III consisted of two intervals. A total of 13 intervals was analyzed. The mean number of the nurse's verbal interactions per interval was 17. The range was from 25 to nine. The mode was 20.

Morbidity Data

The data from the morbidity variable showd these communication categories as progressing from the most frequent to the least frequent, respectively: asks for information and makes statement (equal distribution), gives advice for other, replies to questions for information, asks for advice for self and gives advice for self (same distribution), and accepts advice and rejects advice (no distribution).

The total range of unit frequency was from 53 in asks for information and makes statement to zero in accepts

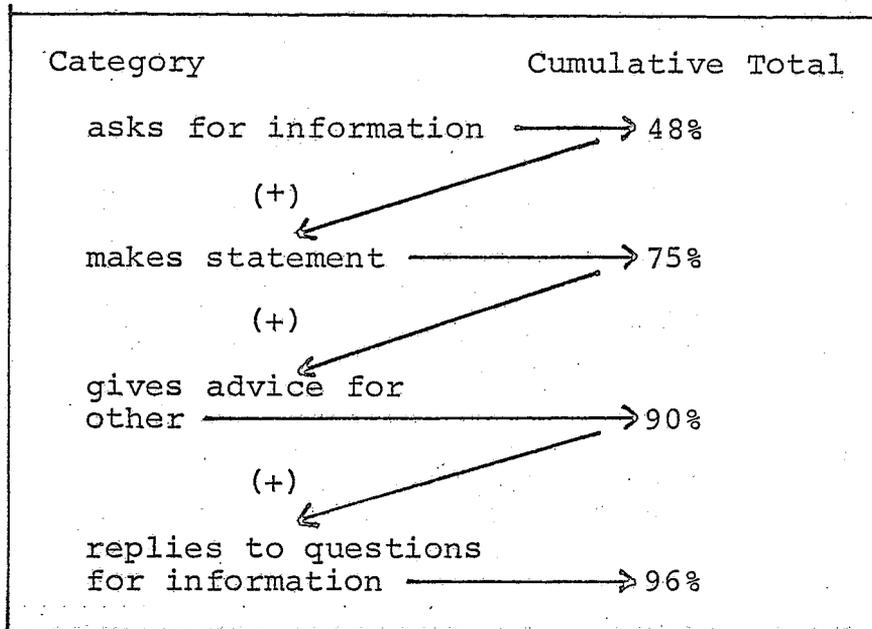


Figure 2. Nurse's Most Frequent Categories of Verbal Interaction, Maternal Child Health

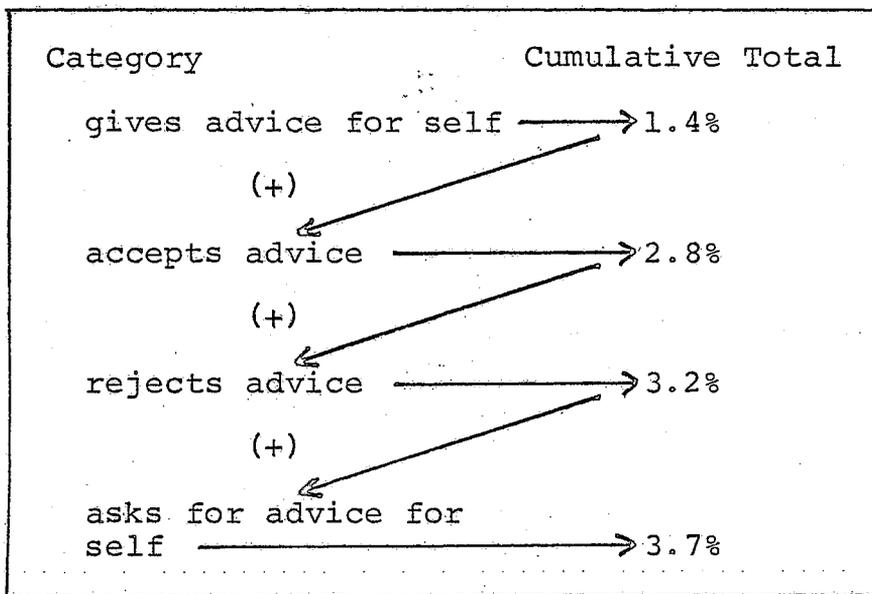


Figure 3. Nurse's Least Frequent Categories of Verbal Interaction, Maternal Child Health

