

NURSES' USE AND PERCEPTIONS OF THE SOCIAL
SIGNIFICANCE OF THE STETHOSCOPE

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We hereby recommend that the Thesis prepared under
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CHAPTER I

INTRODUCTION

The stethoscope is not a new tool to the nurse. For many years, the nurse has used the stethoscope for taking blood pressures and apical pulses. Today, as interest in physical assessment appears to be sweeping the American nursing profession, the stethoscope is taking on a new function, that of auscultation. By adding auscultation to their other assessment skills, nurses can extend their ability to make sound clinical judgments.

Some nurses believe that auscultation is a technique that only the clinical nurse specialist or the nurse in a special care area should perform. Some feel that it is a technique that only physicians should use. Still others believe that auscultatory skills will enable the nurse to become or remain independent of physicians in most patient care encounters. For some nurses, the skills provide a means to compete effectively with the physician's assistant. These latter two reasons imply that possession of auscultatory skills are for status-seeking purposes rather than for perception of patient needs and for the effective use of auscultatory skills.

Even though nurses' views about the skill of auscultation differ, it is becoming increasingly evident that the stethoscope has found a place among the nurses' assessment tools. One needs only to glance in any coronary care unit, intensive care unit, recovery room, emergency room, or similar modern acute-care unit to confirm the truth of this observation. The question as to whether the nurse actually uses the stethoscope for auscultatory purposes or whether the nurse uses the stethoscope as a status-seeking device as well should be investigated. The purpose of this study, then, is to determine the value and the use that the nurse assigns to the stethoscope.

Statement of Problem

The problem of this study was to identify the social significance and the use that nurses assign to the stethoscope.

Purposes

The purposes of this study were:

1. To determine the social significance nurses assign to the stethoscope
2. To determine the purposes for which nurses use the stethoscope

3. To determine the relationship of age, sex, educational background, position held, and specialty area to the social significance that nurses place on the stethoscope

4. To determine the relationship of age, sex, educational background, position held, and specialty area to the nurses' use of the stethoscope

Background and Significance

Nursing has changed and is, today, far removed from nursing of the past, which was concerned primarily with the physical comfort of the sick and disabled. One needs only to look back through medical and nursing history to see these progressive changes. Science and technology have given the health care field a multiplicity of tools, instruments, and automated machinery with which to practice. In spite of the fact that modern medicine has evolved valuable and sophisticated diagnostic aids, Hatcher (1973) sees the two earliest and simplest aids--the stethoscope and the thermometer--essential to general clinical use. Both are as valuable now as when they were first used in the 1800's.

Like most discoveries, neither of these instruments evolved to the present form by the efforts of one single person, but rather, by contributions of several individuals

over a period of time. In the case of the stethoscope, Laennec, in 1816, made the first stride in auscultation (Bedford 1972). Laennec, in examining a young woman with cardiac symptoms and recalling that scratching at one end of a wooden plank was audible at the other end, rolled up a cylinder of paper to listen to the chest (Bedford 1972). To Laennec's surprise, he could hear the heart sounds much more clearly. Prior to this time, the practice had been to place the ear next to the chest in order to hear the sounds of the heart.

During the twentieth century many changes and modifications have been made in the stethoscope. Advances in the manufacturing of steel and of plastics have definitely influenced the selection of materials used to construct the stethoscope. Littmann (1961) maintains that no effort should be made to minimize cost or construction, because the stethoscope is considered the most valuable instrument in the physician's armamentarium. In 1972, Littman viewed the stethoscope "as much a part of the nurse's armamentarium as the doctor's" (p. 1239). Thus, an instrument, which is sometimes known as the "doctor's badge," became a tool for the nurse in evaluating changes in the patient's condition.

In the literature, more and more emphasis is being placed upon the listening (auscultation) skills of the nurse. Lambertsen (1974) maintains that nursing has progressed beyond the use of the human eye, ear, and hand for inferring changes in a patient's status. Skills in the techniques of physical and psychosocial assessment are necessary to evaluate the health or illness status of individuals. Nurses must employ a variety of instruments and technologies to extend their capacity for clinical judgment (Lambertsen 1974, p. 399).

In the past nurses have taken over tasks from the physician in a discrete manner, usually one at a time. When the clinical thermometer was first developed, only physicians used it to measure temperature; now all levels of nursing personnel are entrusted with this job (Bullough and Bullough 1969). Today nurses are entrusted with taking blood pressures, starting intravenous infusions, and doing vaginal examination of women in labor. With the advent of coronary care and intensive care units, nurses are expected to be alert to medical emergencies and to be resourceful in intervening with life-saving measures. Only a few years ago, administering intravenous medications and defibrillation would have been defined as medical in

nature, but these actions are now regarded as part of nursing function (Bullough and Bullough 1969).

Lambertsen (1974) contends that nurses using the stethoscope to take a blood pressure or to listen to the heart beat, is not deemed the practice of medicine. However, nurses placing the stethoscope on the chest to detect changes from a normal condition of the lungs or heart is considered a medical art. Basically, the capacity for listening (auscultation) is extended through the use of the stethoscope, and the purpose is to gain competence in the detection of normal heart sounds and deviations from the normal (Lambertsen 1974).

Auscultation, Slessor (1973) says, is not a mysterious technique to be carried out by nurses in specialty care areas or by physicians in making rounds. The nurse is a member of the health team having the greatest opportunity to make serial examinations and detect change. Auscultation is a method of clinical assessment that provides the nurse with invaluable information about the patient's status. The ability to differentiate sounds, Willacher (1973) says, comes with experience and is an aid, along with other assessment factors, in evaluating the patient and in contributing to his care.

Many authors (Willacher 1973, Slessor 1973, Lehmann 1972, Traver 1973) support the premise that auscultation is a skill that can and should be mastered by all nurses who work in a clinical area. Slessor (1973) and Traver (1973) view auscultation invaluable in assessing the respiratory status of the patient. Lehmann (1973) finds skills in cardiac auscultation necessary for detecting changes in cardiac sounds so that intervention can be initiated early. Willacher (1973) contends that listening to bowel sounds and differentiating these sounds yields important information about the patient's gastrointestinal status.

Auscultation is a skill which can be learned. It involves understanding the sounds produced by different body cavities and knowing the sounds which are normal and the sounds which are abnormal. Prerequisites to developing a skill in auscultation require the experience and practice in listening to normal body sounds and obtaining validation of findings.

The stethoscope is not a new tool to nurses. In McCrae's (1923) Procedures in Nursing, the stethoscope is described as a part of the necessary equipment for taking a blood pressure, as well as for taking the apex beat of the heart. Today the stethoscope's uses continue to be

described in this manner in basic nursing textbooks. The newer editions of general medical-surgical textbooks are beginning to include physical assessment of each system. These physical assessment skills include auscultation with the stethoscope. Many textbooks about physical assessment are on the market today. Bates' (1974) A Guide to Physical Examination is one source for beginning practitioners of physical diagnosis, including nurses whose scope of responsibility now includes this technical practice.

Many nurses carry stethoscopes with them, but whether they use them for auscultatory purposes is another question. The stethoscope may be seen as a symbol of their roles or positions within the hierarchy of health practitioners. Duncan (1968) believes that health practitioners have all kinds of symbols which signify authority. He cites the white coat of the physician as a symbol of authority. For many years, the white uniform has also been a symbol of the role of the nurse (Bernard and Thompson 1970).

The concept of status goes along with that of role. Some roles have more prerogatives than others, more rights, and a higher status. Status refers to the relative relationship among roles and to the relative position of

the role in the whole system (Bernard and Thompson 1970). Some roles have higher status than others. The role of the supervisor has more status than that of the head nurse, the head nurse more than the staff nurse, and so forth.

Status, then, is the worth of a person as estimated by a group or class of persons (Secord 1964). The estimate of worth is perceived to contribute to the shared values of the group. Persons maintain their status quo by supporting values relevant to their status. Therefore, persons are allowed and encouraged to behave in a manner appropriate to their status structure.

Bengtson and Lovejoy (1973) state that values are socially defined; they arise from and are reinforced by configurations of the social system. Some values are broad, and thereby, shared by most members of society. Others are more specific and are created through interaction with significant others in ongoing social contexts (Bengtson and Lovejoy 1973).

Values, as conceptions of the desirable, can be seen as the product of three levels of social input: (1) location with a culture, (2) location with the society, and (3) location within occupational groupings (Bengtson and Lovejoy 1973).

Bengtson and Lovejoy (1973) also suggest that values can serve as standards by which an individual judges the appropriateness of his behavior. Therefore, the individual can measure his actions against these standards and either increase or decrease his self-esteem. Thus, these authors feel that social location influences values, and values in turn influence psychological states or behavior.

From the foregoing discussion, one can see that the literature supports the universal use of the stethoscope as a diagnostic tool as well as an increasingly valuable assessment tool for the nurse. The literature also alluded to the fact that health practitioners do have certain status symbols. With these basic ideas, the scope of the study becomes evident.

Hypotheses

In this study, the following hypotheses were tested:

1. Nurses will not associate social significance to the stethoscope
2. There will be no relationship between (a) age, (b) sex, (c) educational background, (d) position held, and (e) specialty area and the social significance nurses place in the stethoscope

3. There will be no relationship between (a) age, (b) sex, (c) educational background, (d) position held, and (e) specialty area and nurses' use of the stethoscope.

Definitions

For the purpose of this study the following definitions were utilized:

Social significance--a learned preference an individual has for an object which is conceived as desirable and which orients one toward action.

Use--the service to which one puts an object.

Nurse--a person licensed as a registered nurse to give professional nursing care in the state of Kansas.

Stethoscope--an instrument used to convey to the ear the sounds produced in the body.

Nursing care--provision of services which are directed toward assisting the patient in meeting his health needs so that he can function in as satisfying a manner as possible.

Nursing assessment--the sum total of conclusions reached by a nurse after estimating the merit or value of something, relative to a standard, concerning a patient's health-illness status.

Limitations

For the purposes of this study, the following limitations were identified:

1. Factors other than age, sex, educational background, position held, and specialty area may influence the social significance nurses place in the stethoscope
2. Factors other than age, sex, educational background, position held, and specialty area may influence nurses' use of the stethoscope.

Delimitations

The following delimitations were identified in this study:

1. Nurses will be employed in nursing on a full-time or part-time basis
2. Only nurses in the state of Kansas will be included in the research
3. Nurses employed in psychiatric clinical areas will not be included in the study
4. Nurses will be employed in hospitals with a bed capacity of 50 to 250
5. Nurses will be employed in hospitals with at least one acute care area such as an intensive care unit

Assumptions

This study was based on the following assumptions:

1. The stethoscope is a diagnostic tool for the medical and nursing profession
2. Assessment is a nursing function
3. Caring for patients is a nursing function which contributes to the health care delivery system
4. Value systems of individuals differ

Summary

This chapter has included a discussion of the problem and purposes of the research study, and provided supportive background information of the problem. Included in the chapter was the statement of the hypotheses, definition of terms, limitations, delimitations, and assumptions for the research study.

Chapter II, Review of Literature, discusses the development of the stethoscope, its use in physical diagnosis, and the ways it is utilized by nurses. Chapter III, Procedure for Collection and Treatment of Data, explains the method of data collection and the treatment of this data to meet the purposes of this study. Chapter IV, Analysis of Data, describes the statistical analysis of the data obtained. Chapter V, Summary, Conclusions,

Implications, and Recommendations, discusses the results of the study and makes appropriate application of them.

CHAPTER II

REVIEW OF LITERATURE

This research study was conducted for the purpose of determining the nurses' use and the social significance assigned to the stethoscope. This chapter, Review of Literature, presents the historical development of the stethoscope, the expanded role of the nurse as it relates to expanded skills, and symbolic interactionism as it relates to characteristic symbols of the nursing profession.

History of the Stethoscope

Nearly a century and a half has elapsed since Laennec introduced the stethoscope. In its earliest developmental stage it was a paper rolled into a cylinder for the purpose of listening to the heart of a young lady. Today the stethoscope remains the most expedient means of conducting sounds from the chest wall to the ear. It is the most used instrument in the physician's armamentarium and has indeed become a characteristic symbol of medicine.

The stethoscope did not reach its position as a diagnostic instrument without difficulty. In the stethoscope's embryonic stage of development. Laennec

had to overcome the resistance and prejudice of his contemporaries. Laennec's treatise published in 1819, De l' Auscultation Mediate on Traite' du Diagnostic des Maladies des Poumona et du Coeur, met much opposition in France, but soon aroused interest abroad (Bedford 1972). Many physicians came to Paris to gain first-hand experience with the stethoscope. Bowditch's The Young Stethoscopist (1846) marked the acceptance of physical diagnosis in America. Thus, through the development of the stethoscope, the art of physical examination was revolutionized.

Auscultation, a method of investigation of the functions and conditions of the respiratory, circulatory, digestive, and other organs by the sounds they produce or that are elicited by percussion, is one of the most ancient modes of diagnosis (Rappaport and Sprague 1941, p. 259).

The fact that internal sounds have clinical significance was known to the early Greeks. Hippocrates, for instance, wrote of listening by applying the ear to chest (Rappaport and Sprague 1941). Harvey, too, described that with each movement of the heart, a portion of blood is transferred from the arteries to the veins so that a pulse is made which can be heard in the chest (Rappaport and Sprague 1941). From such writings, there is definite evidence that auscultation techniques were employed over twenty centuries ago.

The physical characteristics of the stethoscope have taken many forms in its evolution to the present-day instrument. Laennec's instrument was described as a

cylinder of box wood 1.5 inches in diameter, and 13 inches long, perforated longitudinally by a bore 0.75 inch wide and hollowed out into a funnel shape to the depth of 1.5 inches at one of its extremities (Barass, Eade, and Fitzgerald 1926, p. 116).

The lower extremity had a plug for listening to the heart and the sound of the voice. Laennec's stethoscope is shown in Appendix A.

In 1828, Piorry modified the Laennec stethoscope by reducing it to the thickness of a finger. He also constructed an earpiece which helped in obtaining a proper seal to the ear. Essentially, Piorry's instrument is the modern monaural stethoscope (Rappaport and Sprague 1941).

Piorry is referred to as the "Master of Percussion." In his work he expressed the belief that percussion was superior to auscultation since it directly revealed physical characteristics of the internal organs. Piorry, like Laennec, was concerned with the search for physical signs indicative of abnormalities in the diseased body. Therefore, Piorry utilized both percussion and auscultation techniques in discovering inner structure changes brought about by disease. Piorry's instrument, then was not only

a stethoscope, but also an instrument which provided a thin plate for percussing (Appendix B). Piorry's instrument was made of ivory (Risse 1971, pp. 484-485). Appendix C illustrates various modifications of the Laennec stethoscope, including the flexible monaural stethoscope.

The exact date of the first binaural stethoscope is unknown, but several people have been credited with its invention. Dr. C. J. B. Williams did describe a binaural stethoscope in 1843, and Dr. Arthur Leared demonstrated a binaural stethoscope in 1851. It was not until 1855 when Dr. George P. Cammann developed the first binaural stethoscope with flexible tubes that the precursor of the present binaural stethoscope appeared (see Appendix D). These first stethoscopes had a bell-shaped chest-piece. Bianchi, in 1894, and Bazzi, in 1895, devised the first chest-piece with a rigid diaphragm. The chest-piece, which is presently used in this country, is one patented by Dr. R. C. M. Bowles in 1901 (Rappaport and Sprague 1941, p. 261).

Many modifications of the stethoscope have occurred since these early inventions. In its evolution to the present-day instrument, the stethoscope's chest-piece has taken many different shapes. For some, the chest-piece

was a solitary diaphragm fitted with a soft material or with no material at all. Other stethoscopes carried only the bell-type chest-piece. The modern stethoscope has a combination chest-piece using the Sprague bell and the Bowles diaphragm "attached to various arrays of tubing and ear-pieces" (Dawson 1964, p. 316) (see Appendix E).

Efforts were made by some physicians to develop a stethoscope with greater efficiency. Such inventions included the electric stethoscope, which filters unwanted high or low frequencies; the microphonic stethoscope, which demonstrates fetal heart tones; and the magnetic stethoscope, which magnifies the sounds heard. Even though these above-mentioned stethoscopes have found their place in physical diagnosis, most physicians continue to utilize the standard binaural stethoscope for bedside examination.

The stethoscope is but one part of the acoustic system for auscultation. The acoustic system consists of (1) a source producing vibrations within the body which are transmitted through tissues to the wall of the chest or other body part, (2) a stethoscope receiving vibrations at the surface of the skin and transmitting them to the ear, and (3) the ear itself, which permits one to hear vibrations as sounds (Kline and Johnston 1940, p. 328).

The human ear has an auditory frequency range of 20 to 20,000 cycles per second (C.P.S.) The significant auscultatory frequency range extends from the lower limit of human hearing, about 20 C.P.S. to 1000 C.P.S. Common sounds found in auscultation are cardiac sounds, respiratory sounds, and fetal heart sounds. Other complex sounds generated by the circulatory, respiratory, and digestive systems fall into a frequency range of 50 to 1000 C.P.S. and include (1) pleural rub, (2) bowel sounds, (3) Korotkov sounds produced during estimation of the blood pressure, (4) bruits heard over occluded arteries and/or aneurysms, and (5) uterine souffle (Dawson 1964, p. 315).

