

NURSING AND MEDICAL DIAGNOSES:
A COMPARISON

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TABLE OF CONTENTS

	Page
ACKNOWLEDGMENTS	iii
TABLE OF CONTENTS	iv
LIST OF TABLES	vii

Chapter

1.	INTRODUCTION	1
	Statement of the Problem	2
	Justification of the Study	3
	Conceptual Framework	4
	Assumptions	9
	Hypotheses	9
	Definition of Terms	12
	Limitations	14
	Summary	14
2.	REVIEW OF LITERATURE	16
	History of Nursing Diagnosis	16
	Nursing and Medical Diagnosis	21
	Summary	27
3.	PROCEDURE FOR COLLECTION AND TREATMENT OF DATA	29
	Setting	29
	Population and Sample	30
	Protection of Human Subjects	39
	Instruments	31
	Evaluation of Nursing Diagnosis Instrument	32
	Tool for Categorization of Medical Diagnosis	34

	Page
Tool for Categorization of the Response Component of the Nursing Diagnosis	34
Tool for Categorization of Degree of Human Response	35
Schema for Classification of the Etiology Component of the Nursing Diagnosis State- ment and Nursing interven- tions	36
Data Collection	37
Panel 1	39
Panel 2 and Panel 3	39
Treatment of Data	42
 4. ANALYSIS OF DATA	 43
Description of Sample	43
Findings	51
Hypotheses 1, 2, and 3	51
Hypotheses 4, 5, and 6	54
Hypotheses 7, 8, and 9	58
Hypotheses 10, 11, and 12	61
Summary of Findings	62
 5. SUMMARY OF THE STUDY	 66
Summary	66
Discussion of Findings	70
Conclusions and Implications	73
Recommendations for Further Study	75
 APPENDIX A	 76
APPENDIX B	78
APPENDIX C	80
APPENDIX D	82

	Page
APPENDIX E	84
APPENDIX F	86
APPENDIX G	88
APPENDIX H	90
APPENDIX I	93
APPENDIX J	95
APPENDIX K	97
APPENDIX L	99
APPENDIX M	101
REFERENCE NOTES	105
REFERENCES CITED	106

LIST OF TABLES

Table	Page
1. Frequency and Percentage of Patients by Ethnic Background	44
2. Frequency and Percentage of Nursing Diagnosis Statements Meeting Each of the Evaluation Criteria	46
3. Frequency and Percentage of Etiology Component by Etiology, Classifica- tion	48
4. Frequency and Percentage of Medical Diagnoses by ICD Classification Category	49
5. Number of Judges in Agreement and Interrater Reliability Regarding Classification Category by Instrument	52
6. Chi-square Analysis of Subsystem Response of Nursing Diagnosis and the Classifica- tion of Medical Diagnosis	55
7. Chi-square Analysis of Etiology Component of Nursing Diagnosis and the Medical Diagnosis	57
8. Chi-square Analysis of Degree of Response of Nursing Diagnosis and the Medical Diagnosis	60
9. Chi-square Analysis of Degree of Response of Nursing Diagnosis and Level of Response of the Medical Diagnosis	63

CHAPTER 1

INTRODUCTION

Nursing has long been associated with the medical profession. Nurses have been viewed as people who carry out physicians' orders. In recent years, nursing has accelerated its efforts to become established as an independent profession.

In an attempt to become autonomous, nurses have sought to develop a scientific body of knowledge through utilization of research. Abdellah (1969) contended that the ability to make a nursing diagnosis is a basic step in the building of a nursing science. The term "nursing diagnosis" reflects the identification of patients' problems which can be altered through use of nursing interventions.

The term "diagnosis," however, usually carries a medical connotation. King (1967) warned that usage of diagnosis for medical purposes only is too narrow. Since 1950, nurses have explored the concept nursing diagnosis. In recent years, there has been an increase of literature on nursing diagnosis. However, there is

little literature which addresses the relationship between nursing and medical diagnoses.

Statement of the Problem

The general problem addressed by this study was:

Is there an association between patients' nursing diagnoses generated by senior baccalaureate nursing students and the patients' medical diagnoses? Specifically, the study looked at the following problems:

1. Is there an association between nursing diagnoses classified according to the human response component of the nursing diagnosis and the medical diagnoses classified according to the International Classification of Disease (hereafter known as ICD).

2. Is there an association between nursing diagnoses classified according to the etiology component of the nursing diagnosis and the medical diagnoses classified according to the ICD?

3. Is there an association between nursing diagnoses classified according to the degree of human response and the medical diagnoses classified according to the ICD?

4. Is there an association between nursing diagnoses classified according to the degree of human

response and the medical diagnoses classified according to the level of disease process?

In addition, the study investigated the problem:

What is the quality of nursing diagnoses generated by senior baccalaureate nursing students?

Justification of the Study

Nurses throughout the literature agree in the assertion that nursing diagnoses are different from medical diagnoses (Abdellah, 1969; Gordon, 1982a, McCloskey, 1980). These authors have declared that the creation of nursing diagnoses is an essential independent function of nursing as well as necessary for the development of a nursing science.

Several writers contended that nursing diagnoses are not part of the medical regimen or the medical diagnosis, but rather an independent nursing function (Bircher, 1975; Purushotham, 1981). Shoemaker (1979) claimed that the medical diagnosis is the same throughout one's illness, while nursing diagnoses vary with the day-to-day situational fluctuations in the client's health status. Finally, most nurses believe that a medical diagnosis identifies pathology or disease; whereas nursing diagnosis identifies the client's

response to the disease or disease process (American Nurses' Association, 1980; Bircher, 1975; Roy, 1975).

The literature is full of speculations and generalizations about the differences, similarities, and relationships between nursing and medical diagnosis. Some writers have suggested that certain nursing diagnoses can be anticipated in patients with a certain medical diagnosis (Gordon, 1982a; Monica, 1979). Such statements are not described by research studies. Research in this area is quite weak as well as sparse.

Knowing whether or not associations exist between nursing and medical diagnoses can help guide in the formulation of nursing diagnoses. If there is some type of association, then knowledge of this can guide nurses in formulating nursing diagnoses for patients with specific medical diagnoses. On the other hand, if no association is found to exist, then nurses must concentrate on accurate utilization of the nursing process and independent action for formulation of nursing diagnoses.

Conceptual Framework

The conceptual framework for this study was based upon role theory. Biddle and Thomas (1979) stated that

role theory is not a true theory, but rather a collection of concepts and hypotheses which suggest how people behave in a certain societal role. Role theory's domain of study is that of real life behavior taken basically from a social perspective. The body of knowledge is large and covers many diverse fields of study. The language of role theory is what sets it apart as a distinctive field of study.

One's role is the functions that a person performs when he/she occupies a certain position in society (Biddle & Thomas, 1979). The social structure of a culture determines role expectations. Roles are learned from generation to generation through socialization and these roles evolve as society evolves. Role expectations are enforced by approval or disapproval of a significant other; i.e., family, friend, employer, and teacher among others (Levine, 1969).

Biddle and Thomas (1979) advocated that an individual's personality and early socialization experiences also influence one's role interpretation and, thus, role behavior. Role performances of others in respective positions also influence one's role behavior. Therefore, besides societal role expectations,

role behavior is partially determined by one's response to the action of others.

Since roles evolve as society evolves, they are modified in response to expanding knowledge. Thus, with the increase in scientific and medical knowledge, the number of roles in the health care field has increased significantly. With this increase in number, old roles have undergone or are undergoing redefinition.

Nursing is a classic example of a health care role undergoing redefinition. Historically, a nurse's role was to carry out physicians' orders and was considered subservient to the physician. In recent years, nursing has sought to be recognized as a profession. This would suggest a move towards a more autonomous role. Upgrading of an occupational role involves the replacement of traditionalistic norms by generalized normative patterns which suggest utilization of an explicit decision-making process (Parsons, 1965). Nursing diagnosis is an instrumental step in a decision-making process known as the nursing process. Dodge (1975) suggested that the utilization of nursing diagnoses helps to delineate the practice of nursing.

McCloskey (1980) asserted that nursing diagnoses "pinpoint(s) what nursing is and what nursing does" (p. 99). McCloskey indicated that through the utilization of nursing diagnoses, nurses can demonstrate independence, accountability, and influence on health care. Hausman (1980) advocated the use of nursing diagnoses in explaining the role of the professional nurse.

Basic to the establishment of nursing as a profession is the establishment of a nursing science. Abdellah (1969) described the ability to make a nursing diagnosis as a fundamental step in the development of a nursing science. Nursing diagnoses tend to look at the client's response to disease. Thus, nursing's role is for the care of the client response to disease.

Physicians, on the other hand, form medical diagnoses that deal with a disease or pathologic process. Their role as defined by society is to recognize, define, and treat illness (Wulff, 1976). Lister (1982) declared that the right of the physician included the right to diagnose disease, prescribe medicine, and plan for delivery of health care. Oppenheim (1980) stated that doctors do not care for individuals. Oppenhiem (1980) expounded on this by adding that "clergymen and nurses do that sort of thing" (p. 1118).

