

ABSTRACT

IDENTIFICATION AND DIAGNOSIS OF DEPRESSION BY NURSE PRACTITIONERS

By Mary K. Heimmermann

Primary care providers treating patients in clinic settings are increasingly being called upon to treat depressed patients. Several techniques and diagnostic tools have been developed in recent decades to aid in diagnosing the illness. Yet use of diagnostic methods seems varied.

The purpose of this study was to explore NPs' methods of identifying and diagnosing depression. Jean Watson's Descriptive Theory of Human Caring was used as the conceptual framework for this study. It states that caring is the most central and unifying focus for nursing practice. Her emphasis is on the common humanness of the caregiver and the patient as a shared process in the health-illness experience.

A quantitative design was used to explore how NPs diagnose depression. The sample size included 125 family, adult, and geriatric Nurse Practitioners with at least two years' experience in primary care settings, practicing in a Midwestern state in the United States. Data was collected through the use of a questionnaire mailed to randomly selected participants. It is hoped the study will enlarge nursing's knowledge base of caring for depressed adults of both genders. As well, it is hoped the study will contribute to objective diagnosis and treatment of the disease.

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OF DEPRESSION BY NURSE PRACTITIONERS

by

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CHAPTER I

INTRODUCTION

Depression is one of the most common psychiatric disorders in the United States. It is characterized by a combination of feelings of sadness, loneliness, irritability, worthlessness, hopelessness, guilt, and/or agitation accompanied by an array of physical symptoms lasting at least two weeks (Sharp & Lipsky, 2002). Major depressive disorder (MDD) can affect up to 10% of males and 25% of females. Workers can lose up to 5.6 hours of work per week, costing \$44 billion in lost annual wages (Pomerantz, 2005). The Global Burden of Disease Study, in which worldwide death and disability from disease is estimated and ranked, listed depression as the fourth leading cause of global disease burden in the 1990s (Thayer & Bruce, 2006). The World Health Organization recently reported that depression was the most common mental health problem affecting the general population of 14 countries and 25,000 people (Leung et al., 2005).

The peak age for the onset of depression is 20 to 40 years of age, with the highest risk occurring in patients having a family history of the disorder. A genetic component is supported in studies of monozygotic twins, which show their parallel rate of depression as 65% (Rackel, 1999). High risk groups of both genders include Native Americans (19.7%) and Caucasians (14.58%). Asians are at lowest risk at 8.77%. The average duration of a depressive episode is 10 months, with a lag time of three years before treatment. Only 33% of patients afflicted with depression ever get treatment, and only 5-10% of those are effectively treated (Mays, 2007).

Complicating the diagnosis process is the fact that it often co-exists with other medical and psychiatric disorders. It is estimated that 61% of other psychiatric disorders are comorbid with Major Depressive Disorder (Thayer & Bruce, 2006). General anxiety disorder, panic disorder, social phobias, and obsessive-compulsive disorders are a few examples of such common psychiatric disorders. Compared to people without mental disorders, adults with mental illness have higher rates of chronic general medical conditions, including HIV/AIDS, hypertension, diabetes, a higher frequency of general chronic medical conditions, and a higher rate of premature mortality resulting from these conditions (Sokal et al., 2004).

Future predictions involving the disease are startling. In the Global Burden of Disease Study of 1996, depression was projected to be the second leading cause of world disease burden in 2020 (Murray & Lopez, 1997). In terms of disability by 2020, major depression is predicted to be second only to heart disease in the amount of disability suffered (Mays, 2007). Global identification of depression is of primary importance, and clearly primary care will play a larger role in future management of the disease.

Literature Review

Despite the prevalence of depression across the lifespan, the identification and diagnosis of depression in the primary care setting has been met with barriers. Though primary care providers are the initial care providers most consulted for depression symptoms, they are consistently shown in studies to under diagnose and

under treat the illness. Currently, depression is a leading cause of disability worldwide and the third most common reason for consultation in primary care. However, it is estimated that one half of all patients with depression remain unrecognized (Gilbody, Whitty, Grimshaw, & Thomas, 2003).