Table 6. All Categories of Nurse's Verbal Interaction,
Maternal Child Health

| <u>Communication Category</u> | <u>Percentage</u> |
|--------------------------------------|-------------------|
| asks for information | 47.51 |
| makes statement | 27.60 |
| gives advice for other | 14.47 |
| replies to questions for information | 6.33 |
| gives advice for self | 1.35 |
| accepts advice | 1.35 |
| rejects advice | 1.35 |
| asks for advice for self | .45 |

advice and rejects advice. The frequency distribution of the communication categories with their numerical measurement units were as follows:

| <u>Communication Category</u> | <u>Number of Units</u> |
|--------------------------------------|------------------------|
| asks for information | 53 |
| makes statement | 53 |
| gives advice for other | 19 |
| replies to questions for information | 4 |
| asks for advice for self | 1 |
| gives advice for self | 1 |
| accepts advice | 0 |
| rejects advice | 0 |

The total number of units represented by the nurse's verbal interaction was 131. The combined totals of the two highest frequency communication categories accounted for 80 percent of the nurse's verbal interaction. The combined total of the three highest frequency communication categories accounted for 95 percent of the nurse's verbal interaction. The combined total of the four highest frequency communication categories accounted for 98 percent of the nurse's verbal interaction. Figure 4 shows these cumulative relationships.

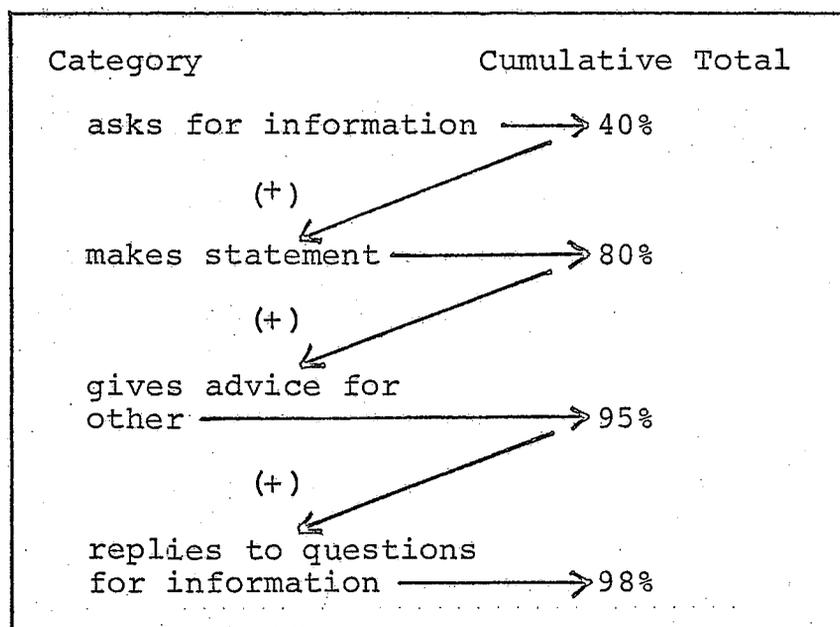


Figure 4. Nurse's Most Frequent Categories of Verbal Interaction, Morbidity

The combined totals of the four smallest frequencies of the remaining communication categories represented less than two percent of the nurse's verbal interaction. Figure 5 shows these relationships.