The primary goal identified by most medical school catalogs is to "provide the opportunity to learn the technical and scientific skills required to treat disease" (Corey, 1972, p. 3). The primary aim of some schools of nursing is to prepare professional nurse practitioners to care for the sick, aid in rehabilitation of handicapped, and to promote health (Texas Woman's University, 1978). Clearly, society and educational facilities have defined nursing's and medicine's roles in society. Nurses care for people and physicians treat disease. With such differing roles, one would expect to see a difference in the type of diagnoses generated by nurses and physicians. Durand and Prince (1966) stated that the differences between nursing and medical diagnoses arise from each practitioner's view of his/her role behaviors. Edel (1982) asserted that nursing and medical diagnoses are a reflection of their differing goals.

On the other hand, with nurses and physicians working collaboratively in patient care, some patients' health needs met by nurses and physicians may overlap. Fagin (1981) contended that both nursing and medicine generated diagnoses which are directed at patient needs.

This requires a collaboration between the two professions. Therefore, associations may exist between some nursing and medical diagnoses and may not exist between others.

Assumptions

The following assumptions were identified for this study:

1. Nurses and physicians have different roles in the health care field.
2. Nurses and physicians generate diagnoses reflecting their respective roles.
3. The difference in roles between physicians and nurses is reflected, at least in part, by the nursing and medical diagnoses.

Hypotheses

The following research hypotheses were identified for this study:

1. There is no association between patients' highest priority nursing diagnoses classified according to the response component of the nursing diagnosis and the main medical diagnoses classified according to the ICD.

2. There is no association between patients' second highest priority nursing diagnoses classified according to the response component of the nursing diagnosis and the main medical diagnoses classified according to the ICD.

3. There is no association between patients' third highest priority nursing diagnoses classified according to the response component of the nursing diagnosis and the main medical diagnoses classified according to the ICD.

4. There is no association between patients' highest priority nursing diagnoses classified according to the etiology component of the nursing diagnosis and the main medical diagnoses classified according to the ICD.

5. There is no association between patients' second highest priority nursing diagnoses classified according to the etiology component of the nursing diagnosis and the main medical diagnoses classified according to the ICD.

6. There is no association between patients' third highest priority nursing diagnoses classified according to the etiology component of the nursing

diagnosis and the main medical diagnoses classified according to the ICD.

7. There is no association between patients' highest priority nursing diagnoses classified according to the degree of human response and the main medical diagnoses classified according to the ICD.

8. There is no association between patients' second highest priority nursing diagnoses classified according to the degree of human response and the main medical diagnoses classified according to the ICD.

9. There is no association between patients' third highest priority nursing diagnoses classified according to the degree of human response and the main medical diagnoses classified according to the ICD.

10. There is no association between patients' highest priority nursing diagnoses classified according to the degree of human response and the main medical diagnoses classified according to the level of disease process.

11. There is no association between patients' second highest priority nursing diagnoses classified according to the degree of human response and the main medical diagnoses classified according to the level of disease process.

12. There is no association between patients' third highest priority nursing diagnoses classified according to the degree of human response and the main medical diagnoses classified according to the level of disease process.

Definition of Terms

For the purposes of this study, the following terms were operationally defined:

1. Main medical diagnosis--the diagnosis recorded on the nursing care plan in the column marked medical diagnosis.

2. Nursing diagnosis--the diagnoses consisting of two components connected with phrase "related to," "due to," or "secondary to" recorded on the nursing care plan in the column labeled patient problems.

3. Response component--the first component of the nursing diagnosis statement which describes the human responses as physiological, psychological, or sociocultural as categorized by the Tool for Categorization of the Response Component.

4. Etiology component--the second component of the nursing diagnosis statement which describes the

etiology of the response as classified by Gartland's Schema for Classification.

5. Degree of human response--classification of the nursing diagnosis as primary, secondary, or tertiary as categorized by the Tool for Categorization of the Degree of Human Response.

6. Level of disease process--classification of the medical diagnosis as acute or chronic. Diagnoses will be classified as acute if patients are hospitalized on the acute care nursing unit. Diagnoses will be classified as chronic if patients are hospitalized on the rehabilitative nursing unit or if the term chronic is included in the medical diagnosis.

7. Medical diagnosis classification--classification of the medical diagnosis into one of the ICD categories according to the Tool for Categorization of the Medical Diagnosis.

8. Quality of nursing diagnosis--the number of criteria met by the nursing diagnosis on the Evaluation of Nursing Diagnosis Instrument.

9. Priority of nursing diagnosis--Nursing diagnoses are listed on the care plan from the level of greatest need to the level of least need. The priority

of nursing diagnosis refers to the level of need, for example, the highest priority nursing diagnosis indicated the greatest need for the patient and is listed first on the care plan.

Limitations

The following limitations were identified for this study:

1. The reliability of the following instruments were undetermined prior to use in the study: (a) Tool for Categorization of Medical Diagnosis, (b) Tool for Categorization of the Response Component of the Nursing Diagnosis, and (c) Tool for Categorization of the Degree of Human Response.

2. Two different panels of judges did the categorizing of data. Each panel independently categorized half of the data.

Summary

Using a conceptual framework based on role theory, this study investigated the relationships between nursing and medical diagnoses. The problem statement and research hypotheses have been presented in this chapter. This chapter has also presented the

assumptions, limitations, and definitions of pertinent terms of the study.

CHAPTER 2

REVIEW OF LITERATURE

The purpose of this chapter is to provide a review of the literature that focuses on the relationship between nursing and medical diagnoses. This study has focused on the product of nursing diagnosis, not the process of nursing diagnosis. The literature review will include a brief history of nursing diagnosis, a review of literature addressing nursing and medical diagnoses, and a brief summary.

History of Nursing Diagnosis

The idea of a nurse formulating a diagnosis has been around for longer than what current literature suggests. Davies (1912) warned that nurses were not to "upsurp medical functions" (p. 251) which included the act of diagnosing. Fortunately, this warning was not heeded and the concept of nursing diagnosis was presented in the literature in the 1950s. Fry (1953) suggested that nurses should design a plan of patient care based upon a nursing diagnosis.

Early definitions of nursing diagnosis suggested that a nursing diagnosis was classified as nursing in nature by virtue of who formulated the diagnosis. Hornung (1956) offered an early definition of nursing diagnosis as any judgment made by a nurse. Gebbie and Lavin (1974) supported this early definition by suggesting that a nursing diagnosis was the process of the identification of patient problems by nurses.

In the 1960s, writers claimed that nursing diagnosis could be defined by the focus of the diagnosis. Komorita (1963) defined nursing diagnosis as a "conclusion based on scientific determination of an individual's nursing needs" (p. 84). Chambers (1962) declared that nursing diagnoses addressed patient problems not covered by physicians. Also, Durand and Prince (1966) viewed nursing diagnosis as a conclusive statement which resulted from recognition of a certain pattern.

Definitions of nursing diagnoses in the 1970s began to focus upon who treated the problem identified in the diagnosis. Munding and Jauron (1975) defined nursing diagnosis as the statement of a patient problem which must be amenable to nursing intervention. Gordon

(1976) stated that nursing diagnoses described "health problems in which the responsibility for therapeutic decision can be assumed by a professional nurse" (p. 1298). Fortin and Rabinow (1979) surmised that nurses could be held accountable for accurately diagnosing and taking appropriate actions which fall within the realm of nursing.

In the 1970s, nurses also moved from defining nursing diagnosis to the development of a taxonomy of nursing diagnoses. In 1973, the First National Conference on the Classification of Nursing Diagnosis (cited in Hausman, 1980) convened in St. Louis, Missouri. One of the purposes of the First Conference was to develop a taxonomy of nursing diagnoses. A list of 30 nursing diagnoses were identified at the First Conference (Hausman, 1980).

In March of 1975, the Second National Conference on the Classification of Nursing Diagnoses (cited in Gordon, 1982b) met to consider other issues dealing with nursing diagnosis. A Third Conference (cited in Gordon, 1982b) was held in April 1978 to continue to identify nursing diagnoses. A standardized nomenclature was begun and a theoretical framework for a

taxonomy was proposed (Gordon, 1982b). The Fourth National Conference on the Classification of Nursing Diagnoses (cited in Gordon, 1982b) met in 1980 for the purposes of refining established nursing diagnoses and to further integrate practitioner's and theorist's views of nursing diagnosis. In addition, the Fourth Conference agreed upon a modification of Gordon's definition of nursing diagnosis. The Conference defined nursing diagnosis as

responses to actual or potential health problems which nurses by virtue of their education and experience are able, licensed, and legally responsible and accountable to treat. (Moritz, 1982, p. 53)

The Fifth National Conference (cited in Gordon, 1982b) was held during which the North American Association for Nursing Diagnosis was founded.