A review of literature spanning two decades of primary care providers' perceptions of barriers to diagnosing depression reveals a common theme. There appear to be two major recurring barriers experienced by providers: a lack of time and a lack of knowledge. Some recommended solutions to the former include shorter questionnaires, eliminating questionnaires altogether, and a stronger redirection of conversation by providers (Lieberman, 2001).

The second barrier is a more complex one. In a recently conducted study, the majority of Nurse Practitioners (NPs) reported they felt inadequately prepared to identify and/or treat depression (Groh & Hoes, 2003). A second area of knowledge deficit lies in the realm of the health care industry itself. Our knowledge and understanding of how NPs manage depression in adults are limited, despite their growing numbers in primary care.

According to the National Sample Survey of Registered Nurses, there were approximately 141,209 Registered Nurses with credentials as Nurse Practitioners in 2004, an estimated increase of 38,560 from 2000. Of that group, 57% were certified as family nurse practitioners, 20% were adult nurse practitioners, and 5% were gerontological nurse practitioners (AANP Annual Report, 2004). Accordingly, there has been a growing divergence between increasing demands for psychiatric services

and shrinking supply of the same (Goldman, 2001). As a result, NPs and other primary care providers are being asked to step to the forefront to assess and diagnose patients experiencing depression as well as to prescribe therapies to battle the disorder.

Review of the Cumulative Index to Nursing and Allied Health Literature (CINAHL), Medline, PubMed, and MD Consult databases produced a plethora of studies discussing primary care physicians' roles in diagnosing and managing depression. In recent years, despite the increasing numbers of NPs practicing in primary care, few studies have been completed that pertain to them identifying and diagnosing depression. One study by Groh & Hoes in 2003 was limited to adult women. Another exploratory study that did emphasize the NPs role as it impacts men did not include impacts on women (Alexander, 2001). No studies could be found that explored how NPs identify and diagnose depression in primary care settings utilizing newer diagnostic tools presently available.

Significance to Nursing

The gap between growing numbers of NPs in primary care and their lack of knowledge of caring for depressed adults can be narrowed considerably. An important step toward intervention is researching where the knowledge deficits and inconsistencies are occurring in practice. A second important intervention is raising awareness about depression's prevalence. The high association between depression's

morbidity and mortality and suicide is a compelling reason to learn to recognize its presence.

Problem Statement

Purpose of the Study

The purpose of this study was to explore how NPs identify and diagnose depression in adult primary care settings. Through quantitative methods of analysis, this study examined ways that Nurse Practitioners in a Midwestern state identified and diagnosed the common disorder, including traditional informal methods as well as more formal assessment tools.

Research Question

How do Nurse Practitioners identify and diagnose depression in adult primary care settings?

Definition of Terms

Conceptual Definitions.

Nurse Practitioners: Registered nurses who have advanced skills in the assessment of the physical and psychosocial health to illness status of individuals, families, or groups in a variety of settings through history taking and physical

examination. If special skills are developed in family health, the nurse may be called a Family Nurse Practitioner (FNP). If special skills are developed in adult populations, the nurse is called an Adult Nurse Practitioner (APN). For elderly adult populations, the nurse is called a Geriatric Nurse Practitioner (GPN) (O'Toole, 1992).

Identify: To recognize or establish as being a particular person or thing.

Diagnose: To ascertain the cause or nature of a disorder from the signs and symptoms it displays.

Depression: A disease condition including Major Depressive Disorder (MDD) and Dysthymic Disorder (DD) as defined below by the American Psychiatric Association in the Diagnostic and Statistical Manual of Mental Disorders (2000).

Adults: Include individuals, fully mature or near full maturity, who have reached the age of legal majority, generally 18 years of age in the United States.

Primary care settings: Defined as the level of health care whereby the comprehensive evaluation and treatment by a family doctor or nurse occur, possibly including a referral to a specialist when necessary.