Because the stethoscope is the medium for transmitting the sound produced by the body to the observer's ear, the aim is to select a stethoscope with appropriate physical properties which transmits the maximum acoustic energy generated at the patient's skin surface. Dawson described three principles to meet this aim:

- (1) the loudness of the desired sounds varies inversely with the volume of the medium (air) through which conduction takes place
- (2) the transference of sound energy depends upon the elasticity, viscosity, and density through which it is traveling
- (3) the stethoscope must be capable of transferring all of the sounds from the surface of the

emancipated or obese, normal or barrel-chested, male or female, young or old, so that the quality, intensity, and frequency are familiar to the observer (1964, p. 317).

These principles determine the design of the chest-piece, but consideration of the rest of the system by the designer is necessary to avoid distortion and loss of acoustic energy.

Medical literature demonstrates studies of the efficiency of the stethoscope (Barss, Eade, and Fitzgerald 1926; Rappaport and Sprague 1941; Leatham 1958; Littman 1961; Groom 1964). The majority of these studies are concerned with the acoustics of the chest-piece, as well as with the diameter and length of the tubing. Even though the design of stethoscopes indicates a diversity of opinion on what is best, the aim of design is to avoid loss or distortion of all audible physiologic phenomena delivered to the ear. Most present-day stethoscopes have the open bell chest-piece for hearing low-frequency sounds and the closed diaphragm chest-piece for hearing high-frequency sounds.

Low-frequency sounds are best transmitted with a bell chest-piece which does not exceed a diameter of 1 inch (Littmann 1972). The bell chest-piece is cone or funnel shaped. Kline and Johnston (1940) in their study concluded that the bell with a shallow chamber was

superior to other bell-type chest-pieces and that a rubber nipple over the end of the bell increased its performance. Littmann (1972), on the other hand, states that the depth of the bell has nothing to do with its acoustic properties. However, if the bell is too shallow, the underlying skin may fill and obstruct the central opening and suppress all sound.

The rigid diaphragm, or closed chest-piece, is invaluable in eliminating low-frequency sounds and concentrating on high-frequency sounds. Normally, the diameter of the diaphragm chest-piece is at least one and one-half inches. The diaphragm is usually covered with a low-density stiff plastic for best acoustic results.

Consideration should also be given to the material from which the chest-piece is made. Desirable qualities are durability, rigidity, and poor heat conduction to prevent chilling of the patient's skin. In addition, the changeover valve from bell to diaphragm must be strong and free from leaks.

In theory, the shorter the tubing on the stethoscope, the more efficient the sound conduction (Leatham 1958). A desirable length, then, is 20 inches from the yoke to the chest-piece. Some stethoscopes have two tubes from the chest-piece to the ear-pieces. This is based on the

assumption that two tubes transmit sounds better than one. However, two tubes are bulkier than one, provide a larger area for the absorption of room noises, and allow for generation of extraneous sounds by the rubbing of the tubes against each other. Comparative tests of the double-tube model and the one-tube model show little or no difference in efficiency (Groom 1964, p. 224). Therefore, choice of the one-tube or two-tube model is entirely up to the practitioner.

The internal bore of the tubing should not be less than one-eighth inch, because diameters less than this cause excessive frictional resistance of air movement through the tubing. Therefore, high-frequency sounds can be accentuated. Thick, heavy tubing conducts better than thin-walled tubing. Plastic tubings with a smooth, polished lumen obtain the best acoustic results (Groom 1964).

The ear-pieces are the last, but not unimportant matter to consider in the design of the stethoscope. The best possible chest-piece becomes unsatisfactory when joined to an uncomfortable headset and poorly fitting ear-pieces. Conversely, a relatively poor chest-piece can be measurably improved by a good earfit (Groom and Chapman 1959). The purpose of the ear-pieces is to occlude the ear

canals and prevent intrusion of room noise. This occlusion does not mean invasion of the external auditory canal. Correct positioning of the ear-pieces is at an incline anteriorly in order to conform to the direction of the normal ear canals. Ear tips are made of soft, pliable plastic and may be purchased in different sizes to achieve a perfect occlusion of the ear canal.

Research into the efficiency of the stethoscope has produced an acoustically-sound instrument, but its sensitivity lies in the human ear "and of course that most important link in the chain, that perpetual link between the two ear-pieces" (Groom 1964, p. 220). This link provides the key to correct interpretation of sounds. In general, the practitioner needs to be acquainted with the kind of sound listened for and to be able to differentiate and interpret properly what is heard. In the perception of auscultatory sounds, training and experience are more essential than a perfect stethoscope.

Expanding the Role of the Nurse

What is meant by the expanded role of the nurse? Probably no other topic has so captured the attention of nurses during the past decade than the discussion of the functions of the nurse in the expanded role. One look at professional nursing literature finds many responses to

this question. Responses vary from full support of the concept of expanding the role of the nurse to complete negativism and belief that the nurse is taking over functions of the physician. The former concept, expanded role, encompasses a variety of roles in which the nurse broadens the scope and depth of knowledge and practice in order to provide better health care to larger numbers of people (Awtrey 1974). Titles given to these expanded roles are clinical nurse specialist, nurse clinician, nurse practitioner, primary care practitioner and so forth. The latter concept about the nurse taking over functions of the physician may be defined as extended role. This role chiefly consists of acquisition and performance of additional skills usually considered in the realm of medicine (Murphy 1970). A common title for this role is physician's assistant.

Whether the new role of the nurse is expanded or extended has been and probably will continue to be a source of discussion among nurses. Proponents of the expanded role of the nurse do not see the role as a "doctor stretcher," but rather a nursing role complementary to that of the physician (Mauksch 1975, Wong 1975, Autrey 1974, Kinsella 1973). Rogers (1975), however, deplores the position to which nurses have succumbed and describes it as

blatant perfidy spawned by such terms as pediatric associate, nurse practitioner . . . and other equally weird and wonderful coverups designed to provide, succor and profit for the nation's shamans (1975, p. 1839).

Because the expanded role carries many titles in the discussion to follow, the title, clinical nurse specialist, will be utilized. The advent of the expanded role of the nurse is attributed to Frances Reiter (1966), who in the early 1950's coined the phrase "nurse clinician" to describe a nurse who is involved in direct observation of the patient. She believed there was a need for a master practitioner "who consistently demonstrates a high degree of judgment and an advanced level of competence in the performance of nursing care in a clinical area of specialization . . ." (Reiter 1973, p. 16).

This concept of the "nurse clinician" evolved from a deep concern for patients and for the quality of care given them. About two decades ago, the American public became dissatisfied with health care and nurses became dissatisfied with nursing. The real concern for nurses was "really practicing nursing." Upward mobility to supervisory positions and performing technical skills moved the nurse further from the bedside. Over and over, nurses heard the forecast that society would mandate new

health workers to replace them, unless methods of care were improved.

Nuchalls (1974) contends that nursing has been important and significant, in terms of physical care, from its inception as a profession. However, when antibiotics became available in the 1940's and when medical technology expanded, nursing care seemed to become less important. Treatment could be given by a "pill" rather than by the "laying-on-of-hands" and direct patient care. Also in the 1940's, managerial tasks became the object of nursing function (Mauksch 1975).

The emergency of the expanded role of the nurse cannot be completely attributed to societal demands alone, however. Societal changes have also contributed to this emergence, namely women's liberation, assertiveness, and humanness. In the past nurses had low expectations for gaining prestige or economic rewards. Therefore, the role of the nurse was one of dependency and servitude to masters, especially physicians and employers (Mauksch 1975, 1838).

With the advent of women's liberation and the acquisition of assertiveness, nurses began to realize the worth of their work. They also recognized that they had been serving the wrong masters. The expanded role of the nurse, then, exemplified these changes, as she began to

incorporate them into her behavior, her practice, and her relationship to other health professionals (Mauksch 1975).

Because of the societal demands and changes, and because of rapid advancement in biomedical technology, several groups were commissioned to study nursing. Two of these studies are noteworthy. In the National Commission on Nursing and Nursing Education report, three discernible trends in nursing practice emerged:

diversification of the levels of nursing practice, increased development of clinical nursing specialization; and restructuring of the traditional relationships between nursing and medicine (Lysaught 1970, p. 73).

All of these trends were felt to have a profound effect on the scope of nursing practice. In Abstract for Action (1970), Lysaught reported a need for the master clinician or specialist in nursing to practice skills in direct care of patients.

Likewise, in the report to the Secretary of the Department of Health, Education, and Welfare (1972), a need for the nurse to extend her scope of practice was seen as a correlate of extending the availability of health care services to the public. In short, the committee envisioned the necessity for nurses' knowledge and skill broadening to meet the increasing demands for health care services.

The committee also divided the functions of nursing practice into primary, acute, and long-term care. They identified those functions for which nurses generally have responsibility, those functions for which physicians and nurses share responsibility, and those for which many nurses are now prepared and others could be prepared. In viewing these functions of nursing practice in the latter area, strikingly enough, assessment skills are identified in each type of care, whether primary, acute, or long term. Some of the functions identified for which nurses are now prepared and for which others could be prepared are:

- (1) eliciting and recording a health history
- (2) making physical and psychosocial assessments, recognizing the range of normal and the manifestations of common abnormalities
- (3) making diagnosis, choosing, initiating, and modifying selected therapies
- (4) initiating actions within a protocol developed by medical and nursing personnel, such as making adjustments in medication, ordering and interpreting certain laboratory tests, and ordering and interpreting certain rehabilitative and restorative measures (Report to Secretary, Department of Health, Education, and Welfare 1972, pp. 12-34).

Implicit in assuming such functions, then, are the learning and the expanding of new observational skills. In programs which were developed to teach the expanded role of the nurse, learning the essentials of physical assessment was identified as an essential part of the expanded role. Learning physical assessment of the patient was not new to

nurses, but the means by which expanded assessment skills would be learned was new. This was through the use of stethoscopes, otoscopes, and other instruments traditionally assigned to the physician. Nurses developed skepticism in using these instruments for physical assessment just as nurses did when they began to take temperatures and blood pressures (skills which had previously been considered those of the physician) (Brown and Alexander 1974).

Today an abundance of nursing literature can be found substantiating the value of inclusion of physical assessment skills in basic nursing programs as well as in graduate nursing programs (Awtrey 1974; Wong 1975; McGiven 1974; Malkemes 1974; McVey, Riehl and Chen 1973). Support for learning and practicing physical assessment skills in an effort to deliver better patient care is also evidenced in the nursing literature (Lehmann 1972; Willacher 1973; Traver 1973; Slessor 1973; Brown and Alexander 1974).

Whether nurses could substantiate safely for physicians in doing routine physical examinations was a consideration under study by the Regional Medical Program in Hawaii. In the study four registered nurses and seven physicians were evaluated on their physical assessment skills by examining over one thousand apparently well individuals. Findings revealed that there were no

discrepancies between physician and nurse findings in 80.6 percent of the observations. In 5 percent, physicians found a sign or symptom not found by nurses. In 14.4 percent, nurses found signs of symptoms that physicians did not. The study also revealed that nurses tended to record abnormalities more completely than did physicians (Hospital Practice 1971, p. 46). Results of this study give supporting evidence that nurses can perform physical assessment.

Even though the clinical nurse specialist may practice in any setting, hospital, clinic, university, or independent office, learning physical assessment skills is of utmost importance. M. Lucille Kinlein (1972) and Ingeborg G. Mauksch (1974) expressed this concept again and again, in the development of their respective roles as independent practitioner and primary care practitioner in a physician's office setting.

Many roles have been described as a part of the armamentarium of the clinical nurse specialist. They include practitioner, counselor, coordinator, consultant, researcher, change agent, and teacher. Differences in expectation of role fulfillment by both the clinical nurse specialist and the agency are apparent as one reads the literature. For instance, some articles stress the

importance of the coordinator role (Beal and Skamoto 1973), while others stress the practitioner (Nolan 1975), or teacher role (Bevin 1973). The roles and functions of the clinical nurse specialist are varied and seem to reflect the environment in which she practices, the nature of the problems of the patients, and the educational preparation of the practitioner.

The expert clinical nurse specialist, like the general nurse practitioner, uses three main steps in her work--observation, interpretation, and intervention. The difference is that the expert has a much greater depth of knowledge to explain what is observed and then to decide interventions (Peplau 1973). Because the expert has increased knowledge and skill, she must achieve autonomy and accountability. Autonomy stems from the kinds of preparation and practice responsibilities the clinical nurse specialists assume.

Specialists are decision-makers. Making decisions about levels of wellness or illness, identifying patient problems, and assuming responsibility for their outcome are serious undertakings which require a high degree of integrity and assertiveness, and thus, autonomy (Ford 1975).

Accountability to the patient, involves a commitment to quality nursing and health care. Because the clinical nurse specialist has assumed independence in making assessments and taking action, she must be held accountable. In the commitment to quality care, a maximum level of competency must be maintained, thereby initiating and sustaining new roles and relationships.

In summary, the era of the clinical nurse specialist has brought a new "role" to the profession of nursing. With this role, new and expanded skills and a greater depth of knowledge have broadened the nurse's scope of practice. As has occurred with the thermometer and sphygmotonometer, the stethoscope and otoscope will become a part of the nurse's tools for increasing observational skills and delivering more comprehensive health care.

Symbolism

One only has to look at nurses as a group to identify many items which are symbolic or characteristic of the group. Probably the most identifiable characteristic is the white uniform or "lab" coat. The white uniform serves as a group emblem and embodies the attitudes of the group. Because the white uniform provides a symbol of the group, the public develops and demonstrates specific attitudes toward the person who wears the symbols.

The uniform, then, is a symbolic indication "that an individual will adhere to group norms and standardized roles and has mastered the essential group skills and values" (Nathan and Nicholas 1972, p. 723). In order for the uniform to become a certificate of legitimacy for its representatives, the public must learn to recognize it as an indicator of special status. Legitimacy and recognition shape interaction by providing immediate recognition of the uniformed status, by making a uniformed status a key status, and by compelling the viewer to become peers or outsiders (Nathan and Nicholas 1972).

The nurse's cap is another part of the nurse's dress which serves as a symbol--a symbol of authority and dedication. In fact, for years the cap has been used as a symbol of admission to the nursing profession. At its inception, the nurse's cap was intended to cover the hair, thereby providing a utilitarian function. Eventually, the cap signified a nurse's identity and status and perpetuated a certain mystique about the personality of the nurse (Kilby-Kelberg 1974).

Today, caps and white uniforms are worn by many hospital, clinic, and dental workers, as well as by many non-medical workers, such as waitresses and maids. Therefore, it becomes much more difficult for the observer

to find the nurse among the "capped" employees in health care settings.

Studies to evaluate the nurse's perception of her performance with a cap and/or uniform (Leff et al. 1970, Kilby-Kelberg 1974) revealed that many nurses feel more comfortable in their role when separated from the patients by a uniform. Others feel they are stereotyped as authoritarian, aloof, and aseptic. Even so, some nurses think that the patient feels better when he sees the nurse in a white uniform and cap.

A study among psychiatric patients at the Veteran's Administration Hospital in Jefferson Barracks, Missouri, revealed that a nurse in uniform is seen more as a "benevolent autocrat, more dominant, and more nurturant" than she is seen in regular clothing (Leff et al. 1970, p. 73). These researchers suggested careful planning prior to a change in nursing personnel dress, since nurses, when deprived of its traditional authority symbols, also react to the altered interaction.

Many more symbols are identified as characteristic of the nurse--nurse's pen, bandage scissors, R.N. on a name pin, and so forth. Each of these symbols has a meaning for the group and provides a means for a response from others. With the above discussion of characteristic symbols of

the nursing profession, a brief presentation of symbolic interaction theory will be presented.

The term "symbolic interactionism" has come into use as a "label for a relatively distinctive approach to the study of human group life and human conduct" (Blumer 1969, p. 1). Therefore, the conduct of the individual is explained in terms of the organized behavior of a social group rather than accounting for the organized behavior of the social group in terms of the conduct of separate individuals belonging to it (Mead 1967, p. 121). This type of social psychology differs from existing psychological theory. Social psychology is grounded on assumptions about man's distinctive characteristics and on research dealing with man himself, whereas general psychology is grounded on assumptions about vertebrate behavior and on research on animals other than man (Rose 1974).

Symbolic interactionism rests on three premises:

- (1) Human beings act toward things on the basis of the meanings that the things have for them
- (2) The meaning of such things is derived from or arises out of the social interaction that one has with one's fellows
- (3) These meanings are handled in, and modified through an interpretation process used by the person in dealing with the things he encounters (Blumer 1969, p. 2).

Things, as defined by Blumer (1969), include physical objects, human beings, institutions, ideals, and situations

which an individual encounters in daily life. Mead, on the other hand, views "things" as physical stimuli, and believes that things are converted to "objects" through acts. For instance, a tomato is a thing and does not become an object (nutrition) until completion of an act (eaten). Rose (1974) agrees with Blumer's first premise, but he defines man's environment as symbolic and physical. Therefore, man acts by symbols and physical stimuli. A symbol is defined as a

Stimulus that has a learned meaning and value for people and man's response to a symbol is in terms of its meaning and value rather than in terms of its physical stimulation for the sense organs (Rose 1974, p. 35).