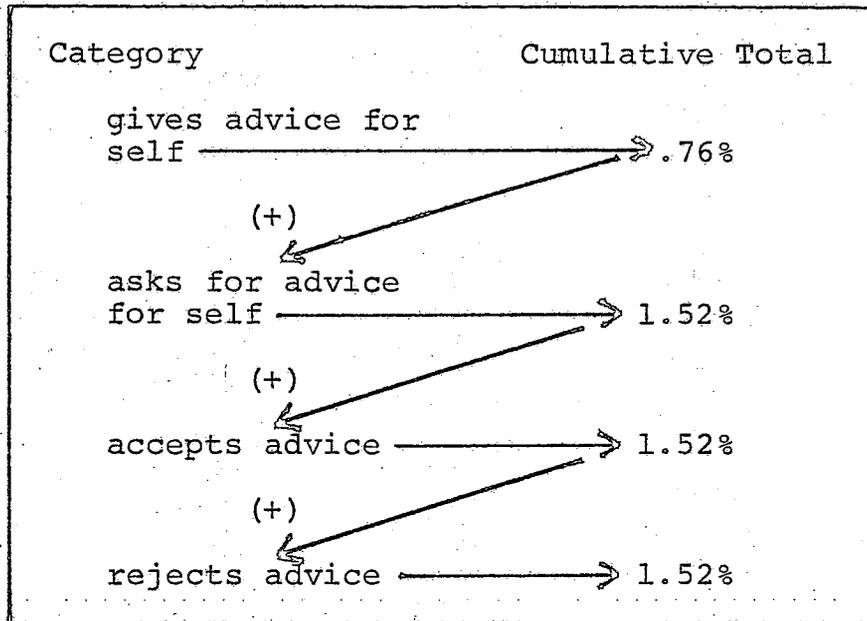


Figure 5. Nurse's Least Frequent Categories of Verbal Interaction, Morbidity

Table 7 shows the total percentage tabulations of the communication categories for the nurse's verbal interaction.

Visit I consisted of seven intervals, Visit II consisted of two intervals, Visit III consisted of four intervals. A total number of 13 intervals was analyzed. The mean number of the nurse's verbal interaction per interval was 10. The range was from five to 15. The mode was 11.

Table 7. All Categories of Nurse's Verbal Interaction,
Morbidity

| Communication Category | Percentage |
|--------------------------------------|------------|
| asks for information | 40.45 |
| makes statement | 40.45 |
| gives advice for other | 14.50 |
| replies to questions for information | 3.05 |
| gives advice for self | .76 |
| asks for advice for self | .76 |
| accepts advice | 0.00 |
| rejects advice | 0.00 |

Summary of Subject Content
of Home Visits

Morbidity. Visit I consisted of the discussion of nutritional and diet counseling and family coping mechanisms in respect to the morbidity problem. A family acquaintance was becoming very influential in the decisions and functioning of the family and his influence was also discussed.

Visit II consisted of the discussion of the correct administration of medication as well as the expected responses or reactions due to medication. The visit was made in the home of an extended family member who was substituting for the mother because she was out of town. Visit III included the

discussion of discharge planning, clarification of necessary referrals and interaction during termination.

Maternal Child Health. Visit I consisted of a baby bath demonstration by the nurse and return demonstration by the expectant mother. Visit II consisted of newborn assessment of postpartum condition of mother, and discussion of normal expected anxieties of family members when a new baby is brought to the home situation. Visit III consisted of a continued short assessment of the baby and mother. An adult male had begun living in the home since Visit II and had become influential in the decisions and functioning of the home. Much of this short visit reflected the discussion between the nurse and the man as they discussed the expectations and roles of the nurse and eventually decided upon termination of the visits.

Comparison of Maternal Child Health and Morbidity Health Problem Data

The data were taken from 13 five-minute intervals for each health problem. Ninety-eight percent of the nurse's verbal interaction occurred during the four most frequently used communication categories with the morbidity health problem. Ninety-six percent of the nurse's verbal interaction occurred during the four most frequently used communication categories with the maternal child health

problem. A comparison of data collected from each health problem is displayed in Table 8.

Table 8. Comparison of Nurse's Verbal Interaction between Morbidity and Maternal Child Health Problems

| | QI | R | QA | SA | OA | Ac | Re | S | Total |
|--------------------------------|------|----|----|----|------|----|----|-------|-------|
| Raw Score | | | | | | | | | |
| Morbidity | 53 | 4 | 1 | 1 | 19 | | | 53 | 131 |
| MCH | 105 | 14 | 1 | 3 | 32 | 3 | 3 | 61 | 221 |
| Part of Total Percentage | | | | | | | | | |
| Morbidity | 40 | 3 | .8 | .8 | 15 | 0 | 0 | 40 | |
| MCH | 48 | 6 | .5 | 1 | 4 | 1 | 1 | 28 | |
| ----- | | | | | | | | | |
| Measurement Units per Interval | | | | | | | | | |
| | Mode | | | | Mean | | | Range | |
| Morbidity | 11 | | | | 10 | | | 15-7 | |
| MCH | 20 | | | | 17 | | | 25-9 | |

The communication categories which showed highest percentages of frequency in the morbidity health problem in contrast to the maternal child health problem were: asks for advice for self, gives advice for other and makes statement. The maternal child health variable had highest percentages in: asks for information, replies to questions for information, gives advice for self, accepts advice and rejects advice.