DSM-IV-TR (2000) Criteria for Major Depressive Disorder:

- A. At least five of the following symptoms are present during the Same 2-week period, one of which must be (1) depressed mood or (2) loss of interest or pleasure.
 - 1. depressed mood most of the day, nearly every day
 - 2. markedly diminished interest or pleasure in all, or almost all, activities most of the day, nearly every day

3. significant weight loss/gain
 4. insomnia/hyperinsomnia
 5. psychomotor agitation/retardation
 6. fatigue or loss of energy
 7. feelings of worthlessness or excessive guilt
 8. impaired concentration or decisiveness
 9. recurrent thoughts of death or suicide
- B. The symptoms do not meet criteria for mixed episode (that is, also meeting criteria for manic).
- C. Significant distress or impairment in social and occupational functioning.
- D. Not due to direct physiological effects of substance or to a general medical condition.
- E. Not better accounted for by bereavement--that is, symptoms persist for longer than 2 months or are characterized by marked impairment, suicide ideation, psychotic symptoms, etc. (p. 369-375).

DSM-IV-TR (2000) Criteria for Dysthymic Disorder

- A. Depressed mood for most of the day, more days than not, for at least 2 years.
- B. While depressed, presence of at least 2 of the following:
1. poor appetite or overeating
 2. insomnia or hypersomnia

3. low energy or fatigue
 4. low self-esteem
 5. poor concentration or difficulty making decisions
 6. feelings of hopelessness
- C. During a 2-year period the person has never been without the symptoms in Criteria A or B for more than 2 months at a time.
- D. No evidence of a major depressive episode has been present during the first 2 years of the disturbance.
- E. No history of a manic or hypomanic episode has been present.
- F. Not superimposed on a chronic psychotic disorder, such as schizophrenia disorder.
- G. Not due to the direct physiological effects of a substance or medical condition (p. 376-377).

Operational Definitions.

Nurse Practitioners: Licensed Adult and Family Nurse Practitioners, including males and females between the ages of 25 and 65 years, practicing as NPs in a Midwestern state.

Identify: To use specific interviewing techniques and screening tools to appropriately identify adult individuals with or at risk for depression.

Diagnose: To identify an illness or disorder in a patient through an interview, physical examination, medical tests, and other procedures.

Depression: Includes major depressive disorders (MDD) and dysthymic disorder (DD) as defined by the DSM-IV-TR for adults ages 18 or older.

Adults: Individuals ages 18 or older, who obtain health care in a primary care setting and have received care from a primary care nurse practitioner (Green, 2004).

Primary care settings: The level of health care whereby the comprehensive evaluation and treatment of adults occur by physicians, physician assistants (PAs), or NPs. Often times referrals to specialists play a role in the diagnosing and treatment of adults.

Instrument Used

The original tool (termed, “Assessment, Diagnosis, and Treatment Practices of ANPs Who Care for Women with Depression”) was a 27-item questionnaire given to 3000 randomly selected from membership in the American Academy of Nurse Practitioners (AANP). It was modified for the purpose of this study with permission from the authors. A copy of the modified version is found in Appendix A; the original version is in Appendix B.

Assumptions

1. Nurse Practitioners care greatly about the mental health of their patients.
2. Nurse Practitioners will understand and speak the English language.
3. Anonymous surveys are a valid method for eliciting processes whereby NPs may identify and diagnose depression.

4. Adult patients are deemed to be functioning at an average level of intelligence or above, as determined by the NP.
5. Participants in this study will be honest when answering the questionnaire.

Chapter Summary

This chapter contained an introduction to the disease of depression. It highlighted the magnitude of the problem and its significance to nursing. It included the problem statement, purpose of the study, and research question. As well it described the conceptual and operational definitions of the study. A review of literature and research relative to the study were included.

Chapter II contains a more in depth description of the conceptual framework and a review of literature and research relevant to the study. Chapter III presents a detailed description of the methodology for the study. Chapter IV presents findings from the study, and Chapter V offers recommendations for future research and primary care practice for NPs.

CHAPTER II

THEORETICAL FRAMEWORK AND LITERATURE REVIEW

The primary purpose of this study was to explore how Nurse Practitioners (NPs) identify and diagnose depression in adult primary care settings. This chapter includes a discussion of the theoretical framework and its relevance for identifying and diagnosing depression. An applicable case study and a review of current literature are presented. A brief discussion is included of the diagnostic tools commonly utilized to assist NPs in diagnosing depression. Lastly, knowledge gaps are identified.