Besides continuing to work on the development of a taxonomy of nursing diagnoses, nursing in the 1980s began to focus on the usage of nursing diagnosis. Currently, most states have nurse practice acts which do not hold nurses responsible for the formulation of nursing diagnoses. More progressive states not only maintain that a professional nurse is responsible for diagnosis, but include a legal definition in their nurse

practice acts. The Kansas State Board of Nursing (1981), for example, included the following definition of nursing diagnosis in its Nurse Practice Act:

The identification and discrimination between physical and psychosocial signs and symptoms essential to effective execution and management of the nursing regimen and shall be construed as different from medical diagnosis. (p. 1)

Thus, some states have incorporated the formulation of nursing diagnoses as part of the role of the professional nurse. Traditionally, nurses were viewed and utilized as handmaidens to physicians. Health care facilities, physicians, and the public emphasized nursing's dependent role on the physician. Nursing was also viewed as a field of occupation where the primary mode of nursing action/intervention was that of nurturing (Hull, 1982). Only within the last decade has nursing seriously exercised the rights and responsibilities of its independent role.

Durand and Prince (1966) viewed differences in nursing and medical diagnoses as arising from the differences in each practitioner's role responsibilities and behaviors. Most writers agree that medicine's role is concerned with the diagnosis and treatment of disease. Nursing's role, on the other hand, is generally accepted

as to aid the patient with self-care skills and coping skills in his/her response and adaptation to a disease or pathologic process (Edel, 1982; Keenan, 1981; Soares, 1978; Stemmler, 1981). More simply stated, the role of nursing is the treatment and caring of people and medicine's role is the treatment and curing of disease or pathology (Eckelberry, 1976; Hull, 1980; Keenan, 1981; Rothberg, 1967; Stemmler, 1981).

It is assumed that nursing and medicine's roles are reflected somewhat in the diagnoses that each profession makes. It is agreed that medical diagnoses have a tendency to define disease or a pathological process whereas nursing diagnoses do not focus upon a disease process (Bockrath, 1982; Little & Carnevali, 1976; Roy, 1976; Soares, 1978). Thus, most authors agree that nursing diagnoses are different from medical diagnoses. However, the nature of this difference has not been investigated.

Nursing and Medical Diagnoses

Relating back to the differing roles of nursing and medicine, Eckelberry (1976) submitted that the difference between nursing and medical diagnoses is that a medical diagnosis leads to a plan for cure. A nursing

diagnosis leads to a plan of nursing care. The nursing diagnosis reflects the nursing focus of preserving a patient's adaptive mechanisms and removing or reducing painful stimuli.

Bockrath (1982) sought to illustrate the differences between nursing and medical diagnoses through the use of case studies. It was asserted that the nursing and medical diagnoses were different; however, case studies generally do not provide an adequate basis for generalization (Polit & Hungler, 1978). Although case study data are indepth, it is highly prone to investigator bias.

Bockrath's (1982) first case was of a 67-year-old postoperative open-heart surgery patient. The patient continued to complain of chest pain postoperatively and was rushed for a repeat cardiac catheterization which showed no cardiac problems. It was suggested that the chest pain was related to not taking postoperative pain medication and, thus, an appropriate nursing diagnosis would have saved the patient the risks and pains of a repeat cardiac catheterization.

Bockrath (1982) also presented the case of a 56-year-old hospitalized postoperative patient with a

medical diagnosis of psychosis. The patient was given heavy doses of psychotropic drugs without any improvement in his psychosis. A nursing diagnosis of "sensory alteration related to isolation" (Bockrath, 1982, p. 31) led to the patient being transferred to a semi-private room from a private room. The medications were discontinued and staff visitations were increased. In a short period of time the patient was reported to be lucid.

Bockrath (1982) asserted that nursing diagnoses differed from medical diagnoses in three ways. First, the nursing diagnosis focuses on a response to a problem rather than on disease like a medical diagnosis. This aids in identifying problems that medicine misses. Second, the nursing diagnoses change throughout the patient's various stages of illness to their health. Finally, the nursing diagnosis has the flexibility of addressing potential health problems rather than just actual problems. Bockrath further declared that the nursing diagnosis provides more comprehensive and individualized care than patients receive with just a medical diagnosis.

While some literature does attempt to illustrate the differences between nursing and medical diagnoses, the majority of literature tends to link nursing and medical diagnoses with some type of relationship. More specifically, most writers maintain that the medical diagnosis has a direct effect upon the nursing diagnoses. Little and Carnevali (1976) outlined three ways in which it was suggested that the medical diagnosis influenced the nursing diagnosis. First, the medical diagnosis could be a stressor which affects the person's life style. Second, the medical diagnosis could explain the deterrents to an individual's coping abilities. And, third, the medical treatment could be the etiology of the nursing diagnosis as in the case of iatrogenic diseases.

Little and Carnevali (1976) contended that while the medical diagnosis labeled a pathology or symptoms, the nursing diagnosis identified the effect of that pathology or symptoms on the life style and activity of the patient. These researchers concluded that the nursing and medical diagnoses are closely related. Based on this conclusion, they advocated the incorporation of the medical diagnosis in the nursing diagnosis

and the nursing plan of care, as well as the incorporation of the nursing diagnosis in the medical plan of care. These researchers suggested that the close relationship between nursing and medical diagnoses was increased for patients suffering from a chronic illness.

Other writers supported Little and Carnevali's speculations that nursing and medical diagnoses are closely related. Various authors have asserted that medical diagnoses identify a disease or pathology while nursing diagnoses address the patient's reaction to that disease, pathologic process, or its consequences (Andrews, 1982; Aspinall, 1976; Henderson, 1978; Roy, 1976; Shoemaker, 1979). Gordon (1982b) and Soares (1978) added the declaration that nursing diagnoses can also address potential as well as actual problems.

Gordon (1982a) sought to explain the relationship between nursing and medical diagnoses. Gordon claimed that there was a direct connection between certain disease complications and secondary health problems which fall into the domain of nursing care. Monica (1979) further suggested that certain nursing diagnoses could be expected for certain medical diagnoses.

Monica's example was that the nursing diagnosis of pain could be anticipated in patients with the medical diagnosis of myocardial infarction. In cases where the patient is critically ill, Monica believed that the nursing and medical diagnoses would be identical. This idea would suggest confusion between the independent and dependent roles of the nurse, and, thus, create great difficulty in differentiating between nursing and medical diagnoses.

Leslie (1981) conducted a research study which described the nursing and medical diagnoses of patients in a long-term care facility. Records of 210 patients who were residents of the facility for at least 1 year were reviewed. A total of 37 different medical diagnoses were found which fell into 8 different diagnostic categories. A total of 1,521 different nursing diagnoses fell into 35 different nursing diagnosis categories.

The largest medical diagnosis category was blood vessel diseases which accounted for 49% of the medical diagnoses (Leslie, 1981). Neurological disorders comprised 22% of the medical diagnoses, followed by bone and connective tissue diseases (13%). The majority

of nursing diagnoses was categorized as psychological and emotional disorders. Impaired mobility was the second largest group, with excretory dysfunction as the third largest classification.

Leslie's (1981) study did not statistically describe any associations between the nursing and medical diagnoses, but rather just described the types of nursing and medical diagnoses found in patients in a long-term care facility. Leslie claimed that the nursing diagnoses were more relevant in long-term care than are medical diagnoses. She added that nursing diagnoses communicated patients' problems better than medical diagnoses. However, there was no statistical evidence to support these statements.

Summary

In summary, the literature contains a variety of material containing speculations and generalizations about nursing diagnosis and its relationship to medical diagnosis. Little factual description or research could be found. The tendency was for literature to agree on the assertion that medical diagnoses label a pathologic process or disease entity, while nursing diagnoses

address the patient's response to the pathology, disease, or its consequences and how it disrupts the patient's life style. Most authors also agreed that there was a direct relationship between the medical and nursing diagnoses. This relationship was not supported with factual data.

CHAPTER 3

PROCEDURE FOR COLLECTION AND TREATMENT OF DATA

The research design for this study was a descriptive-correlational design. The purpose of such a study was to describe relationships between variables. It was also classified as an ex post facto study in that there was no manipulation of variables by the researcher.

Setting

The study was conducted in a Southwestern, state-supported university. The study took place on one of three of the university's campuses in a large metropolitan area. This campus offers graduate and undergraduate nursing and allied health curricula. Nursing and medical diagnoses were obtained from nursing care plans generated by senior nursing students on clients who were hospitalized on either a neurological nursing floor or a medical nursing floor in a county hospital in a large metropolitan area.

Population and Sample

The target population for this study was nursing care plans generated by senior baccalaureate nursing students enrolled in an advanced medical-surgical nursing course. The nursing course focused on care of patients with neurologic or endocrine disorders. The accessible population was 107 nursing care plans generated by 21 students enrolled in this course during the summer of 1982. A nonprobability convenience sample consisted of all nursing care plans from the accessible population which met the following criteria: (a) contained a medical diagnosis, (b) contained nursing diagnoses which consisted of a response component and etiology component, and (c) the response and etiology component were joined by the phrase "related to," "due to," or "secondary to." In this study, the sample and accessible population were the same.