For instance, "water" is not merely a collection of visual or tactile stimuli; it means quenching one's thirst, showering after a hard day's work, or taking a refreshing swim.

Practically all of the symbols that man knows are learned through interactions with other people. Therefore, most symbols have common or shared values and meanings. Man is distinctive in that he has the vocal capacity for expressing symbols and a central nervous system for collecting and remembering millions of symbols. Not all symbols, though, are words or combinations of words.

Symbols can also be transmitted through sight such as gestures, objects, and motions.

In his analysis of social interaction, Mead (1967) identified two forms--non-symbolic and symbolic interaction. In non-symbolic interaction, persons respond directly to one another's gestures or actions; in symbolic interaction they interpret each other's gestures and act on the basis of the meaning yielded by the interpretation (Blumer 1969). Therefore, symbolic interactionism views meaning as arising from the process of interaction between people. The meaning of a thing grows out of the ways in which other persons act toward the person regarding the thing. Their actions operate to define the thing for the person (Blumer 1969). These meanings, then, are handled in an interpretative process by the person. In this process, the person must indicate to himself those things that have meaning. The person then selected and transforms meanings as instruments for the formation of action.

Besides interpretation, symbolic interactionism involves definition, or conveying indications to another person as to the way he is to act. Thus, in a human interaction, the participants have to build respective lines of conduct by constant interpretation of each other's on-going lines of action. In this dual process of

interpretation and definition, group patterns are established. Established group patterns persist through continued use of interpretations and redefining of acts to others.

Symbolic interactionism in the most basic terms is communication. As revealed by social psychologists, communication is established through a language of symbols, which can be words, gestures, motions, and objects. Most significant in this communication are the values and meanings that symbols have for the individual. It is through these meanings that role-identities are established. In a given situation, then, one can both appraise the value and meanings of his environment and identify his role. An individual in any one day can assume many roles--nurse, mother, wife, and so on.

Meaning and value of symbols can also be related to structure. Rose (1974) describes structure as groups which are temporary and small, such as committees, and as groups which are permanent and large, such as states. Thus, a group possesses specific symbols of identity to which the participants of the group adhere and by which others classify it as a group role.

Role and structure carry different status. Some are higher than others. For instance, the status of the

nurse aid is viewed less than that of the registered nurse. Many factors contribute to this view, most of which are based upon meanings and values of symbols. These symbols include educational level (skill training, college degree); language common to the group (curriculum, intensive care, diagnosis); objects (stethoscope, calculator, typewriter); and so forth (Rose 1974).

In summary, then, individuals and groups possess identities which are symbolic and characteristic of the value and meaning of things which govern their respective conduct.

Summary

The literature documents the development of the stethoscope as an acoustically-sound diagnostic instrument. An efficient instrument is but one part of the diagnostic process. With the stethoscope the practitioner must have training and experience in auscultation so that correct interpretation of sounds can be made.

Nursing literature provides supportive data about the expanding skills of the nurse. These skills are identified with the expanded role of the nurse. Because the "expanded role" demands a greater depth of knowledge and expertise in technical skills, tools such as the stethoscope are becoming a part of the nurse's

armamentarium for increasing observational skills and for delivering comprehensive health care.

Symbolic interaction theory explains that individuals and groups possess identities which are symbolic and characteristic of the value and meaning of things which govern their respective conduct. The literature provides information about symbols that are characteristic of the nursing profession--the white uniform and the cap. Thus, nurses and the public relate to these symbols and expect certain conduct from the nursing profession.

CHAPTER III

PROCEDURE FOR COLLECTION AND TREATMENT OF DATA

This research project was a non-experimental study conducted for the purpose of determining the nurses' use of and the social significance assigned to the stethoscope. This chapter, Procedure for Collection and Treatment of Data, discusses the setting and population of the study and the methods used in collecting and analyzing data.

Setting

The settings for this study were homes throughout the state of Kansas where nurses received their mail.

Population

The target population of this study was composed of registered nurses employed in nursing on a full-time or a part-time basis in the state of Kansas. The target population was derived from hospitals within the state of Kansas.

The sample was composed of 150 nurses who met the predetermined criteria: (1) nurses will be employed in nursing on a full-time or part-time basis, (2) nurses currently registered in the state of Kansas will be

included in the research, (3) nurses employed in psychiatric clinical areas will not be included in the study, (4) nurses will be employed in hospitals with a bed capacity of 50 to 150, and (5) nurses will be employed in hospitals with at least one acute care area such as an intensive care unit.

Selection of the Population

Names and locations of five hospitals in the state of Kansas were extrapolated from the 1973 listings of Kansas hospitals which was compiled by the Kansas Hospital Association. The hospitals were identified as having 50 to 250 beds. The listings did not indicate whether the hospitals had an acute care unit or not. A telephone interview with the Director of Nursing Service of each of the five hospitals identified the hospital as having an acute care unit.

A letter was mailed to the Director of Nursing Service at each of the five hospitals (see Appendix J). The purposes of the study were explained, and a request was made for the names and addresses of nurses involved in nursing on a part-time or full-time basis. This information was requested so that the questionnaire could be mailed to the homes of the nurses. Each director was assured that no further use of the names and addresses would be made.

Each Director of Nursing Service of the five hospitals responded by sending the names and addresses of nurses employed on a part-time or full-time basis in their hospital.

Development of the Tool

Since there was no tool available to measure the nurses' use of and the social significance assigned to the stethoscope, a questionnaire was developed. The questionnaire is a series of printed questions given to a respondent to answer (Fox 1971). Advantages of the questionnaire include:

1. Questionnaires are a relatively simple method of obtaining data (Sellitiz et al. 1959)
2. "Less time is consumed in using this method of gathering information" (Treece and Treece 1973, p. 107)
3. "The researcher is able to gather data from a widely scattered sample" (Treece and Treece 1973, p. 107)
4. The respondent has greater confidence in anonymity and, therefore, may feel freer to express views about the topic under study (Sellitiz 1959)

Disadvantages of the questionnaire include:

1. Responses lack depth
2. The respondent may omit or disregard any item he chooses

3. Some items may force the subject to select responses that are not his actual choice
4. Printing can be costly
5. Not all members of the anticipated sample will comply with the request to participate
6. The sample is limited to those who are literate (Treece and Treece 1973).

The content of the questionnaire came from a review of the literature, from informal interviews with registered nurses, and from a panel of experts in the fields of medical-surgical nursing, particularly cardiovascular nursing, and psychiatric nursing.

The panel of experts assisted with the development of the questionnaire for the purpose of establishing validity. The validity of a tool is the extent to which the tool measures what it is intended to measure. One type of validity is content validity. Content validity implies the use of some expertise to define a universe of interest, the careful drawing of a representative sample of ideas from the universe, and the preparation of questionnaire items that match these ideas. Content validity can be assumed because the questionnaire items were drawn from a survey of the literature pertinent to the subject under study and because of a panel of experts was used to review the questionnaire items (Treece and Treece 1973).

In the literature it was found that the stethoscope is principally used by nurses for blood pressures, apical pulses, and auscultation of the lungs, heart, and bowel sounds. These uses were described by these respective authors: McCrae (1923), Traver (1973), Lehmann (1972), and Willacher (1973). Littman described characteristics of a good stethoscope as having:

1. Tubing which is thick and heavy
2. Tubing about 20 inches from yoke to chest-piece
3. Closed diaphragm chest-piece
4. Hard plastic earpieces which fit snugly but gently into the ears (1972, p. 1293).

As discussed in Chapter I, physical assessment skills are becoming increasingly utilized by nurses in evaluation of patients' conditions. Auscultation skills are a part of physical assessment and should be learned by nurses (Lehmann 1972; Traver 1973; Willacher 1973).

Based on the above information, a questionnaire was developed. It was divided into three areas (see Appendix F). Part I consisted of demographic data to determine the variables of age, sex, educational background, position held, and specialty area. Abdellah (1965) described questions eliciting data on demographic variables, as factual in nature. Since these questions contain concrete, observable behavior, "it is possible to use such questions to measure the effects of the independent variable" (Abdellah 1965, p. 318).

Part II consisted of nine questions to determine for what purposes the nurse uses the stethoscope. Fixed alternatives or closed questions were used. This type of question is "one in which the responses of the subject are limited to stated alternatives" (Sellitiz 1959, p. 256). These alternatives can be simple "yes" or "no," or they may provide various degrees of approval or agreement, or they may consist of a series of replies of which the respondent picks one as being closest to his position. Fixed alternative questions have the advantages of (1) being simple to administer, (2) being quick and relatively inexpensive to analyze (3) ensuring that answers are given in a frame of reference that is relevant to the purpose of inquiry, and (4) making clear the meaning of the questions by stating alternative replies (Sellitiz 1959). Sellitiz (1959) describes the greatest drawback of the fixed alternative question as that of forcing the respondent to make an opinion about an issue for which the respondent has no opinion.

Part III consisted of eighteen Likert-scaled statements to measure nurses' attitudes regarding the use of and social significance assigned to the stethoscope. The Likert-scale is a qualitative, ordinal type of scale, and it places a responsibility on the rater to respond to

each statement by different degrees (Abdellah 1965). The choices on the Likert-scale were "strongly agree," "agree," "undecided," "disagree," and "strongly disagree," with score values ranging from 5 to 1. "Strongly agree" was assigned a value of 5, "agree" a value of 4, "undecided" a value of 3, "disagree" a value of 2, and "strongly disagree" a value of 1.

Question 19 on Part III consisted of one open-ended question to determine what social significance the nurse assigns to the stethoscope. The open-ended question is designed to permit a free response from the subject rather than one limited to stated alternatives. The distinguishing characteristic of the open-ended question is that it merely raises an issue but does not provide or suggest any structure for the respondent's reply (Sellitiz 1959).

The Pilot Study

Ten nurses were selected by systematic random sampling to participate in a pilot study. From a list of seventy nurses, every sixth nurse was chosen to participate in the pilot study. The pilot study is a small, preliminary investigation of the same general character as the major study. The purpose of the pilot study is two-fold:

- (1) to make improvements in the research project, and

(2) to detect problems that must be eradicated before the major study is attempted (Treece and Treece 1973).

The nurses for the pilot study were selected from a 150-bed, private hospital in a small city in southwestern Kansas. The nurses were employed in this hospital on a full-time or part-time basis and were currently registered in the state of Kansas.

The investigational phase of the pilot study was from November 7, 1975, to November 14, 1975. The questionnaire and accompanying letter of explanation were mailed to each participant (see Appendix F and G). A stamped, self-addressed envelope was enclosed for convenience in returning the questionnaire. Each participant was assured anonymity in the study and participation was voluntary.

Eight of the ten participants of the pilot study returned the questionnaire. Results of the pilot study are entered in Appendix H. The responses of the pilot study participants suggested changes in item 9 in Part I. The information obtained from the "date employed in the present position" was not consistent with the purposes of the study nor could it be statistically utilized in the final analysis of data. Therefore, this item was deleted from the final draft of the questionnaire.

Minor revisions were made in the wording of three items on the questionnaire. The instructions were made more specific in Part III (see Appendix I). Since the population of the study included nurses employed in the hospital in which the pilot study was conducted, the pilot study group was asked not to participate in the study again.

Method of Data Collection

After receiving the lists of names and addresses of nurses employed in the five Kansas hospitals, 150 nurses were randomly selected by choosing every third nurse on the list.

The investigational phase of the research study was January 19, 1976, to February 2, 1976. The questionnaire was mailed to each participant. A letter accompanying the questionnaire requested the nurse to complete the questionnaire and return it by February 2, 1976 (see Appendix K). A stamped, self-addressed envelope was enclosed for convenience in returning the questionnaire. Each participant was assured anonymity in the study and participation was voluntary.

Nurses in the sample were instructed to complete the personal data sheet in Part I and the statistical information about the stethoscope in Part II. In Part III

they were asked to respond to each item as it related to their use and social significance of the stethoscope.

Procedure for the Analysis of Data

Once the questionnaires were received, the responses were tabulated and evaluated. The data were then treated in various ways. Responses concerning demographic data were entered into tables for ease of presentation. Since the research was done on one variable, social significance, the Sign Test was used when analyzing the data for hypothesis one. The Sign Test is a nonparametric test from which inferences about a single set of observations can be based. Therefore, information about some particular aspect of the population can be ascertained (Gibbons 1971).

The chi-square test for independence was used to show relationships between the social significance in hypothesis two and the use in hypothesis three of the stethoscope and several other variables. These variables are sex, age, educational background, position held, and specialty area. The chi-square test of statistical independence determines

on the basis of empirical evidence, whether any apparent dependence between two variables can be attributed to chance alone or is due to some underlying cause or causes (Chao 1974, p. 213).

Therefore, the chi-square test for independence determines whether the classification of one variable is independent of the classification of another. The data were also entered into tables for ease of presentation.

Summary

In this chapter the settings of the research study were identified as homes throughout the state of Kansas where nurses received their mail. Selection of the sample was made from lists of nurses employed in five hospitals throughout the state of Kansas.

A questionnaire was developed from a review of the literature and assistance from three expert clinicians. A pilot study was conducted and items in the questionnaire were reformulated. Questionnaires were then sent to 150 nurses in the state of Kansas.

The method for the analysis of the data was then discussed. The statistical methods chosen were the Sign Test and the chi-square test.

CHAPTER IV

ANALYSIS AND TREATMENT OF DATA

A descriptive research study was conducted for the purposes of determining the use and social significance nurses assign to the stethoscope. A questionnaire, developed as a measuring device of the use and social significance of the stethoscope, was mailed to nurses in the state of Kansas who are currently employed in nursing. This chapter, Analysis and Treatment of Data, will present the analysis and interpretation of the data.

Presentation and Analysis of Data

Description of the Sample

The sample population was composed of nurses, both male and female, who are currently employed in nursing on a part-time or full-time basis. Tables 1 through 6 present a summary of the personal data about the sample population. Table 1 summarizes the age distribution of the population, and demonstrates that the greater percentage of the nurses in the sample were thirty-five years of age or less.

The sex distribution of the sample is summarized in table 2, which shows that 95 percent of the sample were female.

TABLE 1

AGE DISTRIBUTION OF THE SAMPLE

Age Groups	Number of Nurses	Percentage of Sample
Under 25 years	12	14
25 - 35 years	34	38
36 - 45 years	22	25
Over 45 years	20	23

N = 88.

TABLE 2

SEX DISTRIBUTION OF THE SAMPLE

Sex	Number of Nurses	Percentage of Sample
Male	4	5
Female	85	95

N = 88.

Table 3 summarizes the basic educational preparation of the sample and demonstrates that 78 percent of the sample had basic nursing preparation at the diploma level, 15 percent at the associate degree level, and 7 percent at the baccalaureate level.

The major clinical or practice area of the sample is summarized in table 4. From this table it is seen that

TABLE 3

EDUCATIONAL PREPARATION OF THE SAMPLE

Type of Preparation	Number of Nurses	Percentage of Sample
Associate Degree	13	15
Diploma	69	78
Baccalaureate Degree	6	7

N = 88.

TABLE 4

MAJOR CLINICAL OR PRACTICE AREA
OF THE SAMPLE

Clinical Area	Number of Nurses	Percentage of Sample
Medical/Surgical	37	42
Obstetrics/Gynecology	9	10
Pediatrics	3	3
Intensive Care	1	1
Coronary Care	0	0
Other	38	44

N = 88.

the majority of the sample are employed in the medical-surgical areas. Some other clinical areas were specified as newborn intensive care, operating room, recovery room,

anesthesia, emergency room, and combined intensive and coronary care unit nursing. The remainder of the sample named obstetrics and gynecology, pediatrics, and intensive care nursing as their area of practice. None of the sample identified coronary care nursing as their area of practice.

Table 5 summarizes the number of years of professional nursing experience the nurses had. It is seen that the majority of the nurses in the sample had ten years or less of experience in professional nursing.

TABLE 5
NURSING EXPERIENCE OF THE SAMPLE

Number of Years	Number of Nurses	Percentage of Sample
0 - 5	34	38
6 - 10	13	15
11 - 15	13	15
16 - 20	12	15
More than 20	15	17

N = 88.

Table 6 summarizes the present position that nurses in the sample hold. This table also demonstrates that the majority of the sample hold staff positions.

TABLE 6

POSITION HELD BY THE SAMPLE

Position	Number of Nurses	Percentage of Nurses
Staff Nurse	53	60
Head Nurse	15	17
Supervisor	11	13
Other	9	10

N = 88.