The differences in percentages for each communication category per variable are shown in Table 9.

Table 9. Health Problems with Highest Frequency of Usage According to Percentage

| Category | Percentage | Problem |
|----------|------------|-----------|
| QI | 8.0 | MCH |
| R | 3.0 | MCH |
| QA | .3 | morbidity |
| SA | .2 | morbidity |
| OA | 1.0 | morbidity |
| Ac | 1.0 | MCH |
| Re | 1.0 | MCH |
| S | 12.0 | morbidity |

The three communication categories showing the greatest degree of difference according to percentage respectively were: makes statements, asks for information, and replies to questions for information. Although these three categories show the highest degree of difference in percentage they occurred in four of the most frequently used communication categories.

The total number of units for the maternal child health problem was 221. The total number of units for the morbidity problem was 131. This represented a 90 point difference. The nurse talked almost twice as much with the maternal child health variable as with the morbidity variable.

The frequency of both modes was three. The range showed a two point difference in the lowest frequencies and a ten point difference in the highest frequencies. There was a seven point difference between the means of the two variables.

The communication categories are listed below in order from most frequent response to least frequent response. Grouped items show equality of response.

Maternal Child Health :

asks for information
 makes statement
 gives advice for other
 replies to questions for
 information
 gives advice for self
 accepts advice
 rejects advice
 asks for advice for self

Morbidity

asks for information
 makes statement
 gives advice for other
 replies to questions for
 information
 gives advice for self
 asks for advice for self
 accepts advice
 rejects advice

The four most frequently used communication categories were the same for both health problems. The communication categories, asks for information and makes statement were used at the same frequency with the morbidity health problem. The four most infrequently used communication categories were the same for both health problems, but their usage did not decrease in the same order.

In both health problems 96 percent or more of the nurse's verbal interaction was categorized within the first four categories. Ninety percent or more was categorized within the first three categories. Seventy-five percent or more was categorized within the first two categories.

Interpretation and Discussion

A very striking resemblance of the data is the percentage of usage in each of the communication categories for both health problems. This implies that the nurse used the

communication categories approximately the same amount regardless of the health problem. The most noticeable difference was that of the category, makes statement, which was used 12 percent more in the health problem of morbidity. Frequently reflective statements by the nurse were used during the verbal interaction with the family with this health problem. An example of a reflective statement used was, "That sounds very difficult." These reflective statements were placed in the makes statement communication category, which noticeably increased the frequency in this category. The category, asks for information, had the second largest percentage difference, eight percent, with the maternal child health problem showing the higher frequency. This is attributed to the fact that the maternal child health problem family situation included the circumstances of a first born, development of pre-eclamptic symptoms, a three generation family living in the same household, and the baby's birth being a very important event culturally and socially. There were many questions about the care of both mother and baby.

The percentage differences of the remaining six communication categories range between three and .3 percent. These small differences again emphasize the fact that the nurse categorically said the same types of things according to percentages in both families.

Of interest also is the very high percentage of the nurse's verbal interaction that occurred in a noticeably small number of communication categories in both health problems. Ninety percent or more of the nurse's verbal interaction for both health problems occurred in asks for information, makes statement and gives advice for other. Seventy-five percent or more of the nurse's verbal interaction occurred in only two categories, asks for information and makes statement. Asking questions, for example, "Have you noticed any blurred vision?" or "How often is the medication taken?" comprised a large part of the nurse's verbal interaction. The other two categories, makes statement and gives advice for other, included statements such as, "You should clean the umbilical cord with Q-tips and alcohol" or "The children can be very demanding." It is not surprising that these types of statements comprised such a large part of the verbal interaction. What also needs consideration is Conant's (1965) findings which showed that individual nurses have similar patterns of behavior with their patients. The results of Conant's study to a large degree support the results of this research work.