Theoretic Basis for the Study

The theoretical basis chosen for this study was Jean Watson's Descriptive Theory of Human Caring (2006). Watson's work incorporates the spiritual dimension of nursing and features characteristics of a human interaction model (McEwen & Wills, 2002). Central to Watson's work are two nursing assumptions. The first one is that caring is the essence of nursing and the most central and unifying focus for nursing practice. The second assumption is that nursing's contribution to society will be determined by sustaining its caring ideal and ideology in practice.

The main components of Watson's Theory of Human Caring (2006) are 10 “carative factors” that are described as providing a structured, standardized approach to the “caring” aspects of nursing. As an example, one of the factors is a “sensitivity for self and others”. Another factor is a “helping-trusting human care relationship”. A third factor is a “creative problem-solving caring process”. Each carative factor can

be utilized in clinical settings as a way to inform and direct care activities.

Foundational groundwork is then laid to create the caring environment between NP and patients.

Watson describes the human as a holistic, interactive being. She characterizes caring as being totally present or “ontologically authentic” in one's approach to the one being cared for. She refers to the relationship as transpersonal caring. Her emphasis is on the common humanness of both the caregiver and the one being cared as a shared process in the health-illness experience (Watson, 1979, 1988). As Nyman & Lutzen (1999) stated:

Watson's caring theory gives structure to the interaction of unfolding of the basic human qualities to the other person, including the art of being fully present, that is, engaging in treatment with all senses, and to coparticipate in both caring for as well as caring about. (p. 165)

Watson's theory of transpersonal caring has been validated in both clinical and research settings. Practice models guided by the Caring Theory exist in many universities and hospital and health care systems (Watson, 2006). As aptly stated by Nyman & Lutzen, her theory facilitates the existential nature of the human-to-human interaction (1999). It also is consistent with this researcher's philosophical approach to patient care and is, therefore, an appropriate framework for this study.

Case Study

T. D. is a 32-year-old adult nurse practitioner who has been in practice just over two years. She works at a well-established, busy practice where she is seeing C. S. for the second time. C.S. is a woman in her late twenties, a weary mother of two boys who also works part-time in an optometry office. Unlike her first visit, a well-physical, C. S. is seeing the NP for a sleep disturbance and fatigue.

A rapport evolves very slowly, considering the women are of similar ages. C. S. does not use frequent eye contact in a consistent manner. A review of her past history elicits a family history of hypothyroidism and depression. In addition, C. S. admits to job performance issues and moderate marital discord. Family and friends' support seem lacking. She feels she is not sleeping well due to a combination of the above factors. T. D. uses a screening tool to confirm that her patient is moderately depressed.

At this point T. D. hesitates. She has worked in primary care for less than three years, has no personal experience with depression, and had little formal education in nursing or graduate school. She knows C. S. could benefit from a referral to a psychiatrist for cognitive behavioral therapy, an antidepressant, and a short-term sleep-producing agent. More pressing in T. D.'s mind is the acknowledgment that referring patients for psychiatric services might result in weeks of delayed treatment. Even if an appropriate referral could be made, T. D. is not sure her patient would keep an appointment. Added to that is the reality that she cares deeply for C. S. as a patient.

T.D. reflects momentarily on her own personal strengths. She has history of approaching difficult tasks with a positive attitude and she learned long ago not to fear challenges. She is sensitive to the realization that C. S. may view a referral as a form of rejection. In T.D.'s mind, she decides not to refer her patient to psychiatric or behavioral health services but rather to initiate problem-solving interventions with C. S. She also decides to set reasonable goals and formulate a course of action with her patient. She then opens up the on-line pharmacy services software in her computer and begins discussing medication options. At the conclusion of the visit, C. S. leaves with a prescription in hand, a two week return appointment with her NP, and a realization that T. D. cares for her well-being as a patient.

Literature Review

NPs in primary care settings are increasingly being called upon to diagnose and treat depression. It is a challenge because most NPs lack formal education and/or experience in management of the problem. Contributing to the issue are dwindling numbers of psychiatrists and increasing third party demands to keep patients out of hospitals. As a result, "Health care professionals who don't specialize in mental illness are providing care for between 40-60% of Americans with depressive illnesses" (Antai-Otong, 2004, para. 4). Formerly, primary care providers referred patients to mental and behavioral health care centers. Now the pendulum is swinging to the primary care providers to manage depression as well as other diseases.