Protection of Human Subjects

This study was exempt from review by the Texas Woman's University Human Research Review Committee (Appendix A) since nursing care plans are routinely turned in to the instructors upon student's completion of the course. The care plans are kept by the

instructors for 1 year. Care plans are then considered property of the university. After obtaining university permission (Appendix B) for use of the care plans, the care plans were obtained from the faculty instructors for use in the study. Upon completion of transcribing data from the study sample, all care plans were returned to the appropriate instructors. No names of students or patients were collected or identified with the data. Permission to conduct the study was also obtained from the graduate school (Appendix C).

Instruments

Five instruments were utilized in this study:

(a) Evaluation of Nursing Diagnosis Instrument (Appendix D) taken from Ziegler (Note 1), (b) Tool for Categorization of Medical Diagnosis (Appendix E) derived from International Classification of Diseases--9th edition--Clinical Modification (1980), (c) Tool for Categorization of the Response Component of the Nursing Diagnosis (Appendix F) derived from Texas Woman's University (Johnson, Vaughan-Wrobel, Ziegler, Hough, Bush, & Kurtz, 1982) interpretation of Neuman's health care systems model, (d) Tool for Categorization of the Degree

of Human Response (Appendix G) derived from Neuman's (1980) health care systems model, and (e) Gartland's (Note 2) Schema for Classification of the Etiology Component of the Nursing Diagnosis Statement and Nursing Interventions (Appendix H). Permission to use Gartland's instrument is shown in Appendix I. A Demographic Data Form was also used for the purpose of describing the client population from which nursing care plans were formulated. The Demographic Data Form (Appendix J) was developed by the investigator and contained the care plan code number, age, sex, and race of the clients.

Evaluation of Nursing Diagnosis Instrument

The Evaluation of Nursing Diagnosis Instrument was taken from an instrument developed by Ziegler (Note 1): Criteria for Evaluating the Nursing Diagnosis Statement. The original instrument was constructed for evaluation of the nursing diagnosis statement according to pre-established criteria. Ziegler's instrument contains six general criteria, four criteria relating specifically to the response component of the diagnosis statement, and four criteria relating specifically to the etiology component of the diagnosis statement.

For the purpose of this study, Ziegler's general criteria that state that (a) a response and etiology component are present, (b) the two components are joined by the phrase "related to," and (c) the response component as written first, were all combined to form Criteria A on the new instrument. General criterion stating that the diagnosis statement is not circular was renamed Criteria B for the new instrument. Other criteria utilized for the new instrument were the following: Criteria C--the response component must be modifiable, Criteria D--the activity required to modify the etiology component is within nursing's independent function, and Criteria E--the etiology is changeable.

Criteria selected for use in this study were chosen based on the anticipated quality of nursing diagnoses. Criteria chosen are basic to what would be considered minimal for a statement to be considered an acceptable nursing diagnosis. The interrater reliability coefficient for Ziegler's instrument was computed to be .83. Interrater reliability was computed for the present study and is reported in Chapter 4 of this study.

Tool for Categorization of Medical Diagnosis

The Tool for Categorization of Medical Diagnosis was derived by the investigator from the International Classification of Diseases--9th edition--Clinical Modification (1980) (ICD-9-CM). The ICD-9-CM has 17 major categories. For the purpose of this study, 8 categories were used as is, with the remaining categories combined into one classification of "other." Categories included in the classification of other were anticipated to have a lesser incidence than the 8 categories listed on the tool. This related to the type of hospital nursing units to which patients were admitted. No reliability or validity was established for this instrument prior to the study. However, interrater reliability was computed and is reported in Chapter 4 of this study.

Tool for Categorization of the Response Component of the Nursing Diagnosis

The Tool for Categorization of the Response Component of the Nursing Diagnosis was derived by the investigator from Texas Woman's University's interpretation of Neuman's health care systems model. Neuman's

(1980) model addressed four subsystems of the human system: physiological, psychological, sociocultural, and developmental. Texas Woman's University Master's degree program in nursing adapted Neuman's formulation to serve as a model for its clinical graduate nursing courses. The adaptation included subsuming the developmental subsystem under each of the other three systems. Each of the three subsystems identified by Texas Woman's University provides the basis for criteria of the tool (Johnson et al., 1982). No reliability or validity was established prior to the present study. Interrater reliability was computed and is reported in Chapter 4 of this study.

Tool for Categorization of Degree of Human Response

The Tool for Categorization of Degree of Human Response was derived by the investigator from Neuman's health care systems model. The model is based upon the response of the system to stressors. Stressors produce a degree of system reaction or response. Interventions aimed at stressors are based upon this degree of reaction (Neuman, 1980).

Neuman identified three levels of interventions: primary, secondary, and tertiary. Primary interventions are aimed at preventing stressors from penetrating the normal line of defense which activates a degree of system response. Secondary interventions are aimed at the treatment of the symptoms caused by stressor penetration of the normal line of defense which activates a degree of system response. The system is in a state of instability. Tertiary interventions are aimed at rehabilitation and supporting the stabilized system as it goes through the process of reconstitution. Levels of intervention then are based upon the degree of human response. No reliability or validity was established for this instrument prior to the study. Interrater reliability was computed and is reported in Chapter 4 of this study.

Schema for Classification of the Etiology
Component of the Nursing Diagnosis State-
ment and Nursing Interventions

The Schema for Classification of the Etiology Component of the Nursing Diagnosis Statement and Nursing Interventions was developed by Gartland (Note 2). Nine categories were included in Gartland's instrument

which were based upon concepts introduced by Orem, Orlando, and Peplau (cited in Gartland, Note 2).

Interrater reliability for Gartland's instrument was .63 in the original study. Content validity was established utilizing a panel of experienced nurses prior to a pilot study (Gartland, Note 2). The interrater reliability obtained in the present study was computed and is reported in Chapter 4.

Data Collection

After permission to obtain nursing care plans was received from the university, all nursing care plans were obtained from the two faculty instructors. All 107 nursing care plans met the criteria outlined in the "Population and Sample" section of this study and served as the sample. Demographic data were recorded on the Demographic Data Form by the investigator. The main medical diagnosis and top three priority nursing diagnoses from the care plans were recorded on the Master Data Sheet (Appendix K). The top three priority nursing diagnoses were those diagnoses which were identified by the students as being the three priority patient problems.

The investigator then classified the medical diagnoses into an acute or chronic category as outlined by the operational definition, and entered the results in the appropriate column on the Master Data Sheet. The investigator also transcribed the complete nursing diagnoses from the Master Data Sheet onto the Answer Sheet for Evaluation of Quality of Nursing Diagnosis (Appendix L). Answer sheets for categorization of medical diagnoses, etiology components of nursing diagnoses, and response components of nursing diagnoses were similarly completed.

Three panels consisting of three judges each were utilized for the next phase of data collection. All judges were graduate nursing students who had completed coursework for a Master's degree at the same Southwestern university from which the care plans were obtained. Three panels were utilized because of the large amount of time required of panel members for data categorization. One panel was utilized for the evaluation of the quality of all nursing diagnoses. Two panels working independently were utilized for categorization of nursing and medical diagnoses. Each panel met separately with the investigator. All panels met in the workroom

on the university campus at times convenient for panel members.

Panel 1

The first panel evaluated the quality of the nursing diagnoses generated on patient care plans. Each panel member was given an Evaluation of Nursing Diagnosis Instrument and Answer Sheet for Evaluation of the Quality of Nursing Diagnosis. The panel was given verbal instructions as a group. The investigator reviewed the Evaluation of Nursing Diagnosis Instrument verbally with the panel. Judges were then asked to independently read each nursing diagnosis and assess its quality by identifying which criteria the nursing diagnosis met. Placing a "yes" or "no" in the appropriate column on the Answer Sheet for Evaluation of the Quality of Nursing Diagnosis indicated whether or not the diagnosis met that criteria.

Panel 2 and Panel 3

Panel 2 and Panel 3 categorized the medical and nursing diagnoses obtained from the care plans. Panel 2 categorized the first half of the medical diagnoses and the corresponding nursing diagnoses. Panel 3

categorized the second half of the medical diagnoses and the corresponding nursing diagnoses. Each judge was given an Answer Sheet for Categorization of Medical Diagnosis, Answer Sheet for Categorization of Response Component of Nursing Diagnosis, and Answer Sheet for Categorization of Etiology Component of Nursing Diagnosis (Appendix M). Panel members were also given the instruments for categorization. Instruments were verbally reviewed with the judges by the investigator. The judges were then asked to independently read each medical diagnosis and enter the appropriate category number on the Answer Sheet for Categorization of Medical Diagnosis. Judges then independently read each response component of the nursing diagnoses and entered the appropriate category numbers on the Answer Sheet for Categorization of Response Component of Nursing Diagnosis. Finally, judges independently read each etiology component of the nursing diagnoses and entered the appropriate category number on the Answer Sheet for Categorization of Etiology Component of Nursing Diagnosis.