The four least frequently used communication categories, gives advice for self, asks for advice for self, accepts advice and rejects advice totaled less than four percent usage in both health problems. In the morbidity

health problem the communication categories, accepts advice and rejects advice, were not used at all. In the morbidity health problem the family members did not give advice to the nurse so consequently there were no responses indicating acceptance or rejection of their advice. However, in the maternal child health problem, an adult male had begun living with the family prior to the last visit. During the last visit he strongly advised the nurse to discontinue her visits. The communication categories of accepting advice and rejecting advice were used during this specific verbal interaction. For example, "Yes, I will leave now," and "You seem very upset with my visits," were placed in either the accepts advice or rejects advice communication categories.

The last quotation is an example of the problem of ambiguity and making judgments which Johnson (1969:129) discussed in respect to the validity of the measurement tool. "You seem very upset with my visits," in response to advice to leave the home was placed in the rejects advice communication category. When the judgment was made as to which category this statement should be placed in, it was debated as to whether it belonged in the makes statement or rejects advice communication category. Although the rejects advice communication category was decided upon, the investigator felt this exemplified one of the measures which Johnson

(1969:129) described as demanding and requiring quantitative classification which was associated with ambiguous concepts.

Even though the previously discussed interaction reflected some of the background for the usage of some of the less frequently used communication categories, it represents a single isolated nurse-family interaction. Since the four least frequently used communication categories reflected less than four percent of the verbal interaction in both health problems, the investigator questions whether their inclusion is necessary in the measurement tool. Their exclusion might result in the elimination of unnecessary or time consuming data without changing the results of a study to any marked degree.

Analysis According to Family Characteristics

The data have also been analyzed according to the different characteristics of the two families. The characteristics of each family will be briefly reviewed with the accompanying data analysis.

Family I

Family I consisted of five members who lived in a four-room adobe stucco home which was in need of repair. The emotional tone of Family I was rigid, guarded and controlled with frequent silences during home visits. Financial responsibility and independence were avoided. There

was a limited degree of initiative taken in respect to assuming the responsibility for health care. The nurse frequently took a directive role in directing the subject of the verbal interaction. Data concerning the maternal child health problem were collected from this family.

Family II

Family II consisted of three members who lived in a small, two-bedroom, clean trailer in a trailer park. The emotional tone of the visits was relaxed, friendly and spontaneous. Financial independence and health care were verbally expressed as being values in the family. The nurse frequently explored, clarified and/or supported during the verbal interaction. Data concerning the morbidity health problem were collected from this family.

Comparison of Families

Differences in the two families studied are summarized in Table 10. In Family I, described as guarded and having many silences during the home visit, the nurse talked 1.7 times as much as in Family II. The highest frequency interval in Family I was three-fifths higher than that for Family II. Yet, there was only a two unit difference in the lowest frequency intervals between the two families.

In Family I, in which the nurse's role was described as directive, 48 percent of the nurse's verbal interaction

Table 10. Comparison and Summary of Family Traits

| | Family I (MCH) | Family II (morbidity) |
|---|-------------------|--------------------------|
| <u>Characteristics</u> | | |
| Home atmosphere | rigid, guarded | relaxed, friendly |
| Health appointments | cancelled | kept |
| Actions toward financial responsibility | negative | positive |
| ----- | | |
| Mean no. units/interval | 17 | 10 |
| Range | 25 - 9 | 15 - 7 |
| ----- | | |
| <u>Communication Categories</u> (Raw Score) | | |
| asks for information | 105 | 53 |
| makes statement | 61 | 53 |
| gives advice for other | 32 | 19 |
| replies to questions for info. | 14 | 4 |
| gives advice for self | 3 | 1 |
| accepts advice | 3 | 0 |
| rejects advice | 3 | 0 |
| asks for advice for self | 1 | 1 |
| ----- | | |
| % total communication, first four categories | 96 | 98 |
| % total communication, last four categories | < 2 | < 4 |

was categorized as asks for information, 28 percent was categorized as makes statement, 14 percent was categorized as gives advice for other, and six percent was categorized as replies to questions for information. In Family II, in which the nurse's role was described as supportive, 40 percent of the nurse's verbal interaction was categorized as asks for information, 40 percent was categorized as makes statement, 15 percent was categorized as gives advice for other, and three percent was categorized as replies to questions for information.