Nurse Practitioners are in those provider front lines. Along with increasing numbers of NPs providing primary care in this country, there is anticipated to be a significant drop in numbers of actively practicing psychiatrists (Goldman, 2001). As a result, it appears that NPs and primary care physicians of the future will be expected to manage greater numbers of patients suffering from depression.

Studies have evaluated how health care clinicians make decision. The research evidence is mixed as to whether decision-making is a generalizable skill or one that is content-specific. While some research shows generalizable skill, others have shown that decision-making is dependent on case content (White, Nativio, Kobert, & Engberg, 1992).

In 1974, using factor analysis of medical students', it was found that information-gathering ability was highly correlated from different clinical cases (Donnelly, Gallagher, Hess, & Hogan). Eleven years later, Cutler (1985) described the acquisition of decision-making skills that may be applied to patient care decisions regardless of patient complaint (White et al., p. 153).

In 1978, Elstein, Shulman, and Sprafka validated a content-specific approach to the problem solving process in medical students. They also compared practitioner experience with specific patient problems and found that experts and novices alike used the same problem solving process in dealing with clinical problems. As Benner (1984) reported, the same nurse could be a novice in one situation and an expert in another. Glaser (1989) concluded that all expert decision-makers cluster information

in a way that allows them to be faster and more efficient in acquiring and processing information (White et al, 1992).

Studies have also been done on how NPs make clinical decisions. As defined by White, Nativio, Kobert, and Engberg (1992), clinical decision-making is a process used to gather patient information, evaluate the information, and make a judgment that results in the provision of patient care. White et al. (1992) published their research primarily intended to increase understanding of decision-making process(es) used by NPs.

The sample size for the study was 27 geographically convenient NPs caring for the same patient presented by a methodology of interactive video and computer. The patient's case history, physical exam, and laboratory findings were based on an actual patient who presented to a clinic with a genital rash and vaginal discharge. Findings of the study indicated that Nurse Practitioners use a process of data acquisition for clinical decision-making driven by diagnostic hypotheses. It was also found that NPs used discretionary judgment and developed sets or cognitive models to cluster patients quickly during evaluation and treatment (White et al., 1992).

A more recent purposive sampling involving 36 primary care NPs in rural and urban settings was reported (Burman, Stepan, Jansa, & Steiner, 2002). This study explored the diagnostic and therapeutic decision-making of primary care NPs by asking the question, "What is the process used by primary care NPs in making clinical decisions, especially decisions involving diagnostic and therapeutic plans?"

The methodology used was a grounded theory approach. The primary findings were that NPs clearly wanted to get the whole picture (termed, “putting the pieces together”) before they could definitely plan care. Additional findings included non-linear thinking; clinical decision-making best described as an iterative, spiral process; focused thinking based on patients' agendas and needs during decision-making; and lastly, decision-making grounded in the patient/family and community context (Burman et al., 2002).

In 2003, a study was published that investigated NP practice methods and beliefs about degree of competence in the assessment, diagnosis, and treatment of depression in women (Groh & Hoes). This quantitative study, involving a survey of 1,647 American NPs, highlighted some major barriers the practitioners identified that hinder their ability to competently manage depression.

The first barrier was a perceived lack of knowledge in identifying and diagnosing depression. The NPs reported feeling inadequately educated. Only 65% of the NPs believed their education had adequately prepared them for assessment and treatment of depression. In actuality, assessment and treatment protocols used by the NPs were consistent with national guidelines and similar to protocols used by psychiatrists and non-psychiatric physicians (Groh & Hoes, 2003).

A second major reported barrier, one that still persists in the profession, was a lack of time. Scogin & Shah (2006) pointed out that quality time with their patients continued to be a frequently reported frustration of NPs, despite their being allotted more time with patients than their MD counterparts. Some recommended solutions to

the problem include shorter diagnostic questionnaires, eliminating questionnaires altogether (Whooley, Avins, Miranda, & Browner, 1997), and a stronger redirection of conversation by providers (Lieberman, 2001).