After all judges of each panel completed their tasks, the investigator computed a composite of the

quality of the nursing diagnoses, and the classification categories of the nursing and medical diagnoses. All judges' evaluations of the quality of nursing diagnoses were compiled. Criteria were classified on the Master Data Sheet according to the agreement of two or more judges. The nursing diagnoses were evaluated upon the number of criteria they satisfied.

The judges' classification of the medical diagnoses ICD categories were also compiled. If two or more judges agreed on a category for the medical diagnosis, then that category number was entered on the Master Data Sheet. If fewer than two judges agreed, the panel was asked to confer and come to an agreement on a category. The conference was recorded on the Master Data Sheet by circling the selected category number.

The judges' classifications of the response component of the nursing diagnoses were similarly compiled. If two or more judges agreed on the category for the response component, then that category number was entered on the Master Data Sheet. If fewer than two judges agreed, the panel was asked to confer and come to an agreement of a category. That conference was

recorded by circling the selected category number on the Master Data Sheet.

Finally, all judges' classifications of the etiology component of the nursing diagnoses were compiled. If two or more judges agreed on the category, then that category number was entered on the Master Data Sheet. If fewer than two judges agreed, the panel was asked to confer and come to an agreement on a category. The conference was recorded by circling that category number on the Master Data Sheet. This completed the process of data collection.

Treatment of Data

Data were first analyzed using descriptive statistics, specifically frequencies and percentages. The following descriptions were reported: (a) description of the clients from which care plans were generated, (b) frequencies of nursing and medical diagnoses, and (c) quality of the nursing diagnosis statements.

A chi-square analysis was then utilized to test the study hypotheses. Level of significance was set at .05. A contingency correlation coefficient was computed where significant associations were obtained.

CHAPTER 4

ANALYSIS OF DATA

A descriptive-correlational study was conducted to determine the associations between nursing and medical diagnoses. Five tools were used to classify the nursing and medical diagnoses in a variety of ways. This chapter presents a description and analysis of the data.

Description of Sample

A total of 107 nursing care plans comprised the sample of this study. Of this number, 105 care plans had at least 3 nursing diagnoses and 2 care plans had only 2 nursing diagnoses. Demographic data collected included age, sex, and ethnic background of patients for whom the nursing care plans were formulated.

The patients whose care plans made up the study sample included 49 (37.38%) males and 67 (62.62%) females. Ages of subjects ranged from 16-88 years with the average being 50 years of age. The patients' ages were classified into three age categories: 35 (32.71%) patients who were less than 30 years old,

55 (51.40%) patients who were between the ages of 31 and 69, and 13 (12.15%) patients who were more than 69 years of age. Four patients did not have an age reported on the nursing care plans.

The majority of patients was classified as either white (39%) or black (38%). The ethnic categories into which patients were classified are illustrated in Table 1.

Table 1
Frequency and Percentage of Patients
by Ethnic Background

Ethnic Group	Frequency	Percentage
White	42	39.26
Black	41	38.26
Latin	16	14.95
Vietnamese	3	2.80
Iranian	1	.93
Not reported	<u>4</u>	<u>3.74</u>
Totals	107	100.00

A total of 319 nursing diagnoses was used in data analysis. All nursing diagnoses were evaluated

as to quality by the number of criteria met by the Evaluation of Nursing Diagnosis Instrument. All 5 criteria were met by 172 (53.91%) of the nursing diagnoses, 4 criteria were met by 29 (9.10%) of the nursing diagnoses, 3 criteria were met by 97 (30.41%) of the nursing diagnoses satisfied 3 criteria, 18 (5.64%) of the nursing diagnoses satisfied 2 criteria, 2 (.63%) of the nursing diagnoses met only 1 criteria, and only 1 (.31%) nursing diagnosis did not meet any criteria. Table 2 illustrates the frequency and percentages of nursing diagnosis statements meeting each of the criteria. The most problematic area identified was in the etiology component of the nursing diagnoses in that approximately 37% of the nursing diagnoses identified etiologies that were unchangeable and 42% identified etiologies that were not amenable to nursing's independent functions.

The response component of the nursing diagnosis statement was classified in two ways: according to the patient subsystem affected and according to the degree of human response. Of 319 nursing diagnoses, 196 (61.44%) were classified as physiological, 96 (30.09%) were classified as psychological, and 27

Table 2

Frequency and Percentage of Nursing Diagnosis Statements
Meeting Each of the Evaluation Criteria

Criteria	Number of Diagnoses Satisfying Criteria	Percentage
Diagnosis stated in the form of response "related to" etiology	310	97.18
Diagnosis is not circular	311	97.49
Response component is modifiable	292	91.54
Etiology component is changeable	201	63.01
Activity to change etiology in an independent nursing function	186	58.31

n = 319.

(8.46%) were classified as sociocultural. When the nursing diagnoses were classified according to the degree of human response, 81 (25.29%) of the response components were classified as primary, 219 (68.65%) of the response components were classified as secondary, and 19 (5.96%) of the response components were classified as tertiary.

The majority of the etiology components of the nursing diagnosis statements was classified as reflecting a medical diagnosis (32%). The next top 3 categories were inability to perform a task (25%), lack of knowledge (15%), and reflecting an ambiguous etiology (10%). Table 3 describes how the etiology component of the nursing diagnoses was classified.

Medical diagnoses ($n = 107$) were classified according to the ICD categories and the level of disease process. Of the medical diagnoses, 68 (63.55%) were classified as acute and 39 (36.45%) were classified as chronic. When classified according to the ICD categories, 31 (28.97%) of the medical diagnoses were classified as circulatory disorders. The second most frequent category classification was endocrine/metabolic (24.30%). Table 4 describes how the medical diagnoses were classified according to the ICD categories.

Table 3
Frequency and Percentage of Etiology Component
by Etiology Classifications

Classification	Frequency	Percentage
Reflects medical diagnosis	103	32.29
Inability to perform task	80	25.08
Lack of knowledge/understanding	48	15.04
Ambiguous etiology	33	10.34
Inability to sustain an effort	19	5.96
Inability to make choice	17	5.33
Environmental deficit	11	3.45
Lacks necessary resources	5	1.57
Need for nurturance	<u>3</u>	<u>.94</u>
Totals	319	100.00

Table 4
Frequency and Percentage of Medical Diagnoses
by ICD Classification Category

ICD Category	Frequency	Percentage
Circulatory disorders	31	28.97
Endocrine/metabolic disorders	26	24.30
Neurological disorders (includes sense organs)	14	13.08
Injuries	11	10.28
Infectious disorders	10	9.35
Neoplasms	10	9.35
Other (includes respiratory, digestive, and renal disorders)	5	4.67
Totals	107	100.00

Interrater reliability was computed on instruments utilized by the panel of judges for classification of the medical and nursing diagnoses. Interrater reliability was calculated according to the following formula which is found in Polit and Hungler (1978).

$$\frac{\text{number of agreements}}{\text{number of agreements and disagreements}} \text{ (p. 431)}$$

Agreements included situations where two or more judges agreed on the category. Disagreements were situations where there was no agreement on the category by the judges. The number of disagreements was also indicative of the number of conferences necessary for each instrument. Interrater reliability was computed with data taken before conferences were included in the data.

The Tool for Categorization of Medical Diagnosis had a computed interrater reliability coefficient of .96. The Categorization of the Response Component of the Nursing Diagnosis Tool had a computed interrater reliability coefficient of .99. The Tool for Categorization of the Degree of Human Response had an interrater reliability coefficient of .99. Gartland's (Note 2) Schema for Classification of the Etiology Component of the Nursing Diagnosis Statement and Nursing Interventions

had a computed interrater reliability coefficient of .84 in this study. The Evaluation of Nursing Diagnosis Instrument had a computed interrater reliability of .71 in this study. Table 5 illustrates the agreement between judges for each of the instruments.

Findings

Chi-square analyses were computed to test each of the study hypotheses. Where significant associations were found, a contingency coefficient was computed. Each medical diagnosis was accompanied by at least two and usually three nursing diagnoses. For this reason, hypotheses had been formulated for the highest priority, second highest priority, and third highest priority nursing diagnoses.

Hypotheses 1, 2, and 3

Hypothesis 1, 2, and 3 addressed the association between the nursing diagnoses response components classified according to subsystem responding and the medical diagnoses classified according to the ICD. Because of the low frequencies in various categories, whether or not the priority level of nursing diagnosis was significantly associated when system response

Table 5
Number of Judges In Agreement and Interrater Reliability Regarding
Classification Category By Instrument

Instrument	Number of Judges in Agreement			Interrater Reliability
	3	2	0	
Tool for categorization of medical diagnosis	52	51	4	.96
Categorization of the response component of the nursing diagnosis tool	256	61	2	.99
Tool for categorization of the degree of human response	193	125	1	.99
Schema for classification of the etiology component of the nursing diagnosis statement	132	137	50	.84
Evaluation of Nursing Diagnosis Instrument	1134	461	--	.71

classification was computed. The purpose of this was to combine related hypotheses to accommodate one basic assumption of chi-square analysis: each cell should have an expected value of at least 5 (Issac & Michael, 1971).