Responses about Stethoscopes

In Part II of the questionnaire, the respondents answered questions which provided statistical information about the stethoscope. Of the eighty-eight respondents, twenty-eight owned a stethoscope, fifty-seven did not own a stethoscope, and three did not respond. Of the twenty-eight respondents owning a stethoscope, nineteen respondents had only a diaphragm chest-piece on their stethoscope; one had only a bell chest-piece; and eight had a bell and diaphragm chest-piece on their stethoscopes. Nurses owning stethoscopes with a diaphragm is consistent with the trend in availability of inexpensive stethoscopes for nurses. Most nursing journals, American Journal of Nursing, Nursing '76, and R.N., advertise the "nursescope" which has only

the diaphragm chest-piece. Also, many professional uniform shops have added the "nursescope" to the array of nursing tools.

Table 7 summarizes the stethoscope tubing length chosen by the twenty-eight respondents in the sample. From table 7 it is seen that the majority of the nurses owning stethoscopes have a stethoscope with a length of fifteen inches or less. That nurses choose stethoscopes with tubing these lengths is not surprising since this length is considered characteristic of a good stethoscope (Littmann 1972).

TABLE 7

STETHOSCOPE TUBING LENGTH OF THE SAMPLE

Number of Inches	Number of Nurses	Percentage of Sample
10	4	14
15	15	54
20	5	18
25	0	0
More than 25	2	7
No answer	2	7

N = 28.

Table 8 summarizes the purchase price of the stethoscope owned by nurses. From table 8 it is seen that the majority of the sample purchased their stethoscope for \$20.00 or less. Seven respondents purchased the stethoscope for \$10.00 or less, twelve for \$11.00 to \$20.00, seven for \$21.00 to \$30.00, and one for over \$30.00. One respondent did not answer. Current price listings showed stethoscopes ranging in cost from \$6.95 to over \$60.00. The less expensive stethoscope has the diaphragm only, while the stethoscope with a bell and diaphragm has a beginning price of \$21.00. Thus, the cost of the respondents' stethoscopes are within current list prices, and the choice of stethoscope correlates with the cost of the stethoscope as expressed by the sample.

TABLE 8
STETHOSCOPE COST OF THE SAMPLE

Cost	Number of Nurses	Percentage of Sample
Under \$10	7	25
\$11 - \$20	12	43
\$21 - \$30	7	25
Over \$30	1	3.5
No answer	1	3.5

N = 28.

Fifty percent of the sample carry a stethoscope while on duty. Table 9 summarizes the usual place the respondents carry the stethoscope on their person. This table demonstrates that 68 percent of the sample carrying stethoscopes, carry the stethoscope around the neck. Twenty-five percent of the sample carry the stethoscope in their uniform pocket, while the remaining 6 percent carry the stethoscope in their lab pocket and on the unit dose medication cart.

TABLE 9

PLACE STETHOSCOPE CARRIED BY THE SAMPLE

Place	Number of Nurses	Percentage of Sample
Uniform pocket	11	25
Lab coat pocket	1	3
Around neck	30	68
Other	1	3

N = 44.

Seventy-eight percent of the sample use the stethoscope fifteen times or less in one average working day. Table 10 summarizes the uses of the stethoscope as expressed by the sample. From table 10 it is seen that the majority of the sample use the stethoscope for its

traditional purposes--taking the blood pressure and the apical pulse. Over one-third of the respondents specified using the stethoscope for auscultation of the lungs, heart sounds, and/or bowel sounds. Traver (1973), Lehmann (1972), and Willhacker (1973) state that these respective uses of the stethoscope are necessary for accurate assessment of a patient's condition.

TABLE 10

USES OF THE STETHOSCOPE BY THE SAMPLE

Use	Number of Nurses	Percentage of Sample
Blood pressure	84	95
Apical pulse	63	72
Auscultation of lungs	40	45
Auscultation of heart sounds	35	40
Auscultation of bowel sounds	29	33
Other	3	4

N = 88.

The sample was asked to rank the use of the stethoscope on a scale of 1 to 5, with 1 being most used and 5 being least used. Table 11 shows these rankings. Fifty-eight percent or more of the sample use the stethoscope for its documented traditional uses--taking the

blood pressure and the apical pulse. As for using the stethoscope for auscultatory purposes, the respondents placed auscultation of heart sounds higher in use than auscultation of lung and bowel sounds.

TABLE 11

RANKING USE OF THE STETHOSCOPE BY THE SAMPLE

	Ratings					
	1	2	3	4	5	NA
Blood pressure	64	11	6	0	4	3
Apical pulse	15	51	4	7	6	5
Auscultation of lungs	3	9	24	31	5	15
Auscultation of heart sounds	3	7	28	14	15	15
Auscultation of bowel sounds	1	2	10	13	48	13

N = 88.

Social Significance and Use

Part III of the questionnaire was composed of eighteen items. The responses were analyzed to determine the use and social significant assigned to the stethoscope. Item 7, Part III, "carrying the stethoscope identifies the R.N. as possessing skill in auscultation of the lungs and heart;" item 8, Part III, "the R.N. has a status of more authority when carrying the stethoscope;" item 11, Part III, "patients believe the R.N. has more status when carrying

the stethoscope;" and item 12, Part III, "the doctor has a status of authority when carrying the stethoscope" were utilized to test hypothesis one--nurses will not assign social significance to the stethoscope (see Appendix H). These four items dealt specifically with social status. Values were assigned to each of the possible answers of the questions. The choices were "strongly agree," "agree," "undecided," "disagree," and "strongly disagree." "Strongly agree" was assigned a value of 5; "agree," a value of 4; "undecided," a value of 3; "disagree," a value of 2; and "strongly disagree," a value of 1.

To test hypothesis one, the Sign Test, a non-parametric procedure, was utilized. From the Sign Test inferences can be made about a single set of observations, and, therefore, information about a specific aspect of the population can be ascertained (Gibbons 1971). The one set of observations or variable used was the average value a particular nurse gave on the four items (7, 8, 11, and 12) in Part III of the questionnaire (i.e., score on item 7 plus score on item 8 plus score on item 11 plus score on item 12).

For the purposes of determining the social status assigned to the stethoscope, the null hypothesis, the median of a particular nurse's score is 3 or less, was

tested against the alternative hypothesis, the median of a particular nurse's score is greater than three.

Therefore, the null hypothesis would be stated: nurses do not assign social significance to the stethoscope, and the alternative hypothesis would be stated: nurses do assign social significance to the stethoscope.

From the data in table 12, seventy-one of the values are less than the median of three, and seventeen values are greater than or equal to the median of three. Utilizing the Sign Test at the $\alpha = 0.05$ level, the null hypothesis was not rejected. Therefore, one cannot say with 95 percent assurance that there is social significance assigned to the stethoscope by nurses.

To test hypothesis two: there will be no relationship between (a) age, (b) sex, (c) educational background, (d) position held, and (3) specialty area and the social significance nurses place in the stethoscope, the Chi-square Test for statistical independence was utilized. The Chi-square Test involved making a decision about whether one variable is independent of another, and thus, determine the existence of some relationship between two sets of attributes of a population (Chao 1974).

Because the number of male respondents in the sample population was so small ($N = 4$), comparing sex and the use

TABLE 12

MEDIAN SCORES OF SOCIAL SIGNIFICANCE ASSIGNED TO
THE STETHOSCOPE BY THE SAMPLE

Score	Absolute Frequency	Relative Frequency	Adjusted Frequency	Cumulative Frequency
1.00	3	3.4	3.4	3.4
1.25	1	1.1	1.1	4.5
1.50	2	2.3	2.3	6.8
1.75	10	11.4	11.4	18.2
2.00	22	25.0	25.0	43.2
2.25	12	13.6	13.6	56.8
2.50	17	19.3	19.3	76.1
2.75	4	4.5	4.5	80.7
3.00	9	10.2	10.2	90.9
3.25	1	1.1	1.1	92.0
3.50	5	5.7	5.7	97.7
4.00	<u>2</u>	<u>2.3</u>	<u>2.3</u>	100.0
Total	88	100	100	

and the social significance of the stethoscope was not statistically feasible, and therefore was not calculated. To make the Chi-square Test possible, the ratings of items 7, 8, 11, and 12 of Part III of the questionnaire were grouped into "disagree," "undecided," and "agree." Therefore, the ratings "strongly agree" and "agree" were

grouped together as were "strongly disagree" and "disagree."

Because of the small number in parts of the sample, specific groupings were utilized to make the Chi-square Test possible. Two groupings were used for age--thirty-five years or less and thirty-six years or more. Basic nursing preparation was grouped as diploma or other. The clinical area of practice was grouped as medical-surgical and other; the position held was grouped as staff nurse and other.

In order that a significant interaction exist between items 7, 8, 11, and 12 in Part III, and age, educational background, position held, and clinical area, a value less than or equal to 0.10 must be obtained. At respective significance levels of .9458, .7235, .5339, and .8495 no significant relationship could be shown between a nurse's age, educational background, clinical area, and position held and her opinion on item 7, Part III, "carrying the stethoscope identifies the R.N. as possessing skill in auscultation of the lungs and heart." Therefore, these results indicate that nurses in the sample do not believe that carrying the stethoscope identifies the nurse as possessing skill in auscultation of the lungs and heart.

Appendix L presents the category analysis of responses of item 7, Part III.

No significant relationship could be shown between a nurse's age, educational background, clinical area and position held, and her opinion on item 8, Part III, "the R.N. has a status of more authority when carrying the stethoscope." The respective significance levels were .2418, .3685, .4474, and .3363. The sample, therefore, indicated that a registered nurse does not have a status of authority when carrying the stethoscope. (See Appendix M for presentation of category analysis of item 8, Part III.)

Appendix N presents the category analysis of item 11, Part III, "patients believe the R.N. has more status when carrying the stethoscope." From this data no significance could be shown between age, educational background, clinical area, and position held and item 11, Part III. Thus, nurses in the sample population do not believe that patients see the registered nurse as having more status when carrying the stethoscope.

At respective significance levels, .6670, .2380, .8729, and .5907, no relationship could be shown between age, educational background, clinical area and position held, and the nurses' opinion of item 12, Part III, "the doctor has a status of authority when carrying the

stethoscope." Thus, the sample indicated their belief that the doctor does not have a status of authority when carrying the stethoscope. See Appendix O for a category analysis of item 12, Part III.

Because the Chi-square Test revealed no significance between age, educational background, clinical area, and position held and responses to items 7, 8, 11, and 12, Part III, hypothesis two is accepted: nurses will not assign social significance to the stethoscope.

Hypothesis three: there will be no relationship between (a) age, (b) sex, (c) educational background, (d) position held, and (e) specialty area and nurses' use of the stethoscope, was also tested by the Chi-square Test for statistical independence. Item 7, Part II, "on the average, how many times do you use the stethoscope in one working day?" item 9, Part II, "assuming that you use the stethoscope for the following purposes, rank the items according to the way you use the stethoscope most. Use a scale from 1 through 5 with 1 being most used and 5 least used--taking blood pressure, taking apical pulse, auscultation of the lungs, auscultation of heart sounds, auscultation of bowel sounds, or other;" item 15, Part III, "R.N.'s principally use the stethoscope for taking blood pressure;" item 16, Part III, "R.N.'s use the stethoscope

for apical pulses;" item 17, Part III, "R.N.'s use the stethoscope only in taking a blood pressure and apical pulse in emergency situations;" were utilized to test hypothesis three. The responses to these items were compared to age, educational background, clinical area, and position held. The same type of procedure was applied to this hypothesis, as was applied to hypothesis two, therefore, significant relationships would be shown at a significance level of less than or equal to 0.10.

Interpreting the responses to item 7, Part II, "on the average, how many times do you use the stethoscope in one working day?" no significant relationship could be shown to exist between age, educational background, and position held and the number of times the stethoscope was used (see Appendix P). However, a Chi-square probability of .0146 indicates a borderline relationship between a nurses' clinical area and the number of times the stethoscope is used per day. Therefore, nurses in areas other than the general medical-surgical area seemed to use the stethoscope more frequently. Table 13 demonstrates that only seven of forty-two nurses in the general medical-surgical area used the stethoscope eleven or more times per day, while nineteen of the forty-four nurses in the

other areas used the stethoscope eleven or more times per day.

TABLE 13
NURSES' DAILY USE OF THE STETHOSCOPE
ACCORDING TO CLINICAL AREA

Rating	General Medical-Surgical	Other	Total
10 times or less	35	25	60
11 times or more	<u>7</u>	<u>19</u>	<u>26</u>
Total	42	44	86

In item 9, Part II, the variables, (a) age, (b) educational background, (c) clinical area, and (d) position held were compared to the rankings the sample attributed to the different uses of the stethoscope. These uses were blood pressure, apical pulse, auscultation of the lungs, auscultation of the heart, and auscultation of bowel sounds. The rankings were on a scale of 1 to 5, with 1 being most used and 5 being least used.

With respective significance levels of .6199, .1227, .2627, and .4751, no significant interaction between a nurse's age, educational background, clinical area, and position held and the ranking given blood pressure could be shown (see Appendix Q, tables 38 through 42).

Based on a Chi-square probability of .0187, a probable relationship was indicated between a nurse's clinical area and the ranking given apical pulse. Table 14 demonstrates that thirty-nine of forty-one nurses in the general medical-surgical area gave apical pulse a ranking of 1 or 2, and only two of forty-one nurses gave apical pulse a higher ranking. On the other hand, twenty-seven of forty nurses in other clinical areas gave apical pulse a ranking of 1 or 2; and fourteen of forty nurses gave apical pulse a higher ranking. Therefore, proportionally more nurses in the general medical-surgical area seemed to give apical pulse a higher ranking of use (see Appendix Q for further presentation of data).

TABLE 14

NURSES' RANKING OF APICAL PULSE BY CLINICAL AREA

Ranking	General Medical-Surgical	Other	Total
1	10	4	14
2	29	23	52
3	0	4	4
4	1	6	7
5	<u>1</u>	<u>3</u>	<u>4</u>
Total	41	40	81

N = 81.

A significant relationship was also shown between age and auscultation of the lungs at a significance level of .0245. Table 15 shows that thirty-six of forty-two nurses in the age group thirty-five years or less gave auscultation of the lungs a ranking of 3 or more, and six of forty-two nurses gave auscultation of the lungs a ranking of 1 or 2. On the other hand, twenty-five of thirty nurses in the age group thirty-six years or more gave auscultation of the lungs a ranking of 3 or more; and five of thirty nurses gave auscultation a ranking of 1 or 2. Therefore, proportionally more nurses in the age group thirty-five years or less gave auscultation of the lungs a ranking of 3 or more (see Appendix Q for further presentation of data).

TABLE 15

NURSES' RANKING OF AUSCULTATION OF THE LUNGS BY AGE

Ranking	35 Years or Less	36 Years or More	Total
1	1	2	3
2	5	3	8
3	19	6	25
4	17	14	31
5	<u>0</u>	<u>5</u>	<u>5</u>
Total	42	30	72

With respective significance levels of .1262, .1481, .4002, and .3771, no significant interaction between a nurse's age, educational background, clinical area, and position held and the ranking given auscultation of the heart could be shown (see Appendix Q, tables 48 through 51).

No significant relationship could be shown between age, educational background, and position held and the ranking given auscultation of bowel sounds (see Appendix Q, tables 51 through 53). However, a Chi-square probability of .0259 indicates a probable relationship between a nurse's clinical area and the ranking given auscultation of bowel sounds. Therefore, proportionally more nurses in other clinical areas seemed to give auscultation of bowel sounds a ranking of 4 or 5 than nurses in the general medical-surgical area. Table 16 demonstrates that thirty-three of thirty-five nurses in other clinical areas gave auscultation of bowel sounds a ranking of 4 or 5, while twenty-eight of thirty-eight nurses in general medical-surgical areas gave auscultation of bowel sounds a ranking of 4 or 5.

In analyzing items 15, 16, and 17 of Part III, two areas of significant relationships were shown. In item 15, "R.N.'s principally use the stethoscope for taking blood pressure," a significant relationship was shown between the

TABLE 16

NURSES' RANKING OF BOWEL SOUNDS BY CLINICAL AREA

Ranking	General Medical-Surgical	Other	Total
1	1	1	2
2	0	1	1
3	9	0	9
4	5	9	14
5	<u>23</u>	<u>24</u>	<u>47</u>
Total	38	35	73

nurses' educational level and the nurses' opinion of item 15, at a significance level of .0239. Table 17 shows that sixty-two of sixty-nine nurses with a diploma education agreed that registered nurses principally use the stethoscope for taking blood pressure, while fifteen of nineteen nurses of other educational background agreed that registered nurses principally use the stethoscope for taking the blood pressure.

At a significance level of .0554, a probable relationship was also shown between nurses' clinical area and their opinion on item 15, Part III, "R.N.'s principally use the stethoscope for taking blood pressure." A greater majority of nurses in other clinical areas seemed to agree

TABLE 17

NUMBER OF NURSES IDENTIFYING BLOOD PRESSURE AS
THE PRINCIPAL USE OF THE STETHOSCOPE,
CLASSIFIED BY EDUCATIONAL BACKGROUND

Ratings	Diploma	Other	Total
Disagree	7	2	9
Undecided	0	2	2
Agree	<u>62</u>	<u>15</u>	<u>77</u>
Total	69	19	88

that registered nurses use the stethoscope principally for taking blood pressure. In table 18, only thirty-four of forty-three nurses in the general medical-surgical clinical area agreed that registered nurses principally use the stethoscope for taking blood pressure, while forty-three of forty-five nurses in other clinical areas agreed to this item (see Appendix R for further presentation of data, tables 55 and 56).