A third barrier identified was that of knowledge deficits in the health care industry itself. A recent review of CINAHL, Medline, PubMed, and MD Consult databases produced a plethora of studies exploring primary care physicians' roles in diagnosing depression. However, the majority of these studies have been conducted in the realm of psychiatry rather than primary care settings. Lacking were any studies of how NPs identify and diagnose depression in adults of both genders. Also lacking was a comprehensive understanding of how NPs manage depression in adults.

With regard to screening for depression, this researcher reviewed numerous studies involving physicians. Studies have been done involving appropriate screening and diagnosing of depression in older adults, in adolescents, in terminally ill patients, and even in pediatric patients. However, all of them involved primary care physicians. To date, no studies have been published describing how NPs currently diagnose depression in adult primary care settings.

Other gaps and limitations surfaced in the recent literature review. As mentioned above, the Groh & Hoes study was limited to adult women. Another exploratory study that did emphasize the NP's role as it impacts men did not include impacts on women (Alexander, 2001). Only a few articles could be found that directly addressed NPs diagnosing depression in primary care (Solnek & Seiter, 2002; Thayer & Bruce, 2006). Research involving adult men and women in primary care was lacking. Also

missing was information on how the practitioners incorporated beliefs in their own capacity to carry out the work.

Diagnostic Tools Available

Diagnostic tools used to to promote scientific and objective diagnosis are becoming more widely known and trusted in the medical community. Various versions of the Beck Depression Inventory (BDI) have become increasingly recognized and trusted since their advent. The Zung Self-Rating Depression Scale (SDS) and the Center for Epidemiologic Study Depression Scale (CES-D) can help detect depression in adult patients with a reliable measure of accuracy (USP-STF, 1996). The Hamilton Scale is well-known, as are the General Health Questionnaire and Patient Depression Questionnaire. More recently, Prime-MD has been added to the list of available options (Mays, 2007). There are benefits and short-comings to each tool that are beyond the scope of this clinical paper.

There are also varying opinions about the use or non-use of diagnostic tools. Sharp & Lipsky (2002) reported, "Selection of a screening measure, whether it be two simple (diagnostic) questions...or a longer diagnostic tool, is the first and most important step in the process of managing depression" (p.1002). The authors stressed that depression measures should be selected based on the patient population. They cited the BDI, CES-D, and Zung measurement tools as best for targeted, high-risk populations.

Screening for Depression

To screen or not to screen is an interesting debate that has been researched in recent years with conflicting results. Debate continues as to the efficacy of routine screening for depression in all adults in primary care settings. In 2001, the U.S. Preventive Services Task Force (USP-STF) issued new depression screening recommendations. In it, primary care providers were encouraged to routinely screen their adult patients. However, the Task Force did not endorse any particular screening method at that time (USP-STF, 2001).

The following year, Sharp, and Lipsky (2002) reported that routine screening should be available to all, but only if effective treatments and adequate follow-up are also available. To date, this recommendation is one that is supported by experts.

Chapter Summary

To reiterate, the primary purpose of this study was to explore how NPs identify and diagnose depression in adult primary care settings. In this chapter, a discussion of Jean Watson's Theory of Human Caring was presented. In addition, the theory's carative factors were identified, and transpersonal caring was explained.

Embedded in the nursing profession's foundation are characteristics of transpersonal caring that facilitate NPs in accomplishing the goals of identifying and diagnosing depression in adult primary care settings. As Jean Watson points out,

Human caring and relationship-centered caring are foundational ethics for healing practices... . Caring-healing modalities and nursing arts are reintegrated

as essentials to ensure attention to quality of life, inner healing experiences, subjective meaning, and caring practices, which affect patient outcomes and system successes alike (2006, p. 89).

Also in this chapter, a review of published literature was presented, including studies pertinent to this research project. Gaps in knowledge and limitations of information were identified. Various diagnostic screening tools were discussed, and debate surrounding screening for depression in primary care was mentioned.

In Chapter III, the method used to conduct this study are reviewed, along with the population, sample, and setting. The data collection instrument and procedures are examined, and the data analysis procedures are reviewed. Lastly, the expected and potential limitations of the study will be offered.