The largest difference difference, 12 percent, occurred in the second category, makes statement, with 28 percent for Family I (directive) and 40 percent for Family II (supportive). The second largest difference occurred in, asks for information, with 48 percent in Family I (directive) and 40 percent for Family II (supportive). The third category, gives advice for other, had only one percent difference and the fourth category, replies to question for information, had only a three percent difference. In both families, 96 percent or more of the nurse's verbal interaction was categorized within these first four categories, 90 percent or more was categorized within the first three categories, and 75 percent or more was categorized within the first two categories.

Interpretation and Discussion

Family I, which was described as rigid and in which the nurse's role was labeled directive, was also the family in which the nurse talked 1.7 times as much. The investigator suggests that the characteristics of Family I are strongly related to this increase in verbal interaction. The nurse-family interaction in Family I in contrast to Family II showed more tension, silences and uneasiness. The nurse did not feel that Family I saw her visits as necessary or beneficial at times and she questioned that if in fact they did not interpret the referral from the health department as an infringement on their privacy. The investigator suggests that due to her own increased anxiety in Family I her verbal interaction increased. The investigator's subjective feelings of rejection were further validated during the last visit. Prior to this visit an adult male had moved into the home. During the last visit the adult male requested several times that the nurse terminate her home visits immediately. The nurse attempted to explore how the other family members felt about the termination of the nurse's visits. The other family members gave little or no verbal support to the nurse. And, in fact, the mother of the baby stated, though very quietly, that she did not want the nurse to return. Other health sources had informed the nurse that the selling of drugs was suspected in the home.

How much the anxiety level of Family I was higher than that of Family II is difficult to determine. Yet the family circumstance of Family I certainly indicated that a higher anxiety level could be expected. It is also a logical conclusion that the nurse would cope with this anxiety by her own increased verbal interaction.

Application to Theoretical Framework

The Social Interaction Communication Model presented by the investigator can be applied to this study. The social system was defined as the nurse and the family members. The method of interaction was verbal exchange. This was reflected through the communication categories. On a base of harmony and with the vehicle of the communication categories the nurse and family members strived through equilibrium to the goal of the social system, that of optimal health of the family members.

An analysis of verbal interaction or the communication categories was reflective of the progress of the social system as it endeavored toward its goal. In Family I the analysis indicated unclear and uncertain harmony and equilibrium. That each member felt good toward the other members was questionable. The disruption of the harmony and equilibrium was reflected in the difficulty of the social system striving toward the optimal health of the family members. Clinic appointments were not rescheduled, explanation of the

physical findings and feelings about a possible ear defect was prevented, and continued maternal child health counseling was avoided. The social system made progress, though at specific times limited, toward realizing its purpose. The social system dissolved because the functional problems of roles and member expectations could not be agreed upon. Complimentary needs were aggravated and the foresight of needs was rebuffed.

In Family II the analysis indicated growing harmony and equilibrium within the social system. Functional problems were solved as the nurse was called upon to replace an absent family member. This indicated the members felt good toward each other and that equilibrium would be maintained. The social system members recognized and moved toward a common goal. Although this family left its geographic location, and thus the social system was dissolved, appropriate health referrals were made and contacted by family members, final health assessment and future medical care was discussed, and time was allowed by the social system members for termination. This system allowed for complimentary needs to be resolved and through foresight, for the satisfaction of other needs to be facilitated.

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The verbal interaction between a given nurse and family members was the focus of the problem under study.

The purpose of this study was to explore the extent of variations in verbal interaction of a given nurse as she interacted in two families with different health problems, that is, morbidity and maternal child health. Proceeding from this specific purpose was the broader purpose of the clarification and/or expansion of a general understanding of the forces in operation during verbal exchange.

Three successive visits of a given nurse to each family were tape recorded. Thirteen five-minute intervals from each family were analyzed according to the dimension of communication categories from Johnson and Hardin (1962) in Content and Dynamics of Home Visits of Public Health Nurses.

The analysis of data showed many similarities of the nurse's verbal interaction in respect to both health problems. The first four most frequently used communication categories were the same for both health problems with the exception that in the morbidity variable two communication categories had equal data for the position of most frequently used.

The first four most frequently used categories for both health problems included, respectively, asks for information, makes statement, gives advice to other, and replies to question for information. The greatest percentage difference, 12 percent, among the four most frequently used communication categories occurred in the makes statement category, with the higher frequency in the morbidity health problem. The second greatest percentage difference, eight percent, occurred in the asks for information category, with the higher frequency in the maternal child health problem. All other percentage differences in the remaining six categories were six percent or less. Two of the communication categories, accepts advice and rejects advice, were not used in the morbidity health problem.