No significant relationship could be shown between a nurse's age, educational background, clinical area, and position held and her opinion on item 16, Part III, "R.N.'s use the stethoscopes for apical pulses." The respective significance levels were .2243, .8330, .2563, and .6809. As seen in tables presented in Appendix S, the

majority of nurses strongly agreed that nurses use the stethoscope for taking apical pulses.

TABLE 18

NUMBER OF NURSES IDENTIFYING BLOOD PRESSURE
AS THE PRINCIPAL USE OF THE STETHOSCOPE,
CLASSIFIED BY CLINICAL AREA

Ratings	General Medical-Surgical	Other	Total
Disagreed	7	2	9
Undecided	2	0	2
Agree	<u>34</u>	<u>43</u>	<u>77</u>
Total	43	45	88

Appendix T presents the category analysis of item 17, Part III, "R.N.'s use the stethoscope only in taking a blood pressure and apical pulse in emergency situations." From this data, no significance could be shown between age, educational background, clinical area, and position held and nurses' opinion on item 17, Part III. Thus, the majority of nurses in the sample population disagreed that nurses use the stethoscope only in taking a blood pressure and apical pulse in emergency situations.

Based on the above results, hypothesis three cannot be accepted in its entirety. It can be accepted that there

is no relationship between the position held and the nurses' use of the stethoscope.

Responses to Open-Ended Question

Item 19 of Part III of the questionnaire asked the respondents to answer the following question: what meaning does the stethoscope have to you in your clinical practice? A variety of open-ended comments were given. Comments made by the sample supported and substantiated much of what is written in the nursing literature today.

One nurse graduate of 1938 stated, "nursing is considerably different now and I feel it is a must to have access to a stethoscope at all times. . . . The stethoscope aids in many ways to determine the condition of the patient and helps to evaluate patients' needs and the type of care to be given." Another nurse who graduated "many years ago" states she has much to learn about the stethoscope "having been taught only to use it to take BP and apical pulse, I have reservations about nurses using them for auscultation. I feel nurses need to be taught by Dr.s. to use them properly before auscultation can be of any value. So for me, I must admit a stethoscope means blood pressure and apical pulse." Still another graduate of 1956, recalled using the stethoscope only for taking a blood pressure. "After 15 years of professional inactivity, I now find the

stethoscope in constant use. Certainly one can better evaluate a patient's condition by becoming proficient in auscultations of heart, lung, and bowel sounds.. This can be accomplished only through practice."

Education and practice in auscultatory techniques were expressed by some nurses. As one nurse stated, "a working tool (stethoscope) that most R.N.'s need education on how to use it." "The stethoscope is valuable," but it could be of much more use, stated another nurse. Nurses need to be "taught how to use the stethoscope and learn the various normal sounds of the heart, lungs, and bowels and the implications of abnormalities." One nurse even expressed that using the stethoscope without training in auscultation could mean "making errors that could be damaging to the patient."

Convenience was another theme expressed by the respondents. Some of these comments were (1) "Simply an instrument for use in assessment of patient condition. Having and carrying my own as a supervisor is a matter of convenience as one may not be readily available when I enter a room to check a critical patient." (2) "I have my other stethoscope and carry it with me. It is more convenient to have my own. It saves time not having to find one and clean it each time I want to use it. The

stethoscope helps me evaluate the patient's condition much better and can monitor the vital signs easier." (3) "To me my stethoscope means: I have it when I need it I never have to run and get one in an emergency." (4) "It is my 2nd hand like your bandage scissors." (5) "Using the stethoscope properly it can tell you a lot about the patient's condition and physical being. To be truthful I get tired of never being able to find a hospital stethoscope when I needed one so mainly I bought my own for my own personal use."

Many clinical areas of practice and different auscultatory purposes for the stethoscope were also expressed. A sampling of these comments were: (1) "The stethoscope is a means of being more reliable in our assessment of a patient's condition. We have more information about a patient to give the doctor with a stethoscope in an emergency situation, BP, etc. It is very helpful to me when caring for pediatric patients to take the apical pulse since radial pulses are difficult [to obtain], also very helpful in children with respiratory problems in deciding, what if, any drugs are needed, occasionally wheezing can only be heard with a stethoscope." (2) "The stethoscope is vitally important to my work in post anesthesia because we take BP's very frequently, but apical

pulses less frequently. Without the stethoscope I would be greatly disadvantaged in assessing vital signs."

(3) "I believe the stethoscope is a tool the nurse uses to assist in patient assessment to gather data and thus detecting early complications and progress of patient condition. I feel the nurses' skill in using the stethoscope helps the physician gain insight into patient's condition along with physical status observations when communicating via phone about patients (for example: nights and evenings when physicians aren't directly available)." (4) "Because I work in the emergency room, it was of great value to me. I carry it around my neck at all times as many times my emergency patients have not always made it into the emergency room and the first evaluation of the patient has been in their car or in the parking lot. I feel it is about the most valuable piece of equipment I use during my working day." (5) "In my area of practice it's a way for me to determine the BP's of my delivered and undelivered mothers and also to use in evaluating the heart sounds of a newborn I might suspect a heart problem. Also, the fetascope is quite useful in determining the unborn child's heart beat."

Negative feelings about using the stethoscope for auscultation were expressed by some nurses. Comments were

(1) "I feel it can be a very useful instrument, but it can also create problems when the wrong nurse gets hold of it and by this I mean some nurses who feel they are so good with a stethoscope start diagnosing heart problems, bowel problems, etc., when in actuality there is no such problem. . . . I feel the doctor with his stethoscope should diagnose for any major problem. A stethoscope in a nurse's pocket, etc. does not make a good nurse. It could do the opposite." (2) "I feel it is a very important tool in assessing a patient's condition. But I also feel a patient's condition can be adequately assessed without it. The stethoscope only defines things better." (3) "I don't think R.N.'s should be responsible for bowel sounds, lung sounds, it is the responsibility of the doctor to make D_x not R.N.'s." (4) "Blood pressures are checked routinely by a designated person and rechecked by the nursing supervisor when need be. Stethoscopes are used when necessary to check patients." (5) "As a tool to assist the physician in making an accurate diagnosis."

The stethoscope had little meaning as a status symbol for some respondents. Their comments were (1) "I take BP's a lot in my work. There are at least 1/2 dozen stethoscopes available to me all the time. I feel I can get them in a few seconds. Seeing a nurse with a

stethoscope means nothing to me except she has bought one. A stethoscope doesn't make a nurse any better, in my opinion. If I worked in CCU areas, it would be more important to me probably." (2) "A stethoscope can be a useful tool in assessing a patient's condition. Proper assessment is necessary in adequate patient care. Status symbols however are hardly a consideration of any importance to me." (3) "A stethoscope is a vital and necessary part of hospital equipment. More emphasis should be placed on teaching R.N.'s proper auscultation skills in patient assessment. I am very much against wearing the stethoscope around the neck even though I know many Dr.'s and R.N.'s do it. To me it looks very sloppy and unprofessional. It seems as though they are trying to draw attention to themselves." (4) "It's a very helpful tool, but it doesn't seem to me to give one anymore status than a white uniform, cap, lab coat, etc."

Many trends in nursing assessment today can be seen in the comments by the sample. Many nurses feel that auscultation is necessary to make an accurate assessment of the patient's condition. However, if the nurse is to use the stethoscope for auscultation, training and practice is most essential. Some nurses do believe auscultation to be a physician's function and not the nurses.

Summary of Findings

In this study it was determined that the majority of the respondents did not assign social significance to the stethoscope. In addition, no significant relationship was shown between the variables of age, educational background, clinical area, and position held and that of the social significance of the stethoscope.

When the sample was asked, "for what purposes do you use the stethoscope?" the majority of nurses most frequently identified taking blood pressure and taking apical pulse. Only one-third of the sample specified using the stethoscope for auscultation of the lungs, heart sounds, and/or bowel sounds.

When the variables of age, educational background, clinical area, and position held were compared to the use of the stethoscope, several significant relationships were indicated. Nurses in areas other than the medical-surgical area indicated using the stethoscope more frequently than nurses in general medical-surgical clinical area. More nurses in the general medical-surgical area gave apical pulse a higher ranking of use than did the other clinical areas. In addition, more nurses in the age group thirty-five years or less gave auscultation of the lungs a ranking of 3, 4, or 5, than did nurses in the age group thirty-six years or older.

A relationship was also shown between a nurse's clinical area and the ranking given auscultation of bowel sounds. More nurses in other clinical areas seemed to give auscultation of bowel sounds a ranking of 4 or 5 than did nurses in the general medical-surgical clinical area.

A significant relationship was also shown between the nurses' educational level and clinical area and the nurses' opinion on item 15, Part III, "R.N.'s principally use the stethoscope for taking blood pressure." More nurses with a diploma education agreed that nurses principally use the stethoscope for taking blood pressure than did other educational levels. In addition, more nurses in other clinical areas seemed to agree that nurses principally use the stethoscope for taking blood pressure than did nurses in the general medical-surgical clinical area.

Summary

In this chapter, Analysis and Treatment of Data, the analysis and interpretation of the collected data were discussed. The analysis of the collected data was summarized and interpreted through tables and discussion. Inferences about the interpreted data were also presented.

CHAPTER V

SUMMARY, CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

Summary

A descriptive research study was conducted for the purposes of (1) determining the social significance nurses assign to the stethoscope, (2) determining the purposes for which nurses use the stethoscope, (3) determining the relationship of age, sex, educational background, position held, and specialty area to the social significance that nurses place in the stethoscope, and (4) determining the relationship of age, sex, educational background, position held, and specialty area to the nurses' use of the stethoscope.

A questionnaire which represented items about the use and social significance of the stethoscope was developed from a review of the literature and assistance from three expert clinicians. A pilot study was then conducted. The items on the questionnaire were then reformulated as indicated and distributed by mail to 150 nurses in the state of Kansas who were employed in nursing on a full-time or part-time basis. The data

collection period extended from January 19, 1976, to February 2, 1976. The sample was composed of eighty-eight nurses currently employed in nursing. Each of the sample was asked to give personal data, statistical information about the stethoscope, and to respond to questions about the opinions about the stethoscope.

Statistical analysis of the collected data was then conducted by utilizing the Sign Test and the Chi-square Test. The data were presented in summary tables. Some groups within the sample population were so small, that statistical analysis with the Chi-square Test was not possible without regrouping (table 13, page 70). The population of male respondents was so small that the variable, sex, could not be compared to responses on the questionnaire (see table 2, page 54).

In this study it was determined that the majority of the respondents did not assign social significance to the stethoscope. Thereby, comparison by age, educational background, clinical area, and position to the social significance of the stethoscope showed no significant relationship.

When the variables of age, educational background, clinical area, and position held were compared to the use of the stethoscope several significant relationships were

indicated. Nurses in areas other than the medical-surgical area indicated using the stethoscope more frequently than nurses in the general medical-surgical clinical area. Critical care areas such as emergency room, intensive care, and recovery room can account for the frequency of use by the nurses in other clinical areas. The majority of nurses in the general medical-surgical area gave apical pulse a higher ranking of use than the other clinical areas.

A majority of nurses in areas other than medical-surgical areas assigned a ranking of 4 and 5 to auscultation of bowel sounds. These findings suggest that nurses in areas other than medical-surgical areas use the stethoscope more frequently for auscultation of bowel sounds. A relationship between age and the ranking of auscultation of the lungs was also shown. A majority of nurses in the thirty-five year or less age group rated auscultation of the lungs as 3. Current trends in education and training in physical assessment could account for the younger nurses using the stethoscope for auscultation of the lungs. Responses to nurses using the stethoscope principally for taking blood pressure, also alluded to this trend (see tables 17 and 18).

Even with the above findings of significant relationships, the majority of the nurses principally used

the stethoscope for its traditional purposes--taking blood pressure and apical pulse.

Conclusions

This study concludes that nurses do not assign social significance to the stethoscope, and that there is no significant relationship between age, educational background, clinical area, and position held and the social significance nurses place on the stethoscope. It further concludes that there is no relationship between position held and the use of the stethoscope. However, several significant relationships exist between age, educational background, clinical area, and the use of the stethoscope. Even with the finding of significant relationships, it can be concluded that nurses principally used the stethoscope for their traditional purposes--taking blood pressure and taking apical pulse.

Implications

Implications for education are:

1. The nursing student should be acquainted with the auscultatory purposes of the stethoscope
2. Basic nursing education programs should evaluate incorporation of auscultatory skills into their curriculum

3. Students in basic baccalaureate, diploma, and associate degree nursing educational programs should be assisted in learning proper auscultatory skills and should be assisted in validating their findings

4. Students in master degree nursing programs should be assisted in learning proper auscultatory skills and should be assisted in validating their findings

Implications for nursing practice include:

1. Conduct inservice education programs to assist nurses in learning and validating auscultatory skills

2. Utilize nurses possessing auscultatory skills in teaching other nurses these skills

3. Utilize learned auscultatory skills in assessing the condition of the patient

Recommendations

Based on the findings of the study, the following recommendations have been made:

1. Studies be conducted to determine how nurses learn auscultatory skills

2. More investigation be made into the use of the stethoscope by specialty area nurses

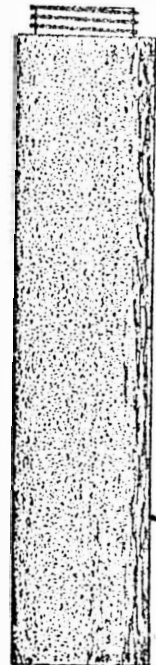
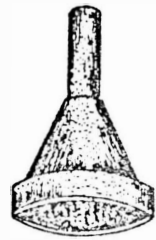
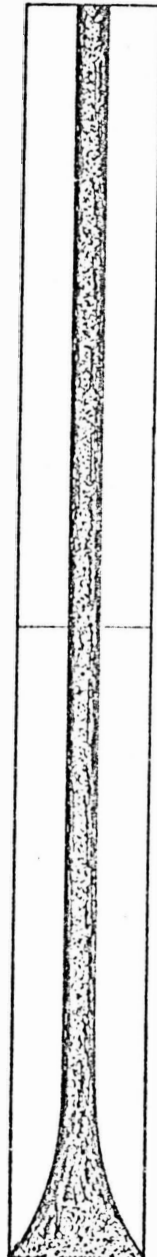
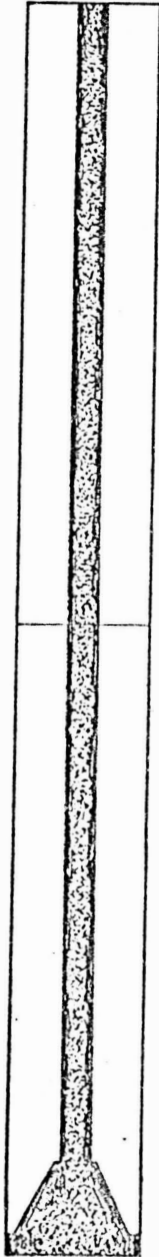
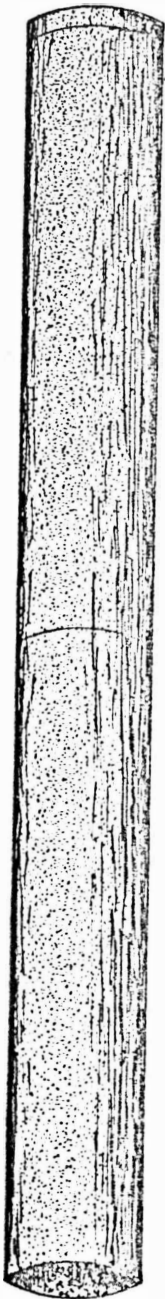
3. Research studies be conducted on nurses employed in larger hospital settings

4. Studies be conducted to determine why nurses began using the stethoscope for auscultation

5. Longitudinal investigations be conducted to determine the long-range effect of nurses using the stethoscope for auscultation