CHAPTER III

METHODOLOGY AND DATA ANALYSIS

The primary purpose of this study was to learn and describe how NPs identify and diagnose depression in adult primary care settings. In this chapter, the research design, population, sample, setting, data collection instrument, data collection procedures, and data analysis procedures are discussed. In addition, the projected limitations of the study are presented.

Research Design

This study featured a design that was quantitative, non-experimental, and descriptive in nature. A quantitative study design was appropriate in order to learn how actively practicing NPs are currently diagnosing depression. Data has been gathered previously about diagnosing depression of adults by physicians. Data has also been collected pertaining to NPs diagnosing depression in women. There is, however, a paucity of information gathered about how NPs diagnose depression in adults of both genders in primary care settings.

The study design was non-experimental because an experiment was not conducted. It was descriptive in nature due to its intended outcomes. The intent of this study was two-fold: (a) to detect and describe current NP practice methods used to identify and diagnose depression in adult primary care settings, and (b) to explore whether NPs felt their formal education had adequately prepared them to do so.

The advent of diagnostic tools formulated in the past few decades has influenced the manner in which major depression disorders are diagnosed and by whom. In this study, current methodologies used by NPs in primary care settings were identified via use of self-reporting questionnaires. As Polit and Beck (2004) point out, self-reporting questionnaires are strong in directness and versatility.

Some limitations to the study were foreseen in it before data collection ensued. For instance, external validity may have been threatened by the Hawthorne effect (also known as an expectancy effect). Participants may have responded to the questionnaire in a certain manner because of their awareness of being in the study.

It is also possible their answers were influenced by how their colleagues might have responded or how they felt colleagues might have wanted them to respond. Administering the questionnaires through the United States Postal Service may have reduced influences because participants were unaware of responses from other NPs.

Gender influences may have skewed study results as well. Since the majority of practicing NPs are female, gender factors would not easily lend themselves to control. In addition, it is possible that other influences may have been present throughout the duration of the study that were not readily recognizable to the researcher.

Population, Sample, and Setting

Population

The target population for this study was masters' prepared NPs servicing

adult men and women in primary care settings. The accessible population was state-licensed family practitioners, adult practitioners, women's health practitioners, and gerontology nurse practitioners in primary care practices in a state in the Midwest.

Sample

Random sampling

Simple randomization was used to determine which NPs would receive the surveys. A database of that state's board of Advanced Practice Nursing in 2007 was used. Names of NPs not practicing in primary care settings were then excluded. Potential participants' names were subsequently scrambled, and one in every four names was selected. The first 25 names chosen were mailed pilot study questionnaires, and the subsequent 125 NPs were sent questionnaires for the full-scale study. Based on average self-reporting questionnaire response rates and the work of Groh & Hoes (2003), a response rate of 45% was predicted to be reasonable. The actual response rate for this study was 48%.

The sample selection involved self-reporting questionnaire mailed to NPs randomly selected from an alphabetical list that was scrambled. Polit & Beck (2004) point out that, when random procedures have been used to select a sample from an accessible population, there is no difficulty generalizing the results to that group. Questionnaires this study were mailed to each NP's personal residence. It was felt that

personal residence mailings would enhance the richness of data collected from the questionnaire.

Inclusion Criteria

Inclusion criteria were: (a) professionals currently licensed as family nurse practitioners, gerontology practitioners, or adult nurse practitioners in the state; (b) either gender presently working full time or part time in family practice or adult medicine practice settings; (c) practitioners having at least monthly interaction with adults potentially experiencing depression or under treatment for depression; (d) nurse practitioners seeing at least 35 patients per week, with a variety of ranges in diagnoses; (e) being able to communicate in English; (f) agreeing to participate in the study; and (g) completing the questionnaire.

Exclusion Criteria

Exclusion criteria included: (a) practitioners with less than two years' experience, (b) practitioners in areas of specialty care, (c) NPs seeing 34 or less patients per week, (d) patients less than 18 years of age, and (e) patients who had or were being treated for depression having unusually severe co-morbidities or developmental disabilities.