Utilizing a chi-square analysis with level of significance set at .05, no significant association was found between the subsystem classification of the response component of the nursing diagnosis and the priority of the nursing diagnosis, $\chi^2 (4) = 5.09$, $p > .05$. Because there was no significant association, Hypotheses 1, 2, and 3 were combined to form the following hypothesis: There is no association between patients' nursing diagnoses classified according to the type of subsystem response and the main medical diagnosis classified according to the ICD.

Because of the small number of nursing diagnoses classified as sociocultural (8%), the subsystem response categories of psychological and sociocultural were combined to form the category of psychosocial for the purposes of data analysis. Using chi-square analysis with a level of significance set at .05, the hypothesis was not rejected, $\chi^2 (6) = 5.58$, $p > .05$.

Thus, no significant association was found between the nursing diagnosis classified according to the type of subsystem response and the medical diagnosis classified according to the ICD categories (Table 6).

Hypotheses 4, 5, and 6

Hypotheses 4, 5, and 6 addressed the association between the nursing diagnoses classified according to the etiology and the medical diagnoses classified according to the ICD categories. Because of the low frequencies in various categories, a chi-square analysis was computed to determine whether or not the priority level of nursing diagnosis was significantly associated with etiology classification. No significant association was found between the etiology classification of the nursing diagnosis and the priority of the nursing diagnosis, $\chi^2 (21) = 19.41, p > .05$.

Because there was no significant association, Hypotheses 4, 5, and 6 were combined to form the following hypothesis: There is no association between patients' nursing diagnoses classified according to the etiology component of the nursing diagnosis and the main medical diagnosis classified according to the ICD.

Table 6

Chi-square Analysis of Subsystem Response of Nursing Diagnosis
and the Classifications of Medical Diagnosis

ICD Categories	Physiological		Psychosocial		Total
	Nursing Dx		Nursing Dx		
	Observed Frequency	Expected Frequency	Observed Frequency	Expected Frequency	
Circulatory disorders	55	(57.14)	38	(35.86)	93
Endocrine/Metabolic	43	(47.31)	34	(29.69)	77
Neurological disorders	28	(25.19)	13	(15.81)	41
Injuries	24	(20.27)	9	(12.72)	33
Infectious disorders	16	(18.43)	14	(11.51)	30
Neoplasms	19	(18.43)	11	(11.57)	30
Other	11	(9.22)	4	(5.78)	15
Total	196		123		319

$\chi^2(6) = 5.58, p > .05.$

Due to the large number of cells present, some categories which were related were combined. The medical diagnosis categories of Infectious Disorders and Neoplasms were combined to form one category. Since other medical diagnosis categories reflect a certain biological subsystem and Infectious Disorders and Neoplasms are independent of any one biological subsystem, this task may be somewhat justified.

The etiology categories for the nursing diagnoses also required some combining to reduce the number of cells in the table. The categories' inability to sustain an effort and inability to make a choice were combined because both infer some type of counseling, advisement, or reinforcement. The categories' environmental deficit, lacks necessary resources, and need for nurturance were also combined into one category.

Since 15 of the 36 cells (Table 7) had an expected value of less than 5, the chi-square was computed using the formula for correction of continuity (Issac & Michael, 1971). This formula does not correct for the small number in the cells, but rather makes the chi-square analysis more appropriate. This computation was performed because cells with an expected value of less

Table 7

Chi-square Analysis of Etiology Component of Nursing
Diagnosis and the Medical Diagnosis

Etiology Category	Medical Diagnosis Category												Total
	Circulatory		Metabolic		Neurological		Injury		Infectious/ Neoplasm		Other		
	Observed Frequency	Expected Frequency	Observed Frequency	Expected Frequency	Observed Frequency	Expected Frequency	Observed Frequency	Expected Frequency	Observed Frequency	Expected Frequency	Observed Frequency	Expected Frequency	
Reflects medical diagnosis	31	(30.03)	22	(24.86)	16	(13.24)	12	(10.61)	12	(19.37)	10	(4.84)	103
Inability to perform task	33	(23.32)	10	(10.31)	7	(10.28)	13	(10.28)	16	(15.05)	1	(3.76)	80
Lack of know- ledge/ under- standing	10	(13.99)	23	(11.59)	4	(6.17)	0	(4.97)	8	(9.03)	3	(2.56)	48
Ambiguous etiology	5	(9.62)	11	(7.96)	5	(4.24)	2	(3.41)	9	(6.21)	1	(1.55)	33
Inability to sus- tain/ to make choice	11	(10.50)	7	(0.69)	4	(4.63)	4	(3.72)	10	(6.77)	0	(1.69)	36
Environ- mental deficit/ lacks resources/ need for nurturance	3	(5.54)	4	(4.59)	5	(2.44)	2	(1.97)	5	(3.57)	0	(.89)	19
TOTAL	93		77		41		33		60		15		319

Note. $\chi^2_{(25)} = 46.65, p < .05$

than 5 have a tendency to overestimate significance. The correction for continuity helps to decrease this type of error.

The hypothesis was rejected ($\chi^2 (25) = 43.65$, $p < .05$). There was found to be a significant association between the nursing diagnoses classified according to the etiology component and the medical diagnoses classified according to the ICD categories. The contingency coefficient computed was .3469. The upper limit of this coefficient was .91 and thus the correlation was low.

Hypotheses 7, 8, and 9

Hypotheses 7, 8, and 9 addressed the association between the nursing diagnoses classified according to the degree of human response and the medical diagnoses classified according to the ICD categories. Because of the low frequencies in various categories, it was determined whether or not the priority level of nursing diagnosis significantly affected its classification according to degree of response. Using a chi-square analysis with a level of significance of .05, a significant association was found between the priority level of nursing diagnosis and its degree of response

classification (χ^2 (4) = 14.16, $p < .01$). Nursing diagnoses classified as being in the primary mode tended to be lower priority and nursing diagnoses classified as being in the secondary or tertiary mode tended to be higher priority.

Because of the low frequencies in various cells and despite the significant association between the priority level of nursing diagnosis and its degree of response classification, Hypotheses 7, 8, and 9 were combined to form the following hypothesis: There is no association between patients' nursing diagnoses classified according to the degree of system response and the main medical diagnosis classified according to the ICD.

Using a chi-square analysis with a level of significance set at .05, the null hypothesis was not rejected (χ^2 (18) = 18.50, $p > .05$). No significant association was, thus, found between the nursing diagnosis classified according to the degree of human response and the medical diagnosis classified according to the ICD (Table 8).

A number of cells in Table 8 had an expected value of less than 5. To justify use of chi-square analysis, each cell should have an expected value of at least 5.

Table 8

Chi-square Analysis of Degree of Response of Nursing
Diagnosis and the Medical Diagnosis

ICD Categories	Degree of System Response						Total
	Primary		Secondary		Tertiary		
	Observed Frequency	Expected Frequency	Observed Frequency	Expected Frequency	Observed Frequency	Expected Frequency	
Circulatory disorders	20	(23.61)	70	(64.14)	3	(5.25)	93
Endocrine/Metabolic	25	(28.35)	42	(53.10)	10	(4.34)	77
Neurological disorders	7	(10.41)	32	(28.28)	2	(2.31)	41
Injuries	7	(8.38)	24	(22.76)	2	(1.86)	33
Infectious disorders	7	(7.62)	23	(20.69)	0	(1.69)	30
Neoplasms	10	(7.62)	19	(20.69)	1	(1.69)	30
Other	5	(3.81)	10	(10.34)	0	(.85)	15
Total	81		220		18		

Cells with an expected value of less than 5 have a tendency to overestimate significance. However, no significance was found, and, therefore, an overestimation presents no difficulties.

Hypothesis 10, 11, and 12

Hypotheses 10, 11, and 12 addressed the association between the nursing diagnoses classified according to the degree of human response and the medical diagnoses classified according to the level of response. As was described in the section of this chapter pertaining to Hypotheses 7, 8, and 9, there was a significant association found between the priority level of nursing diagnosis and its degree of response classification. Despite the association between the priority of nursing diagnosis and its subsystem response classification, because of the low cell frequencies, Hypotheses 10, 11, and 12 were combined for the purposes of data analysis. The new hypothesis was: There is no association between patients' nursing diagnoses classified according to the degree of human response and the main medical diagnosis classified according to the level of response.

Using a chi-square analysis with a level of significance set at .05, the null hypothesis was not rejected ($\chi^2 (2) = 2.42, p > .05$). No significant association was found between the nursing diagnosis classified according to the degree of system response and the medical diagnosis classified according to the level of response (Table 9).