Another similarity is that in both health problems 96 percent or more of the nurse's verbal interaction was represented in the four most frequently used communication categories.

The total number of verbal interactions of the nurse from the maternal child health problem was 221, while the total number of verbal interactions of the nurse from the morbidity health problem was 131. The mean number of verbal interactions per interval of the nurse in the family with the morbidity health problem was 10. This family was described as friendly, open and valuing health care. The

mean number of verbal interactions per interval of the nurse in the family with the maternal child health problem was 17. This family was described as guarded, tense, and frequently unresponsive to health care suggestions. The nurse talked 1.7 times as much in the family with the maternal child health problem (guarded) as in the family with the morbidity problem (open). Although the variables of maternal child health and morbidity were emphasized in the study, the characteristics of each of the families must not be overlooked in order that more accurate conclusions about the data may be drawn.

The absolute output of the given nurse was noticeable contrasting in the different families. The frequency of the communication categories was fairly stable with the exception of the communication category, makes statement, which was used slightly more than one-tenth more in the morbidity health problem than in the maternal child health problem.

These results were only partially congruent with the results from other studies. Walter Johnson (1969) found that the absolute verbal output of individual nurses remained relatively stable with less stability in communication categories. Conant (1965) found that individual nurses showed similar patterns of behavior with their patients.

The results of this study showed that to a large degree the same content of communication at approximately equal frequencies was employed in both health problems. This implies that communication techniques which are used to implement health appraisals, health teaching, giving emotional support and influencing patient changes have commonalities for usage in numerous health problems.

Perhaps more than any other area, this study has implications for nursing education. This research suggests that there are commonalities for effective verbal interaction regardless of the health problem. This suggests the assumption that it is possible for nurse educators to present to students communication concepts and effective verbal techniques for verbal interaction applicable to any clinical experience. This assumption directs nurse educators to introduce the concepts of effective verbal interaction early in the curriculum, preferably before any client contact.

The results of this study also lend support for the acceptance and adoption of the integrated curriculum. This study suggests that it is possible for general concepts to be extracted and synthesized for usage in a comprehensive manner.

The interpersonal theory of Harry Stack Sullivan and the social interaction theory were the theoretical frameworks used in researching verbal interaction.

The model assisted in unifying the two theoretical frameworks so that together they were applicable to this study. With verbal exchange defined as the method of interaction among the social system members, that is, nurse and family members, analyzing the verbal cues or communication categories was logical and appropriate.

Nursing involves service by a nurse to a client.

Communication is one process by which nursing care is given.

In settings and situations where verbal activity is a necessary aspect of the nursing service given, the patterns of nurse and patient interaction may be directly related to the effectiveness of nursing care. If this is true, nurses need the verbal skills with which to interact successfully with their patients thereby providing a type of nursing service which enables patients to improve their health performance (Conant, 1965:304).

Diers and Leonard (1966:225) advocate calling upon social science theory in the study of the process of interpersonal communication. They suggest that in any helping profession, professional practice is at least in part a social science. "Behavioral research specific to nursing practice includes study of the social process involved when the nurse works with a patient." This implies a greater sharing by nursing with the social sciences.

A variety of avenues surfaces when the notion of examining verbal behavior comes to light. What are the most frequent types of responses in interaction? What interactions produce certain responses? What are the causal

effects between verbal behavior and relationships? What are the effects of verbal communication on the patient's behavior? The questions are as numerous as the variables involved in attempting to methodologically and empirically research communication through social interaction.

This study has dealt with only the first of the previously mentioned questions. Countless unanswered questions remain about nurse-family verbal interaction.

To study verbal interaction is a complex and complicated task. This research has left the investigator with a deep appreciation for efforts made in attempting to study this phenomenon. Numerous uncontrollable variables are either directly or indirectly related to the results. Therefore, attempts in studying this problem need attention directed toward minute details. The research question must be carefully worded so that it is clearly understood. Thought must be given to the measurement scale. The scale must be appropriate and applicable to the design and to the research question. Discretion must be used in interpreting the results. Differentiation between objective measurements and opinions needs to be clarified. The degree to which subject matter, feeling tones, and subjective opinions are included in the discussion needs careful consideration as the inclusion of these may detract from the purpose of the research. It would be very easy to become engulfed with

these considerations to the degree that the purpose and direction of the research is lost, muddled or confused.