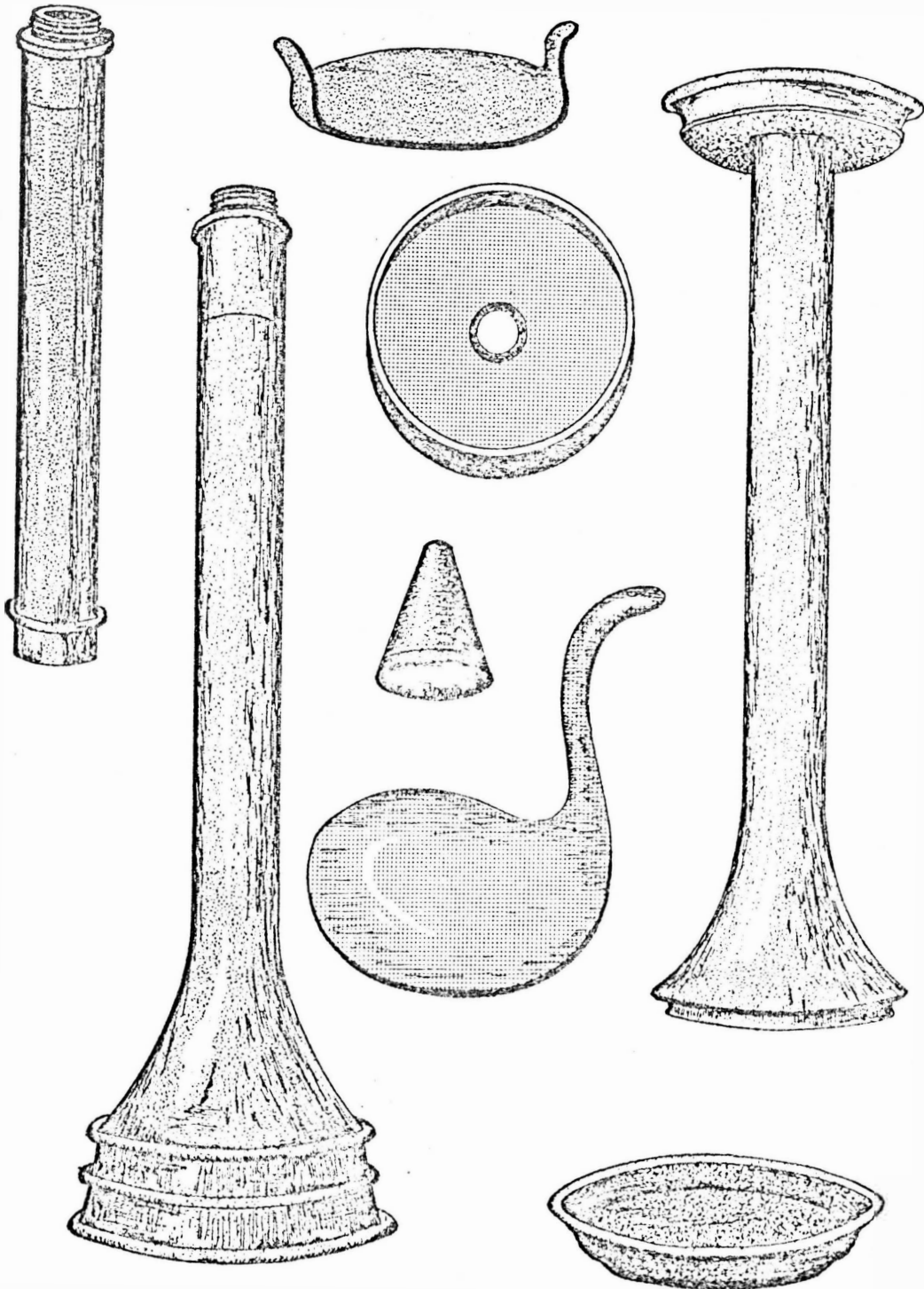
APPENDIX A

LAENNEC'S STETHOSCOPE



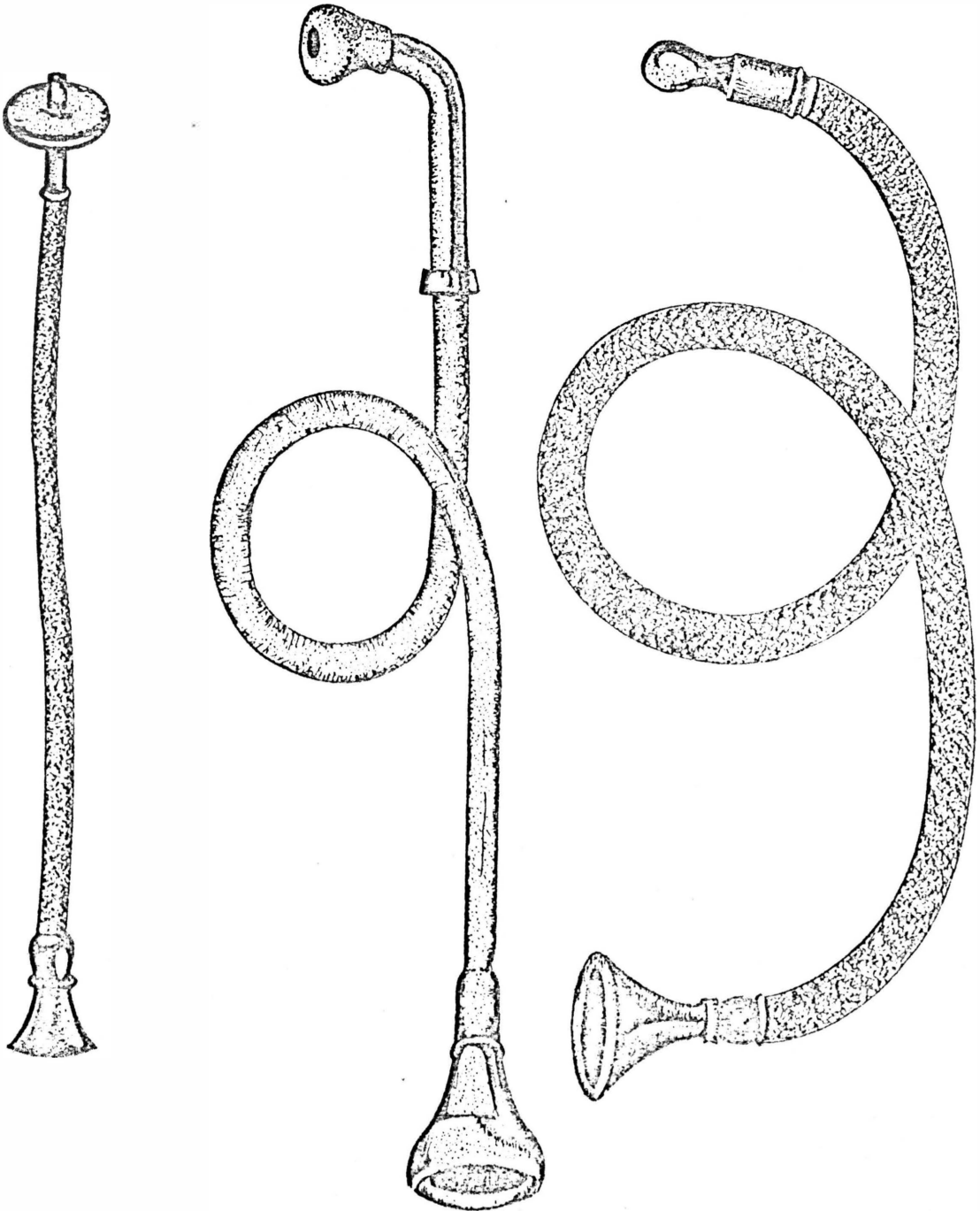
APPENDIX B

PIORRY'S INSTRUMENT



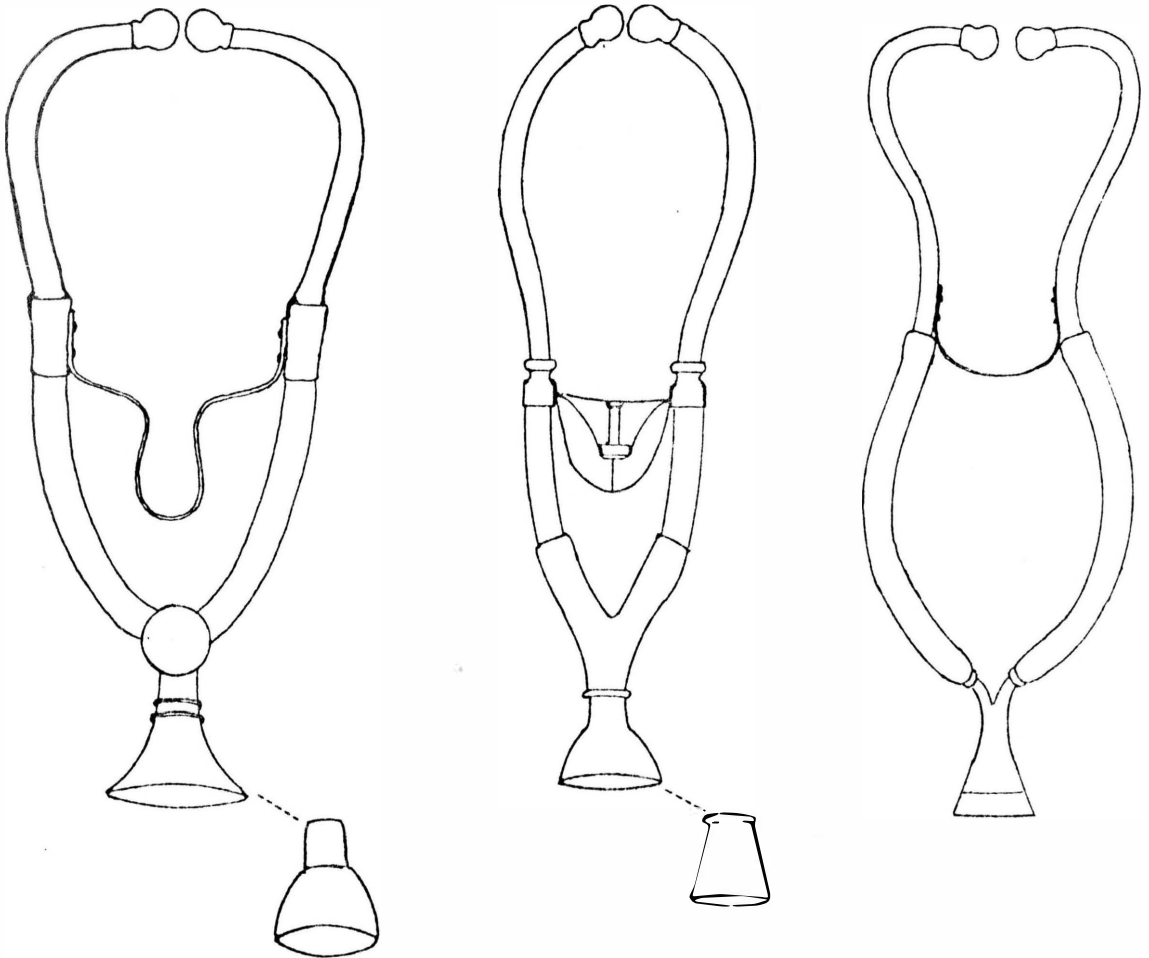
APPENDIX C

THE FLEXIBLE MONAURAL STETHOSCOPES



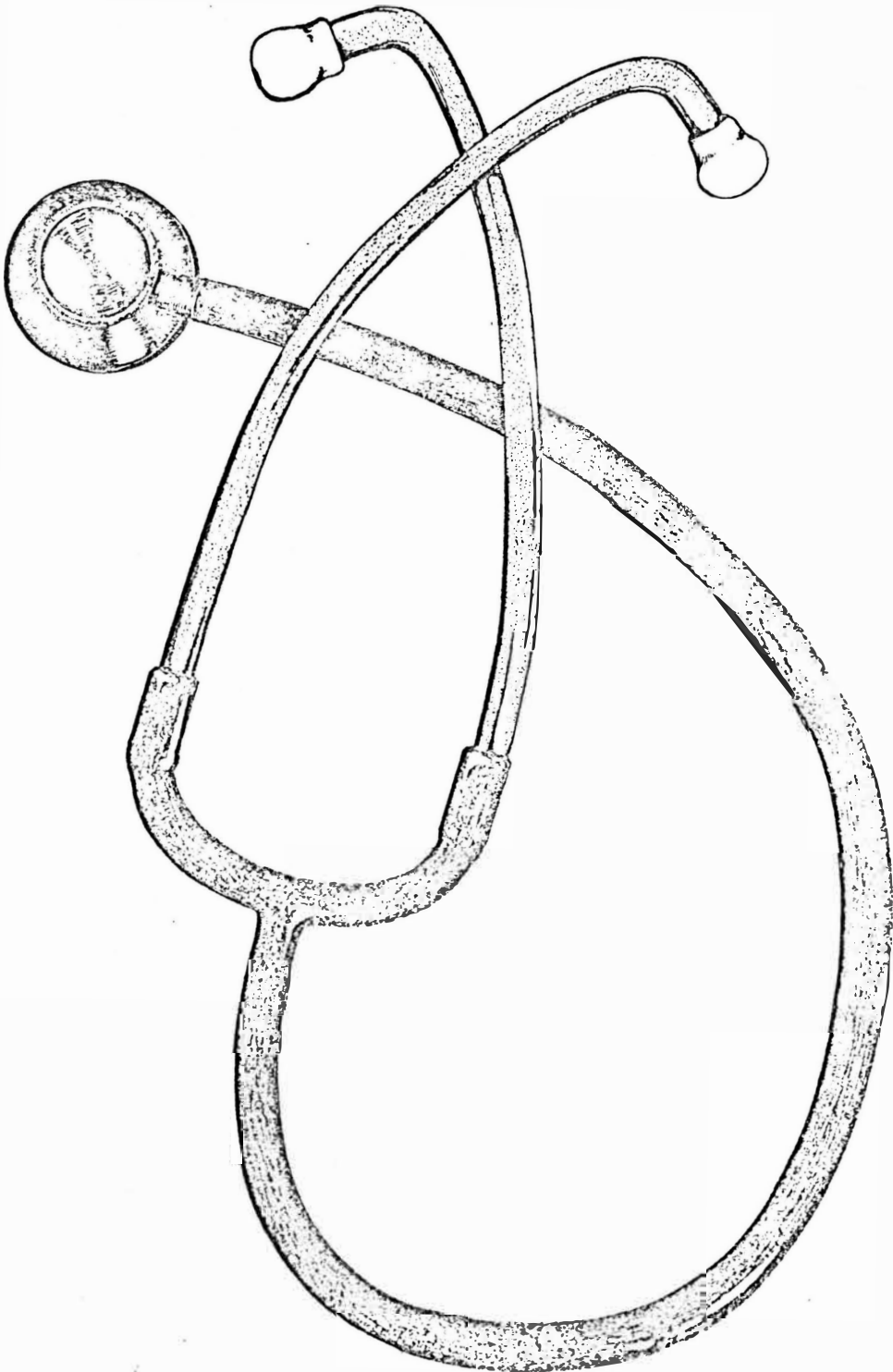
APPENDIX D

FIRST BINAURAL STETHOSCOPE



APPENDIX E

MODERN STETHOSCOPE



APPENDIX F

PART I

INSTRUCTIONS: In each item check the blank as it applies to you.

1. Age

- ☐ Under 25 years
☐ 25-35 years
☐ 36-45 years
☐ Over 45 years

2. Sex

- ☐ Male
☐ Female

3. Basic educational preparation in nursing

- ☐ Associate degree
☐ Diploma
☐ Baccalaureate degree

4. Highest earned credential in nursing

- ☐ Associate degree
☐ diploma
☐ Baccalaureate degree
☐ Master's degree (Please specify area of
specialization) _____
☐ Practitioner program
☐ Other (Please specify) _____

5. Major clinical or practice area

- ☐ General medical-surgical
☐ OB/GYN
☐ Pediatrics
☐ ICU
☐ CCU
☐ Other (Please specify) _____

6. Number of years of professional nursing experience

- ☐ 0-5 years
☐ 6-10 years
☐ 11-15 years
☐ 16-20 years
☐ More than 20 years

7. Employment status
 _____ Full-time
 _____ Part-time
8. Present position
 _____ Staff nurse
 _____ Head nurse
 _____ Supervisor
 _____ Other (Please specify) _____
9. Date employed in present position _____

PART II

INSTRUCTIONS: In each item check the blank(s) as it applies to you.

1. Do you own a stethoscope? If no, go to question 5.
 _____ Yes
 _____ No
2. What type of chest-piece does your stethoscope have?
 _____ Diaphragm only
 _____ Bell only
 _____ Bell and diaphragm
3. The length of tubing on your stethoscope is approximately:
 _____ 10 inches
 _____ 15 inches
 _____ 20 inches
 _____ 25 inches
 _____ More than 25 inches
4. The cost of your stethoscope was:
 _____ Under \$10
 _____ \$11-\$20
 _____ \$21-\$30
 _____ Over \$30
5. Do you carry a stethoscope with you while on duty?
 If no, go to question 7.
 _____ Yes
 _____ No

6. The usual place you carry your stethoscope is:
____ Uniform pocket
____ Lab coat pocket
____ Around neck
____ Other (Please specify) _____
7. On the average, how many times do you use a stethoscope in one working day?
____ 0-5 times
____ 6-10 times
____ 11-15 times
____ More than 15 times
8. For which of the following items do you use the stethoscope? (May choose more than one)
____ Taking blood pressure
____ Taking apical pulse
____ Auscultation of lungs
____ Auscultation of heart sounds
____ Auscultation of bowel sounds
____ Other (Please specify) _____
9. Assuming that you use the stethoscope for the following purposes, rank the items according to the way you use the stethoscope most. Use a scale from 1 through 5 with 1 being most used and 5 least used.
____ Taking blood pressure
____ Taking apical pulse
____ Auscultation of lungs
____ Auscultation of heart sounds
____ Auscultation of bowel sounds
____ Other (Please specify) _____

PART III

INSTRUCTIONS: Indicate your reactions to each of the 19 items of this section by placing an "x" in the appropriate blank. Your response should represent your opinion about the stethoscope. Please complete each of the items.