Summary of Findings

This study failed to reject the following research hypotheses:

1. There is no association between patients' nursing diagnoses classified according to the subsystem response and the main medical diagnosis classified according to the ICD.
2. There is no association between patient's nursing diagnoses classified according to the degree of human response and the main medical diagnosis classified according to the ICD.
3. There is no association between patients' nursing diagnoses classified according to the degree of human response and the main medical diagnosis classified according to the level of response.

Table 9

Chi-square Analysis of Degree of Response of Nursing Diagnosis
and Level of Response of the Medical Diagnosis

Degree of System Response	Level of Response of Medical Diagnosis				Total
	Acute		Chronic		
	Observed Frequency	Expected Frequency	Observed Frequency	Expected Frequency	
Primary	53	(51.80)	28	(29.20)	81
Secondary	142	(140.05)	78	(78.95)	219
Tertiary	<u>9</u>	(12.15	<u>10</u>	(6.85)	<u>19</u>
Total	204		115		319

$$\chi^2 (2) = 2.42, p > .05.$$

The following research hypothesis was rejected by this study: There is no association between patients' nursing diagnoses classified according to the etiology component of the nursing diagnosis and the main medical diagnosis classified according to the ICD. A computed contingency coefficient of .32 indicated that there was a low level of association between the nursing diagnoses classified according to the etiology component and the medical diagnoses classified according to the ICD.

A significant association between the priority position of the nursing diagnosis statement and the degree of response was found. This indicated that nursing diagnoses classified as being in the primary mode tend to be lower priority and nursing diagnoses classified as being in the secondary or tertiary, tended to be higher priority.

Interrater reliability on all instruments used to classify the data was adequate with a range from .71 to .99. Finally, the quality of nursing diagnoses was evaluated. The majority of nursing diagnoses (54%) satisfied all criteria on the Evaluation of Nursing Diagnosis Instrument. The etiology component of the

nursing diagnosis statement was found to be the area of most difficulty as 37% were classified as having unchangeable etiologies and 42% were classified as requiring interventions which did not represent nursing's independent function.

CHAPTER 5

SUMMARY OF THE STUDY

This study addressed the problem: Is there an association between patients' nursing diagnoses generated by senior baccalaureate nursing students and the patients' medical diagnoses? This chapter will discuss the implications and conclusions based on the data and findings presented in Chapter 4 of this study. Recommendations are also offered for future studies based upon the data analysis.

Summary

This study was conducted to determine the associations between nursing and medical diagnoses. The quality of nursing diagnoses was also studied. The theoretical framework for this study was based upon role theory as presented by Biddle and Thomas (1979). Twelve research hypotheses were formulated for the study.

The study was conducted in a Southwestern, state-supported university in a large metropolitan area. One hundred seven nursing care plans generated by senior

nursing students in an advanced medical-surgical nursing course served as the study sample. The main medical diagnosis and the top three priority nursing diagnoses, as well as patient demographics, were transcribed from the nursing care plans by the investigator.

With the aid of two panels consisting of three judges each, the medical ($n = 107$) and nursing ($n = 319$) diagnoses were classified a variety of ways. The medical diagnoses were classified according to the ICD and according to the level of disease process. The nursing diagnoses were classified according to the response component of the nursing diagnosis statement, according to the etiology component of the nursing diagnosis statement, and according to the degree of human response. A third panel of judges evaluated the quality of the nursing diagnosis statements by indicating whether or not the diagnosis met pre-established criteria.

Descriptive statistics were utilized to describe the patients and the various ways that the nursing and medical diagnoses were classified. Chi-square analysis tested whether the nursing diagnosis classification was significantly affected by the priority level of the nursing diagnosis statement. The purpose of this was

to combine related hypotheses for the purpose of data analysis. The combined related research hypotheses that were statistically tested were:

1. There is no association between patients' nursing diagnoses classified according to the response component of the nursing diagnosis and the main medical diagnoses classified according to the ICD.

2. There is no association between patients' nursing diagnoses classified according to the etiology component of the nursing diagnosis and the main medical diagnoses classified according to the ICD.

3. There is no association between patients' nursing diagnoses classified according to the degree of human response and the main medical diagnoses classified according to the ICD.

4. There is no association between patients' nursing diagnoses classified according to the degree of human response and the main medical diagnoses classified according to the level of disease process.

Chi-square analysis was then computed to test these hypotheses. Level of significance was set at .05. A contingency correlation coefficient was computed where significant associations were found.

Data analysis revealed no significant associations between:

1. Nursing diagnoses classified according to the subsystem response and the medical diagnoses classified according to the ICD.

2. Nursing diagnoses classified according to the degree of human response and the medical diagnoses classified according to the ICD.

3. Nursing diagnoses classified according to the degree of human response and the medical diagnoses classified according to the level of response.

Other findings included a significant association between the nursing diagnoses classified according to the etiology component and the medical diagnoses classified according to the ICD. A significant association was also found between the priority level of the nursing diagnosis statement and the degree of human response.

An evaluation of the quality of nursing diagnoses revealed that 45% ($n = 319$) of the nursing diagnosis statements satisfied all criteria on the Evaluation of Nursing Diagnosis Instrument. The etiology component of the nursing diagnosis statement was found to be the area of most difficulty. Of 319 nursing diagnoses, 37%

of the etiology components were classified as having unchangeable etiologies and 42% were classified as having etiologies which require interventions that do not represent nursing's independent functions.

Discussion of Findings

The findings suggested that there was no association between the nursing diagnoses classified according to the response component and the medical diagnoses classified according to the ICD. There was also no significant association found between the nursing diagnoses classified according to the degree of human response and the medical diagnoses classified according to the ICD. And, finally, there was no significant association between the nursing diagnosis classified according to the degree of human response and the medical diagnosis classified according to the level of disease process. These findings suggested that the use of medical diagnoses to plan nursing care would not be helpful.

The present study findings tend to negate some writers' beliefs that certain nursing diagnoses could be expected for patients with certain medical diagnoses.

Monica (1979) explicitly stated that certain nursing diagnoses could be expected for certain medical diagnoses. This is not supported by the data analyzed in the present study.

The present study's results also not not support Little and Carnevali's (1976) statements about a close relationship between nursing and medical diagnoses. The literature of Little and Carnevali indicated that the relationship was closer in the patients suffering from a chronic illness. Again, the present study showed that there was no significant association between the nursing diagnoses classified according to the degree of response and the medical diagnoses classified as acute or chronic (level of disease process). Little and Carnevali advocated incorporation of the medical diagnosis in the nursing plan of care. They also advocated incorporation of the nursing diagnosis in the medical plan of care. The current study results indicated this would not be helpful.

Finding no significant associations between nursing and medical diagnoses also supports a role change of nursing. The role of the professional nurse is directed towards an autonomous, independent role. Nursing

diagnoses which are independent of the medical diagnoses reflect the nurse's independent role from the physician.

The present study results did indicate a significant relationship between the priority of nursing diagnosis and degree of human response. Actual health problems tended to be higher priority nursing diagnoses. Potential health problems tended to be lower priority nursing diagnoses. This would indicate that when setting priorities, nurses deal with actual health problems first and then potential health problems. This would be generalizable to nurses working with patients hospitalized in an acute care setting such as the hospital used in the present study.

When nursing diagnosis statements were classified according to the etiological component, 32% were classified as reflecting the medical diagnosis. Thus, when a significant association was found between the nursing diagnoses classified according to the etiology component and the medical diagnoses were classified according to the ICD, the results should be scrutinized closely. The correlation coefficient was low, and the association was greater between the medical diagnoses and the

etiology components of the nursing diagnoses were classified as reflecting a medical diagnosis.

Relating to this, evaluation of the quality of nursing diagnoses revealed that nurses had difficulty with the etiology component of the nursing diagnosis statement. Of 319 nursing diagnoses, 37% had etiology components which were classified as unchangeable and 42% were classified as having etiologies which did not indicate that the activity to alter the etiology was within nursing's independent function. Since the etiology component of the nursing diagnoses are used to generate appropriate nursing interventions, over one-third of the diagnoses would be useless in planning nursing care.

Conclusions and Implications

The following conclusions were identified:

1. Knowing the medical diagnosis could not be used to predict the patient subsystem (physiological, psychological, or sociocultural) responding as reflected in the nursing diagnosis.

2. Knowing the medical diagnosis could not be used to predict the degree of human responses (primary,

secondary, or tertiary) as reflected in the nursing diagnosis.

3. Knowing the level of disease process (acute or chronic) as reflected by the medical diagnosis could not be used to predict the degree of human response (primary, secondary, or tertiary) as reflected in the nursing diagnosis.

4. Knowing the medical diagnosis could not be used to predict the nursing diagnosis statement's etiology classification which reflects specific nursing interventions.

In general, knowledge of the medical diagnosis is not indicative of a certain type of nursing diagnosis, thus, not helpful in planning independent nursing care.

The implications of this study would indicate that nurses need to continue to develop the concept of nursing diagnosis. If nurses are to develop their independent role in health care, utilization of nursing diagnoses must be encouraged. Nurses need to be concerned with writing diagnostic statements which have etiologies that not only can be altered, but can be altered through nursing's independent actions.