The investigator attempted to take these requirements into consideration during the planning and completion of the research work. Yet it was questioned whether, in fact, the addition of another measurement tool was not needed. At times the interpretation and discussion of results of the data did include the feeling tones and subjective interpretations of the investigator. This seemed unavoidable. The inclusion of another feeling tone or attitude measurement tool appeared desirable. This would add weight and credence to the results and would confirm the discussion of the exploration of feeling states. This type of measurement tool would add much more credibility to the discussion of the absolute verbal output of the nurse in respect to family characteristics. The tool would also open many pathways for exploration in the individual communication categories. Two such tools have been used by Johnson and Hardin (1962).

Two general trends have been observed in this research: first, that a given nurse shows similar patterns of behavior and, second, that a nurse responds with her own individuality to different family characteristics.

Altered or other routes for studying verbal interaction need exploration. Even though this task is enormous,

any attempts made in studying verbal interaction also contribute to a better understanding and clarification of the problems of variables, measurement and interpretation of data.

A basic design for measuring verbal interaction has been presented in this study. The following recommendations are suggestions for but a few of the possible alterations in the design. Based on the findings of this study, the following recommendations are made:

1. Re-evaluate closely whether a five-minute interval analysis, complete home visit analysis, or selected interval analysis would be most appropriate in respect to the specific home visits under study.

2. Repeat the study focusing on and analyzing the verbal interactions of the family members.

3. Repeat the study analyzing the verbal interactions of a nurse as she interacts with families having other health problems, for example, chronic illness and behavioral health problems.

4. Change the measurement tool to Interpersonal Categories or Categories Pertaining to Attitudes of Participants to the Subject Matter by Johnson and Hardin (1962) and/or other appropriate verbal interaction measurement tools.

5. Repeat the study emphasizing a correlational relationship using the Communication Category Tool and the Interpersonal Category Tool or Category Pertaining to Attitudes of Participants to the Subject Matter Tool.

This basic design could also be helpful in assisting nursing students in evaluation of their communication techniques. Tape recordings of the students' home visits could be made. The verbal interactions from these tape recordings of the students could then be compared and contrasted to the designated or hoped for communication concepts or verbal techniques.

APPENDIX A

SUBJECT'S CONSENT FORM

Project Title: A study of Nurse Family Verbal Interaction

I am conducting a study to learn about the differences of what the nurse says when she is visiting a family with a sick member and when she is visiting a family expecting and/or caring for a baby.

Tape recordings from three consecutive home visits to each family will be analyzed by looking at what the nurse says during the nurse family conversation. After analysis the tapes will be erased.

The student will be the only person with information about your full identity. The student's faculty advisor will be knowledgeable about your identity on a first name basis. No names or initials will be used.

Data analysis will be carried out on coded data. The data will be used only for research or educational purposes, but may be published in a professional journal.

It is hoped that the home visits by the student nurse will be beneficial in helping the families understand and cope with the different health problems. It is also hoped that what is learned as the nurse's conversation is analyzed will influence improved nursing care in the future.

Your participation in this study is voluntary. You are free not to be a part of this study. You may withdraw from the study at any time. If you choose to participate, I will be available to answer any questions you may have about the study.

There is no cost to you for participation, nor is there any monetary payment. There are no known risks.

If you understand what is involved and you consent to participate in this study, please mark below.

I have read the above Subject's Consent. The nature, demands and benefits of the project have been explained to me. I understand that I may ask questions and that I am free to withdraw from the project at any time.

Subject's Consent _____ Date _____

Witnesses' Signature _____ Date _____

I wish to have an abstract of the results of the completed study.

_____ Yes _____ No

In the consent form of the investigator's certification of the subject's consent the following was substituted for the above.

The subject has read (been read) the above Subject's Consent. The nature, demands and benefits of the project have been explained to the subject. Subject understands that he/she may ask questions and that he/she is free to withdraw from the project at any time.

Investigator's signature _____ Date _____

Witness's Signature _____ Date _____

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