	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1. Physical assessment skills are important tools in evaluating a patient's condition.	_____	_____	_____	_____	_____
2. Auscultation is a part of physical assessment.	_____	_____	_____	_____	_____
3. R.N.'s should use the stethoscope for auscultation.	_____	_____	_____	_____	_____
4. Auscultation should be done by the R.N. in patient assessment.	_____	_____	_____	_____	_____
5. R.N.'s have increased their use of the stethoscope in the last 3 to 5 years.	_____	_____	_____	_____	_____
6. R.N.'s should carry a stethoscope with them while on duty.	_____	_____	_____	_____	_____

	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
7. Carrying the stethoscope identifies the R.N. as possessing skill in auscultation of the lungs and heart.	—	—	—	—	—
8. The R.N. has a status of more authority when carrying the stethoscope.	—	—	—	—	—
9. R.N.'s have increased their use of the stethoscope more in the last 3 to 5 years.	—	—	—	—	—
10. LPN's should carry the stethoscope with them while on duty.	—	—	—	—	—
11. Nurses' aides should carry the stethoscope with them while on duty.	—	—	—	—	—
12. Patients believe the R.N. has more status when carrying the stethoscope.	—	—	—	—	—
13. The doctor has a status of authority when carrying the stethoscope.	—	—	—	—	—
14. R.N.'s purchase of a stethoscope is a matter of convenience and personal desire.	—	—	—	—	—

	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
15. R.N.'s make better bedside assessment when using a stethoscope.	_____	_____	_____	_____	_____
16. R.N.'s principally use the stethoscope for taking blood pressure.	_____	_____	_____	_____	_____
17. R.N.'s use the stethoscope for apical pulses.	_____	_____	_____	_____	_____
18. R.N.'s use the stethoscope only in taking a blood pressure and apical pulse in emergency situations.	_____	_____	_____	_____	_____
19. R.N.'s use the stethoscope more than nurses' aids in assessing a patient's condition.	_____	_____	_____	_____	_____
20. What meaning does the stethoscope have to you in your clinical practice?	_____	_____	_____	_____	_____

APPENDIX G

Dear Registered Nurse:

In partial fulfillment of the requirements for a Master's Degree at Texas Woman's University, Dallas Center, I am undertaking a study of the nurses' value and perceptions of the social significance of the stethoscope. In order to collect the data, it is necessary to pretest the questionnaire to be used in the study. The pretest provides a means of identifying problems in wording and meanings of statements. Therefore, this information that you provide will be utilized in formulating the final draft of the questionnaire.

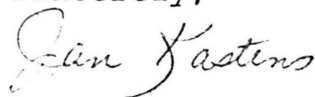
Your name is not required and in no way will you be identified in the study. Part I will provide information that is necessary for statistical purposes. Part II will provide specific statistical information about the stethoscope. Part III is a collection of items that are relevant to the use of the stethoscope. Since the purpose of research is to provide valid data, please give thought to each item and complete the entire questionnaire. Any additional comments that you would like to make are also welcomed.

I would like to receive the completed questionnaire by Friday, November 14, 1975. A stamped self-addressed envelope is enclosed for your convenience in returning the questionnaire.

Your participation in the study is greatly appreciated. Should you be interested in the final results of the study, the findings will be available at Texas Woman's University, Dallas, Texas.

Thank you for your assistance.

Sincerely,



Jan Kastens
TWU Graduate Student

APPENDIX H

PART I

INSTRUCTIONS: In each item check the blank as it applies to you.

1. Age
 - 3 Under 25 years
 - 2 25-35 years
 - 1 36-45 years
 - 2 Over 45 years
2. Sex
 - 1 Male
 - 7 Female
3. Basic educational preparation in nursing
 - 3 Associate degree
 - 4 Diploma
 - 1 Baccalaureate degree
4. Highest earned credential in nursing
 - 3 Associate degree
 - 4 diploma
 - 1 Baccalaureate degree
 - 0 Master's degree (Please specify area of specialization) _____
 - 0 Practitioner program _____
 - Other (Please specify) _____
5. Major clinical or practice area
 - 2 General medical-surgical
 - 0 OB/GYN
 - 1 Pediatrics
 - 3 ICU
 - 0 CCU
 - 2 Other (Please specify) Operating Room; Recovery
Room
6. Number of years of professional nursing experience
 - 5 0-5 years
 - 0 6-10 years
 - 1 11-15 years
 - 1 16-20 years
 - 1 More than 20 years

7. Employment status:

8 Full-time
0 Part-time

8. Present Position

5 Staff nurse
0 Head nurse
1 Supervisor
1 Other (Please specify) Assistant Supervisor

9. Date employed in present position _____

PART II

INSTRUCTIONS: In each item check the blank(s) as it applies to you.

1. Do you own a stethoscope? If no, go to question 5.

4 Yes
4 No

2. While type of chest-piece does your stethoscope have?

2 Diaphragm only
0 Bell only
2 Bell and diaphragm

3. The length of tubing on your stethoscope is approximately:

2 10 inches
0 15 inches
2 20 inches
0 25 inches
0 More than 25 inches

4. The cost of your stethoscope was:

1 Under \$10
2 \$11-\$20
1 \$21-\$30
0 Over \$30

5. Do you carry a stethoscope with you while on duty?
If no, go to question 7.

3 Yes
4 No
1 No answer

PART III

INSTRUCTIONS: Indicate your reactions to each of the 19 items of this section by placing an "x" in the appropriate blank. Your response should represent your opinion about the stethoscope. Please complete each of the items.

	<u>Strongly Disagree</u>	<u>Disagree</u>	<u>Undecided</u>	<u>Agree</u>	<u>Strongly Agree</u>
1. Physical assessment skills are important tools in evaluating a patient's condition.	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	<u>7</u>
2. Auscultation is a part of physical assessment.	<u>0</u>	<u>0</u>	<u>0</u>	<u>3</u>	<u>5</u>
3. R.N.'s should use the stethoscope for auscultation.	<u>0</u>	<u>0</u>	<u>1</u>	<u>3</u>	<u>4</u>
4. Auscultation should be done by the R.N. in patient assessment.	<u>0</u>	<u>0</u>	<u>1</u>	<u>4</u>	<u>3</u>
5. R.N.'s have increased their use of the stethoscope in the last 3 to 5 years.	<u>0</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>4</u>
6. R.N.'s should carry a stethoscope with them while on duty.	<u>1</u>	<u>0</u>	<u>3</u>	<u>2</u>	<u>1</u>

	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
7. Carrying the stethoscope identifies the R.N. as possessing skill in auscultation of the lungs and heart.	<u>3</u>	<u>5</u>	<u>0</u>	<u>0</u>	<u>0</u>
8. The R.N. has a status of more authority when carrying the stethoscope.	<u>6</u>	<u>2</u>	<u>0</u>	<u>0</u>	<u>0</u>
9. R.N.'s have increased their use of the stethoscope more in the last 3 to 5 years.	<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>2</u>
10. LPN's should carry the stethoscope with them while on duty.	<u>1</u>	<u>0</u>	<u>4</u>	<u>3</u>	<u>0</u>
11. Nurses' aides should carry the stethoscope with them while on duty.	<u>1</u>	<u>1</u>	<u>3</u>	<u>2</u>	<u>0</u>
12. Patients believe the R.N. has more status when carrying the stethoscope.	<u>0</u>	<u>7</u>	<u>1</u>	<u>0</u>	<u>0</u>
13. The doctor has a status of authority when carrying the stethoscope.	<u>2</u>	<u>4</u>	<u>1</u>	<u>1</u>	<u>0</u>
14. R.N.'s purchase of a stethoscope is a matter of convenience and personal desire.	<u>0</u>	<u>0</u>	<u>1</u>	<u>5</u>	<u>2</u>

	<u>Strongly Disagree</u>	<u>Disagree</u>	<u>Undecided</u>	<u>Agree</u>	<u>Strongly Agree</u>
15. R.N.'s make better bedside assessment when using a stethoscope.	<u>0</u>	<u>0</u>	<u>1</u>	<u>6</u>	<u>1</u>
16. R.N.'s principally use the stethoscope for taking blood pressure.	<u>0</u>	<u>3</u>	<u>0</u>	<u>3</u>	<u>2</u>
17. R.N.'s use the stethoscope for apical pulses.	<u>0</u>	<u>0</u>	<u>0</u>	<u>8</u>	<u>0</u>
18. R.N.'s use the stethoscope only in taking a blood pressure and apical pulse in emergency situations.	<u>3</u>	<u>5</u>	<u>0</u>	<u>0</u>	<u>0</u>
19. R.N.'s use the stethoscope more than nurses' aids in assessing a patient's condition.	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>	<u>2</u>
20. What meaning does the stethoscope have to you in your clinical practice?					

APPENDIX I

PART I

INSTRUCTIONS: In each item check the blank as it applies to you.

1. Age
 - ☐ Under 25 years
 - ☐ 25-35 years
 - ☐ 36-45 years
 - ☐ Over 45 years
2. Sex
 - ☐ Male
 - ☐ Female
3. Basic educational preparation in nursing
 - ☐ Associate degree
 - ☐ Diploma
 - ☐ Baccalaureate degree
4. Highest earned credential in nursing
 - ☐ Associate degree
 - ☐ diploma
 - ☐ Baccalaureate degree
 - ☐ Master's degree (Please specify area of specialization) _____
 - ☐ Practitioner program
 - ☐ Other (Please specify) _____
5. Major clinical or practice area
 - ☐ General medical-surgical
 - ☐ OB/GYN
 - ☐ Pediatrics
 - ☐ ICU
 - ☐ CCU
 - ☐ Other (Please specify) _____
6. Number of years of professional nursing experience
 - ☐ 0-5 years
 - ☐ 6-10 years
 - ☐ 11-15 years
 - ☐ 16-20 years
 - ☐ More than 20 years

7. Employment status
 ☐ Full-time
 ☐ Part-time
8. Present position
 ☐ Staff nurse
 ☐ Head nurse
 ☐ Supervisor
 ☐ Other (Please specify) _____

PART II

INSTRUCTIONS: In each item check the blank(s) as it applies to you.

1. Do you own a stethoscope? If no, go to question 5.
 ☐ Yes
 ☐ No
2. What type of chest-piece does your stethoscope have?
 ☐ Diaphragm only
 ☐ Bell only
 ☐ Bell and Diaphragm
 ☐ Other (Please specify) _____
3. The length of tubing on your stethoscope is approximately:
 ☐ 10 inches
 ☐ 15 inches
 ☐ 20 inches
 ☐ 25 inches
 ☐ More than 25 inches
4. The cost of your stethoscope was:
 ☐ Under \$10
 ☐ \$11-\$20
 ☐ \$21-\$30
 ☐ Over \$30
5. Do you carry a stethoscope with you while on duty?
 If no, go to question 7.
 ☐ Yes
 ☐ No

6. The usual place you carry your stethoscope is:
____ Uniform pocket
____ Lab coat pocket
____ Around neck
____ Other (Please specify) _____
7. On the average, how many times do you use a stethoscope in one working day?
____ 0-5 times
____ 6-10 times
____ 11-15 times
____ More than 15 times
8. For which of the following items do you use the stethoscope? (May choose more than one)
____ Taking blood pressure
____ Taking apical pulse
____ Auscultation of lungs
____ Auscultation of heart sounds
____ Auscultation of bowel sounds
____ Other (Please specify) _____
9. Assuming that you use the stethoscope for the following purposes, rank the items according to the way you use the stethoscope most. Use a scale from 1 through 5 with 1 being most used and 5 least used.
____ Taking blood pressure
____ Taking apical pulse
____ Auscultation of lungs
____ Auscultation of heart sounds
____ Auscultation of bowel sounds
____ Other (Please specify) _____

PART III

INSTRUCTIONS: Indicate your reactions to each of the 19 items of this section by placing an "x" in the appropriate blank. Your response should represent your opinion about the stethoscope. Please complete each of the items.

	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1. Physical assessment skills are important tools in evaluating a patient's condition.	_____	_____	_____	_____	_____
2. Auscultation is a part of physical assessment.	_____	_____	_____	_____	_____
3. R.N.'s should use the stethoscope for auscultation.	_____	_____	_____	_____	_____
4. Auscultation should be done by the R.N. in patient assessment.	_____	_____	_____	_____	_____
5. R.N.'s have increased their use of the stethoscope in the last 3 to 5 years.	_____	_____	_____	_____	_____
6. R.N.'s should carry a stethoscope with them while on duty.	_____	_____	_____	_____	_____

	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
7. Carrying the stethoscope identifies the R.N. as possessing skill in auscultation of the lungs and heart.	_____	_____	_____	_____	_____
8. The R.N. has a status of more authority when carrying the stethoscope.	_____	_____	_____	_____	_____
9. LPN's should carry the stethoscope with them while on duty.	_____	_____	_____	_____	_____
10. Nurses' aides should carry the stethoscope with them while on duty.	_____	_____	_____	_____	_____
11. Patients believe the R.N. has more status when carrying the stethoscope.	_____	_____	_____	_____	_____
12. The doctor has a status of authority when carrying the stethoscope.	_____	_____	_____	_____	_____
13. R.N.'s purchase of a stethoscope is a matter of convenience and personal desire.	_____	_____	_____	_____	_____
14. R.N.'s make better bedside assessment when using a stethoscope.	_____	_____	_____	_____	_____
15. R.N.'s principally use the stethoscope for taking blood pressure.	_____	_____	_____	_____	_____

	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
16. R.N.'s use the stethoscope for apical pulses.	—	—	—	—	—
17. R.N.'s use the stethoscope only in taking a blood pressure and apical pulse in emergency situations.	—	—	—	—	—
18. R.N.'s use the stethoscope more than nurses' aides in assessing a patient's condition.	—	—	—	—	—
19. What meaning does the stethoscope have to you in your clinical practice?					

APPENDIX J

November 3, 1975

Dear Nursing Service Director,

In partial fulfillment of the requirements for a Master's Degree at Texas Woman's University, Dallas Center, I am undertaking a study of the use and social significance nurses assign to the stethoscope. Nurses employed in hospital nursing in the state of Kansas will be included in this study.

An attempt is being made to acquire the names and addresses of registered nurses in the state of Kansas employed in hospitals on a part-time or full-time basis. Nurses in psychiatric clinical areas will not be included in the study.

Please send a list of the names and addresses of nurses employed in your hospital with the exception of those nurses employed in psychiatric clinical areas. To avoid disruption of patient care on the unit, the questionnaires will be mailed to their home address. After the initial mailing, no further use of their names or addresses will be made.

I would like to receive the list of names and addresses by November 14, 1975, so that I may begin the data collection. A self-addressed envelope is enclosed. Your participation in this study is appreciated.

The findings of the study, should you be interested in the results, will be available at the Texas Woman's University Library.

Sincerely,



Jan Kastens
TWU Graduate Student



Beth Vaughan-Wrobel
Committee Chairman
TWU Faculty Dallas Center

JK:bzm

APPENDIX K

Dear Registered Nurse:

In partial fulfillment of the requirements for a Master's Degree at Texas Woman's University, Dallas Center, I am undertaking a study of the use and social significance nurses assign to the stethoscope. Nurses employed in hospital nursing in the state of Kansas will be included in the study. The information that you provide can be helpful to nurses who use the stethoscope in their clinical functions.

Your name is not required and in no way will you be personally identified in the study. So that the findings will represent the opinion of each individual nurse, please do not discuss the questionnaire with anyone who is also participating in the study until the questionnaire has been returned.

Part I will provide information that is necessary for statistical purposes. Part II will provide specific statistical information about the stethoscope. Part III is a collection of items that are relevant to the use of the stethoscope. Since the purpose of the research is to provide valid data, please give thought to each item and complete the entire questionnaire.

I would like to receive the questionnaire by February 2, 1976, so that I may begin to analyze the data. A self-addressed, stamped envelope is enclosed.

Your participation in the study is sincerely appreciated. The findings of the study, should you be interested in the results, will be available at Texas Woman's University, Dallas Center.

Thank you for your assistance.

Sincerely,

A handwritten signature in cursive script that reads "Jan Kastens".