Recommendations for Further Study

The following recommendations for further research were offered:

1. The study should be replicated with medical diagnoses classified according to biological systems rather than the ICD.
2. The study should be replicated using care plans from practicing nurses rather than nursing students.
3. A similar study should be conducted which compares care plans of long-term care facilities and acute-care facilities.
4. A larger data base should be used for the purposes of appropriate data analysis.

APPENDIX A

PROSPECTUS FOR THESIS
APPROVAL FORM

This proposal for a thesis by Debra Louise Topham
_____ and entitled Nursing and Medical Diagnoses:
A Comparison

_____ has been successfully defended and approved by the members
of the Thesis Committee.

This research is ✓ is not _____ exempt from
approval by the Human Subjects Review Committee. If the
research is exempt, the reason for its exemption is _____
that it is classified as Category I and involves no risks to
subjects.

Thesis Committee: Shirley Melat Ziegler, Chairperson
Edith C. Wagner-Walsh, Member
Helene A. Bush, Member

Date: September 27, 1982

_____, Dean, College of Nursing

Date: _____

APPENDIX B

TEXAS WOMAN'S UNIVERSITY
COLLEGE OF NURSING

AGENCY PERMISSION FOR CONDUCTING STUDY*

THE _____

GRANTS TO Debra Topham

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

Is there an association between clients' nursing diagnoses generated by senior baccalaureate nursing students and the medical diagnosis?

The conditions mutually agreed upon are as follows:

1. The agency (may) (may not) be identified in the final report.
2. The names of consultative or administrative personnel in the agency (may) (may not) be identified in the final report.
3. The agency (wants) (does not want) a conference with the student when the report is completed.
4. The agency is (willing) (unwilling) to allow the completed report to be circulated through interlibrary loan.
5. Other _____

10-7-82
Date

Debra Topham
Signature of Student

Signature of Agency Personnel

Shirley Melat Ziegler
Signature of Faculty Advisor

*Fill out & sign 3 copies to be distributed: Original-student; 1st copy-Agency; 2nd copy-TWU School of Nursing

APPENDIX C



Texas Woman's University

P.O. Box 22479, Denton, Texas 75204 (817) 383-2302, Metro 434-1757, Tex-An 834-2133

THE GRADUATE SCHOOL

November 2, 1982

Ms. Debra Topham
1810 Inwood Road, #420/
Dallas, TX 75235

Dear Ms. Topham:

I have received and approved the Prospectus for your research project. Best wishes to you in the research and writing of your project.

Sincerely yours,

Robert S. Pawlowski
Provost

ap

cc Dr. Anne Gudmundsen
Dr. Shirley Ziegler

APPENDIX D

Evaluation of Nursing Diagnosis Instrument

The quality of nursing diagnosis will be evaluated according to the following criteria. Answer yes or no on the answer sheet as to whether or not the criteria is met by the nursing diagnosis.

- A - The nursing diagnosis is stated in the form of: system response "related to" etiology of the response.
- B - The nursing diagnosis statement is not circular.
- C - The response component is potentially modifiable.
- D - The etiology component is potentially changeable.
- E - The activity required to modify the etiology is within the boundary of nursing's independent function.

From Ziegler, S.M. Criteria for evaluating the nursing diagnosis statement. Unpublished manuscript, Texas Woman's University, 1982.

APPENDIX E

Tool for Categorization of Medical Diagnosis

The medical diagnosis is to be classified according to the following categories. Place the appropriate category number on the answer sheet, next to the medical diagnosis.

1. Infectious and parasitic diseases - Diseases recognized as being communicable or transmissible.
2. Neoplasms - All tumors, benign or metastatic.
3. Endocrine, Nutritional, Metabolic, and Immunity Disorders - Those diseases involving endocrine glands, nutritional deficiencies, and other metabolic or immunity disorders.
4. Diseases of the Nervous System and Sense Organs - Those diseases involving the central and peripheral nervous system and disorders of the eye and ear.
5. Diseases of the Circulatory System - Those diseases involving the heart, arteries, veins, and lymphatic systems.
6. Injury and Poisoning - Those diseases or pathologic processes resulting from injuries or poisonings including motor vehicle accidents, trauma, and gunshot wounds.
7. Diseases of the Respiratory System - Those diseases involving the respiratory tract and lungs.
8. Diseases of the Digestive System - Those diseases involving the oral cavity and entire digestive tract.
9. Other - All diseases not included in the above categories.

APPENDIX F

Categorization of the Response Component of the Nursing Diagnosis Tool

The response component of the nursing diagnosis is to be classified according to the following categories. Place the appropriate category number on the answer sheet next to the response component of the nursing diagnosis.

1. Physiological - Those response components of the nursing diagnosis that deal with the physical structure and function of the body.
2. Psychological - Those response components of the nursing diagnosis that deal with the emotional and cognitive characteristics of the person.
3. Sociocultural - Those response components of the nursing diagnosis that deal with the situations or patterns of social characteristics of the person.

APPENDIX G

Tool for Categorization of the Degree of Human Response

The degree of system response will be categorized according to the following criteria. Place the appropriate category number on the answer sheet next to the response component of the nursing diagnosis.

1. Primary - The system response is potential, no stressor penetration of the normal line of defense has occurred. The nursing diagnosis statement contains the term potential or possible.
2. Secondary - The system response is acute, with a current state of instability due to stressor penetration of the normal line of defense. Symptoms of instability are present.
3. Tertiary - The system response has occurred, the system has stabilized and is in the process of reconstituting. Reconstitution consists of restoration or repatterning of functions altered as a consequence of stressor penetration of the normal line of defense.

APPENDIX H

Schema for Classification of the Etiology Component of the Nursing
Diagnosis Statement and Nursing Interventions

Category Number	Etiology	Intervention
1	Lack of knowledge or understanding (cognitive)	Teach/ instruct/ explain, demonstrate/show/point out
2	Inability/lack of or decreased ability to perform tasks; e.g., immobility	Assist/provide/ perform/any verb that indicates hands on care
3	Inability/lack of or decreased ability to make choices; pursue course of action	Counsel/suggest/ role plan/direct/ guide/indentify/ advise/supervise
4	Inability/lack of or decreased ability to sustain in an effort	Support/allow encourage/maintain/ reinforce/reassure/ approve
5	Lacking necessary resources such as finances	Refer/consult

Category Number	Etiology	Intervention
6	Environmental deficit	Manipulate environment/ensure safety, health, and growth and developmental aspects of environment
7	Other: Need for nurturance	Inherent "caring" component of nursing role. TLC
8	Other: Etiology reflects medical diagnosis	Dependent role of nurses; e.g., start I.V. Give medication
9	Other: Nature ambiguous	"Shot-Gun" approach/try everything/diffuse nursing actions

Source. Gartland, K. Nursing diagnosis: Etiology component and nursing intervention congruence. Unpublished Master's thesis, Texas Woman's University, 1982.

APPENDIX I

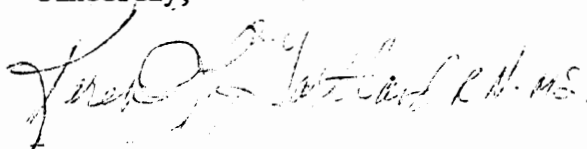
September 29, 1982

Dear Ms. Topham:

I am pleased to grant permission for the use of the Schema for Classification in your study. I am interested in any further reliability studies of the instrument as well as the results of your study.

You may also include a copy of my instrument in the final copy of your study which I understand will be bound and microfilmed. Good luck on your endeavor.

Sincerely,

A handwritten signature in cursive script, appearing to read "Karen L. Gartland R.N., M.S.", written in dark ink.

Karen L. Gartland, R.N., M.S.

APPENDIX J

DEMOGRAPHIC FORM

Nursing Care Plan Code Number	Age	Sex	Race

APPENDIX K

MASTER DATA SHEET

	Medical Diagnoses		Nursing Diagnoses		
Diagnoses	ICD Category #	Level of Disease Process Category #	Response Component Category #	Degree of Response Category #	Etiology Component Category #
1.0 Medical Diagnosis					
1.1 Nursing Diagnosis					
1.2 Nursing Diagnosis					
1.3 Nursing Diagnosis					
2.0					
2.1					
2.2					
2.3					
X.0					
X.1					
X.2					
X.3					

APPENDIX L

ANSWER SHEET FOR EVALUATION OF QUALITY OF NURSING DIAGNOSIS

[illegible]

APPENDIX M

ANSWER SHEET FOR CATEGORIZATION OF
ETIOLOGY COMPONENT OF NURSING DIAGNOSIS[illegible]

ANSWER SHEET FOR CATEGORIZATION OF RESPONSE
COMPONENT OF NURSING DIAGNOSIS[illegible]

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2. Gartland, K. Nursing diagnosis: Etiology component and nursing intervention congruence. Unpublished master's thesis, Texas Woman's University, 1982.

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