Jan Kastens
TWU Graduate Student

APPENDIX L

TABLE 19

NUMBER OF NURSES IDENTIFYING CARRYING THE STETHOSCOPE
AS POSSESSING SKILL IN AUSCULTATION,
CLASSIFIED BY AGE

Ratings	35 Years or Less	36 Years or More	Total
Disagree	36	35	71
Undecided	5	5	10
Agree	<u>4</u>	<u>3</u>	<u>7</u>
Total	45	43	88

TABLE 20

NUMBER OF NURSES IDENTIFYING CARRYING THE STETHOSCOPE
AS POSSESSING SKILL IN AUSCULTATION,
CLASSIFIED BY EDUCATIONAL BACKGROUND

Ratings	Diploma	Other	Total
Disagree	56	15	71
Undecided	7	3	10
Agree	<u>6</u>	<u>1</u>	<u>7</u>
Total	69	19	88

TABLE 21

NUMBER OF NURSES IDENTIFYING CARRYING THE STETHOSCOPE
AS POSSESSING SKILL IN AUSCULTATION,
CLASSIFIED BY CLINICAL AREA

Ratings	General Medical-Surgical	Other	Total
Disagree	36	35	71
Undecided	5	5	10
Agree	<u>5</u>	<u>2</u>	<u>7</u>
Total	43	45	88

TABLE 22

NUMBER OF NURSES IDENTIFYING CARRYING THE STETHOSCOPE
AS POSSESSING SKILL IN AUSCULTATION,
CLASSIFIED BY POSITION HELD

Ratings	Staff Nurse	Other	Total
Disagree	43	28	71
Undecided	6	4	10
Agree	<u>5</u>	<u>2</u>	<u>7</u>
Total	54	34	88

APPENDIX M

TABLE 23

NURSES' OPINION ABOUT HAVING STATUS WHEN
CARRYING THE STETHOSCOPE, CLASSIFIED
BY AGE

Ratings	35 Years or Less	36 Years or More	Total
Disagree	39	35	74
Undecided	4	2	6
Agree	<u>2</u>	<u>6</u>	<u>8</u>
Total	45	43	88

TABLE 24

NURSES' OPINION ABOUT HAVING STATUS WHEN
CARRYING THE STETHOSCOPE, CLASSIFIED
BY EDUCATIONAL BACKGROUND

Ratings	Diploma	Other	Total
Disagree	60	14	74
Undecided	4	2	6
Agree	<u>5</u>	<u>3</u>	<u>8</u>
Total	69	19	88

TABLE 25

NURSES' OPINION ABOUT HAVING STATUS WHEN
CARRYING THE STETHOSCOPE, CLASSIFIED
BY CLINICAL AREA

Ratings	General Medical-Surgical	Other	Total
Disagree	34	40	74
Undecided	4	2	6
Agree	<u>5</u>	<u>3</u>	<u>8</u>
Total	43	45	88

TABLE 26

NURSES' OPINION ABOUT HAVING STATUS WHEN
CARRYING THE STETHOSCOPE, CLASSIFIED
BY POSITION HELD

Ratings	Staff Nurse	Other	Total
Disagree	43	31	74
Undecided	5	1	6
Agree	<u>6</u>	<u>2</u>	<u>8</u>
Total	54	34	88

APPENDIX N

TABLE 27

NURSES' OPINION ABOUT PATIENTS BELIEVING NURSES
HAVE MORE STATUS WHEN CARRYING THE STETHOSCOPE,
CLASSIFIED BY AGE

Ratings	35 Years or Less	36 Years or More	Total
Disagree	20	22	42
Undecided	16	12	28
Agree	<u>9</u>	<u>9</u>	<u>18</u>
Total	45	43	88

TABLE 28

NURSES' OPINION ABOUT PATIENTS BELIEVING NURSES
HAVE MORE STATUS WHEN CARRYING THE STETHOSCOPE,
CLASSIFIED BY EDUCATIONAL BACKGROUND

Ratings	Diploma	Other	Total
Disagree	34	8	42
Undecided	24	4	28
Agree	<u>11</u>	<u>7</u>	<u>18</u>
Total	69	19	88

TABLE 29

NURSES' OPINION ABOUT PATIENTS BELIEVING NURSES
HAVE MORE STATUS WHEN CARRYING THE STETHOSCOPE,
CLASSIFIED BY CLINICAL AREA

Ratings	General Medical-Surgical	Other	Total
Disagree	20	22	42
Undecided	15	13	28
Agree	<u>8</u>	<u>10</u>	<u>18</u>
Total	43	45	88

TABLE 30

NURSES' OPINION ABOUT PATIENTS BELIEVING NURSES
HAVE MORE STATUS WHEN CARRYING THE STETHOSCOPE,
CLASSIFIED BY POSITION HELD

Ratings	Staff Nurse	Other	Total
Disagree	24	18	42
Undecided	21	7	28
Agree	<u>9</u>	<u>9</u>	<u>18</u>
Total	54	34	88

APPENDIX O

TABLE 31

NURSES' OPINION ABOUT THE DOCTOR HAVING MORE
STATUS WHEN CARRYING THE STETHOSCOPE,
CLASSIFIED BY AGE

Ratings	35 Years or Less	36 Years or More	Total
Disagree	27	24	51
Undecided	9	7	16
Agree	<u>9</u>	<u>12</u>	<u>21</u>
Total	45	43	88

TABLE 32

NURSES' OPINION ABOUT THE DOCTOR HAVING MORE
STATUS WHEN CARRYING THE STETHOSCOPE,
CLASSIFIED BY EDUCATIONAL BACKGROUND

Ratings	Diploma	Other	Total
Disagree	43	8	51
Undecided	12	4	16
Agree	<u>14</u>	<u>7</u>	<u>21</u>
Total	69	19	88

TABLE 33

NURSES' OPINION ABOUT THE DOCTOR HAVING MORE
STATUS WHEN CARRYING THE STETHOSCOPE,
CLASSIFIED BY CLINICAL AREA

Ratings	General Medical-Surgical	Other	Total
Disagree	25	26	51
Undecided	7	9	16
Agree	<u>11</u>	<u>10</u>	<u>21</u>
Total	43	45	88

TABLE 34

NURSES' OPINION ABOUT THE DOCTOR HAVING MORE
STATUS WHEN CARRYING THE STETHOSCOPE,
CLASSIFIED BY POSITION HELD

Ratings	Staff Nurse	Other	Total
Disagree	29	22	51
Undecided	11	5	16
Agree	<u>14</u>	<u>7</u>	<u>21</u>
Total	54	34	88

APPENDIX P

TABLE 35

NUMBER OF TIMES NURSES USE THE STETHOSCOPE PER DAY,
CLASSIFIED BY AGE

Ratings	35 Years or Less	36 Years or More	Total
10 times or less	30	30	60
11 times or more	<u>14</u>	<u>12</u>	<u>26</u>
Total	44	42	86

TABLE 36

NUMBER OF TIMES NURSES USE THE STETHOSCOPE PER DAY,
CLASSIFIED BY EDUCATIONAL BACKGROUND

Ratings	Diploma	Other	Total
10 times or less	45	15	60
11 times or more	<u>23</u>	<u>3</u>	<u>26</u>
Total	68	18	86

TABLE 37

NUMBER OF TIMES NURSES USE THE STETHOSCOPE PER DAY,
CLASSIFIED BY POSITION HELD

Ratings	Staff Nurse	Other	Total
10 times or less	37	23	60
11 times or more	<u>15</u>	<u>11</u>	<u>26</u>
Total	52	34	86

APPENDIX Q

TABLE 38

NURSES' RANKING OF BLOOD PRESSURE,
CLASSIFIED BY AGE

Ranking	35 Years or Less	36 Years or More	Total
1	34	32	66
2	7	4	11
3	3	3	6
5	<u>1</u>	<u>3</u>	<u>4</u>
Total	45	42	87

Rank of 1 being most used and rank of 5 being least used.

TABLE 39

NURSES' RANKING OF BLOOD PRESSURE, CLASSIFIED
BY EDUCATIONAL BACKGROUND

Ranking	Diploma	Other	Total
1	54	12	66
2	7	4	11
3	3	3	6
5	<u>4</u>	<u>0</u>	<u>4</u>
Total	68	19	87

Rank of 1 being most used and rank of 5 being least used.

TABLE 40

NURSES' RANKING OF BLOOD PRESSURE,
CLASSIFIED BY CLINICAL AREA

Ranking	General Medical-Surgical	Other	Total
1	32	34	66
2	8	3	11
3	2	4	6
5	<u>1</u>	<u>3</u>	<u>4</u>
Total	43	44	87

Rank of 1 being most used and rank of 5 being least used.

TABLE 41

NURSES' RANKING OF BLOOD PRESSURE,
CLASSIFIED BY POSITION HELD

Ranking	Staff Nurse	Other	Total
1	44	22	66
2	5	6	11
3	3	3	6
5	<u>2</u>	<u>2</u>	<u>4</u>
Total	54	33	87

Rank of 1 being most used and rank of 5 being least used.

TABLE 42

NURSES' RANKING OF APICAL PULSE,
CLASSIFIED BY AGE

Ranking	35 Years or Less	36 Years or More	Total
1	8	6	14
2	30	22	52
3	2	2	4
4	3	4	7
5	<u>1</u>	<u>3</u>	<u>4</u>
Total	44	37	81

Rank of 1 being most used and rank of 5 being least used.

TABLE 43

NURSES' RANKING OF APICAL PULSE,
CLASSIFIED BY EDUCATIONAL BACKGROUND

Ranking	Diploma	Other	Total
1	9	5	14
2	44	8	52
3	2	2	4
4	4	3	7
5	<u>4</u>	<u>0</u>	<u>4</u>
Total	63	18	81

Rank of 1 being most used and rank of 5 being least used.

TABLE 44

NURSES' RANKING OF APICAL PULSE,
CLASSIFIED BY POSITION HELD

Ranking	Staff Nurse	Other	Total
1	9	5	14
2	34	18	52
3	2	2	4
4	3	4	7
5	<u>3</u>	<u>1</u>	<u>4</u>
Total	51	36	81

Ranking of 1 being most used and rank of 5 being least used.

TABLE 45

NURSES' RANKING OF AUSCULTATION OF LUNGS,
CLASSIFIED BY EDUCATIONAL BACKGROUND

Ranking	Diploma	Other	Total
1	2	1	3
2	4	4	8
3	20	5	25
4	26	5	31
5	<u>4</u>	<u>1</u>	<u>5</u>
Total	56	16	72

Ranking of 1 being most used and rank of 5 being least used.

TABLE 46

NURSES' RANKING OF AUSCULTATION OF LUNGS,
CLASSIFIED BY CLINICAL AREA

Ranking	General Medical-Surgical	Other	Total
1	0	3	3
2	3	5	8
3	11	14	25
4	19	12	31
5	<u>4</u>	<u>1</u>	<u>5</u>
Total	37	35	72

Rank of 1 being most used and rank of 5 being least used.

TABLE 47

NURSES' RANKING OF AUSCULTATION OF LUNGS,
CLASSIFIED BY POSITION HELD

Ranking	Staff Nurse	Other	Total
1	0	3	3
2	5	3	8
3	13	12	25
4	21	10	31
5	<u>4</u>	<u>1</u>	<u>5</u>
Total	43	29	72

Rank of 1 being most used and rank of 5 being least used.

TABLE 48

NURSES' RANKING OF AUSCULTATION OF HEART,
CLASSIFIED BY AGE

Ranking	35 Years or Less	36 Years or More	Total
1	2	2	3
2	2	5	7
3	16	12	28
4	11	8	19
5	<u>11</u>	<u>4</u>	<u>15</u>
Total	42	30	72

Rank of 1 being most used and rank of 5 being least used.

TABLE 49

NURSES' RANKING OF AUSCULTATION OF HEART,
CLASSIFIED BY EDUCATIONAL BACKGROUND

Ranking	Diploma	Other	Total
1	1	2	3
2	6	1	7
3	23	5	28
4	14	5	19
5	<u>12</u>	<u>3</u>	<u>15</u>
Total	56	16	72

Rank of 1 being most used and rank of 5 being least used.

TABLE 50

NURSES' RANKING OF AUSCULTATION OF HEART,
CLASSIFIED BY CLINICAL AREA

Ranking	General Medical-Surgical	Other	Total
1	1	2	3
2	1	6	7
3	15	13	28
4	11	8	17
5	<u>9</u>	<u>6</u>	<u>15</u>
Total	37	35	72

Rank of 1 being most used and rank of 5 being least used.

TABLE 51

NURSES' RANKING OF AUSCULTATION OF HEART,
CLASSIFIED BY POSITION HELD

Ranking	Staff Nurse	Other	Total
1	1	2	3
2	4	3	7
3	18	10	28
4	10	9	19
5	<u>10</u>	<u>5</u>	<u>15</u>
Total	43	29	72

Rank of 1 being most used and rank of 5 being least used.

TABLE 52

NURSES' RANKING OF AUSCULTATION OF BOWEL SOUNDS,
CLASSIFIED BY AGE

Ranking	35 Years or Less	36 Years or More	Total
1	1	1	2
2	0	1	1
3	2	7	9
4	10	4	14
5	<u>29</u>	<u>18</u>	<u>47</u>
Total	42	31	73

Rank of 1 being most used and rank of 5 being least used.

TABLE 53

NURSES' RANKING OF AUSCULTATION OF BOWEL SOUNDS,
CLASSIFIED BY EDUCATIONAL BACKGROUND

Ranking	Diploma	Other	Total
1	2	0	2
2	0	1	1
3	8	1	9
4	12	2	14
5	<u>35</u>	<u>12</u>	<u>47</u>
Total	57	16	73

Rank of 1 being most used and rank of 5 being least used.

TABLE 54

NURSES' RANKING OF AUSCULTATION OF BOWEL SOUNDS,
CLASSIFIED BY POSITION HELD

Ranking	Staff Nurse	Other	Total
1	1	1	2
2	1	0	1
3	7	2	9
4	8	6	14
5	<u>27</u>	<u>20</u>	<u>47</u>
Total	44	29	73

Rank of 1 being most used and rank of 5 being least used.

APPENDIX R

TABLE 55

NUMBER OF NURSES IDENTIFYING BLOOD PRESSURE
AS THE PRINCIPAL USE OF THE STETHOSCOPE,
CLASSIFIED BY AGE

Rating	35 Years or Less	36 Years or More	Total
Disagree	4	5	9
Undecided	1	1	2
Agree	<u>40</u>	<u>37</u>	<u>77</u>
Total	45	43	88

TABLE 56

NUMBER OF NURSES IDENTIFYING BLOOD PRESSURE
AS THE PRINCIPAL USE OF THE STETHOSCOPE,
CLASSIFIED BY POSITION HELD

Rating	Staff Nurse	Other	Total
Disagree	4	5	9
Undecided	1	1	2
Agree	<u>49</u>	<u>28</u>	<u>77</u>
Total	54	34	88

APPENDIX S

TABLE 57

NURSES' OPINION ABOUT USE OF THE STETHOSCOPE
FOR APICAL PULSES, CLASSIFIED BY AGE

Rating	35 Years or Less	36 Years or More	Total
Disagree	0	0	0
Undecided	0	3	3
Agree	<u>45</u>	<u>40</u>	<u>85</u>
Total	45	43	88

TABLE 58

NURSES' OPINION ABOUT USE OF THE STETHOSCOPE
FOR APICAL PULSES, CLASSIFIED BY
EDUCATIONAL BACKGROUND

Rating	Dipolma	Other	Total
Disagree	0	0	0
Undecided	3	0	3
Agree	<u>66</u>	<u>19</u>	<u>85</u>
Total	69	19	88

TABLE 59

NURSES' OPINION ABOUT THE USE OF THE STETHOSCOPE
FOR APICAL PULSES, CLASSIFIED BY
CLINICAL AREA

Rating	General Medical-Surgical	Other	Total
Disagree	0	0	0
Undecided	0	3	3
Agree	<u>43</u>	<u>42</u>	<u>85</u>
Total	43	45	88

TABLE 60

NURSES' OPINION ABOUT THE USE OF THE STETHOSCOPE
FOR APICAL PULSES, CLASSIFIED BY
POSITION HELD

Rating	Staff Nurse	Other	Total
Disagree	0	0	0
Undecided	1	2	3
Agree	<u>53</u>	<u>32</u>	<u>85</u>
Total	54	34	88

APPENDIX T

TABLE 61

NURSES' OPINION ABOUT THE USE OF THE STETHOSCOPE
ONLY IN EMERGENCY SITUATIONS, CLASSIFIED BY AGE

Rating	35 Years or Less	36 Years or More	Total
Disagree	36	32	68
Undecided	2	2	4
Agree	<u>7</u>	<u>8</u>	<u>15</u>
Total	45	42	87

TABLE 62

NURSES' OPINION ABOUT THE USE OF THE STETHOSCOPE
ONLY IN EMERGENCY SITUATIONS, CLASSIFIED BY
EDUCATIONAL BACKGROUND

Rating	Diploma	Other	Total
Disagree	50	18	68
Undecided	4	0	4
Agree	<u>14</u>	<u>1</u>	<u>15</u>
Total	68	19	87

TABLE 63

NURSES' OPINION ABOUT THE USE OF THE STETHOSCOPE
ONLY IN EMERGENCY SITUATIONS, CLASSIFIED BY
CLINICAL AREA

Rating	General Medical-Surgical	Other	Total
Disagree	36	32	68
Undecided	1	3	4
Agree	<u>6</u>	<u>9</u>	<u>15</u>
Total	43	44	87

TABLE 64

NURSES' OPINION ABOUT THE USE OF THE STETHOSCOPE
ONLY IN EMERGENCY SITUATIONS, CLASSIFIED BY
POSITION HELD

Rating	Staff Nurse	Other	Total
Disagree	41	27	68
Undecided	2	2	4
Agree	<u>11</u>	<u>4</u>	<u>15</u>
Total	54	33	87

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