Setting

The setting included NPs from urban and rural primary care clinics in the selected Midwestern state. As noted above, questionnaires for this study were mailed to each NP's personal residence. Polit and Beck (2004) point out that settings should be selected so as to maximize the validity and reliability of the data and that participants may be less influenced by distractions while in settings that promote calmness.

Data Collection Instrument

The original tool for this study was an investigator-developed questionnaire designed by Groh and Hoes (2003). It was used for a research study involving the detection of depression in women entitled, *Practice Methods Among Nurse Practitioners Treating Depressed Women*. A copy of the adapted questionnaire is located in Appendix A. With the authors' permission, it was adapted for use in this study to include men and women. A copy of the original questionnaire is located in Appendix B. An electronic mail message discussing its use is located in Appendix C.

Types of information to be gleaned from this instrument include demographics of the randomly selected participants, such as areas of certification, educational preparation, size of practice, and age range. Other types of information include years of practice experience; thought processes used to identify depressed individuals; screening instrument(s) used (and if so, what type); and factors to be considered when deciding on treatment. An additional piece of information is whether or not the NPs

felt their formal education or post-graduation education had prepared them to evaluate depression. Lastly, the questionnaire was adapted to explore practices involving non-pharmaceutical treatment options.

Reliability and Validity

Reliability and validity are important to research studies if they are to be generalizable and usable for future research. This study included an adapted version of a previously used questionnaire. As the study was being carried out, this researcher learned from an author that the original questionnaire was affirmed for face validity on a small scale by colleagues of Dr. Groh. However, the questionnaire was not widely tested for validity and reliability—resulting in a possible study limitation. A copy of the e mail correspondence discussing the issue is located in Appendix D.

According to Polit and Beck (2004), pilot studies can aide reliability and validity of a research project. The pilot study completed for this project involving 25 NPs who met inclusion criteria and practiced in the state being studied. As mentioned above, a total of 12 questionnaires were received, representing a return rate of 48%. Minor modifications were made to the final questionnaire based on feedback from the pilot study.

A study's validity (Polit & Beck, 2004) can be threatened by sampling biases. Sampling biases result in systematic over-representation or under-representation of some segment of the population in terms of a characteristic relevant to the research

question. Random selection of the NP participants as detailed above helped to minimize the possibility of sampling bias.

Data Collection Procedures

Protection of Human Participants

A critical element of a quantitative research projects is the protection of human rights. According to Polit and Beck (2004), each aspect of a study plan needs to be reviewed to ensure the adequate protection of humans participating in the study. For this study, Institutional Review Board (IRB) approval was obtained before data collected commenced. A copy of the letter granting approval for the study is located in Appendix F.

Participants of a research project have the right to expect that any data they provide will be kept in strictest confidence. Participant anonymity occurs when even the researcher cannot link participants to data (Polit and Beck, 2004). Three steps were taken to promote anonymity in this study. First, the researcher was listed as both the sender and the addressee on the return envelopes used to return questionnaires. Second, those NPs wishing a copy of the study results were asked to submit their request on a separate sheet unattached from but included with the returned questionnaire. Third, returned questionnaires were evaluated for usability and, if

usable, were assigned identification numbers. The objective of the process was to prevent the researcher from becoming aware of which participant provided the data.

Administration of Instrument

An informational letter explaining the purpose of the study was mailed along with each questionnaire. (A copy of the informational letter is located in Appendix E.) To complete the questionnaire, NPs were asked to reflect upon on a visit with a potentially depressed patient. They were given 2 weeks to respond and return the surveys. At that point, all respondents were mailed a postcard reminding them about completing the questionnaire or thanking them for having done so. Data collection ceased 2 weeks later.

Completion and return of the questionnaire implied informed consent, as participants' willingness to be involved in the study would be demonstrated by completion of the questionnaires. Distribution of the questionnaire was by the United States Postal Service. Estimated completion time was 10 minutes. Questionnaires returned to the researcher were kept in a locked file during completion of the study and will be destroyed 2 years from completion of the study.

As mentioned earlier, a pilot study was done for this project. In addition to aiding reliability and validity, the pilot study helped to determine the ease of administering the questionnaire to a small group of NPs. It also helped to identify process issues (including how the questionnaire was perceived and to what extent the study guidelines were followed), implementation problems, and outcomes before the full-

scale study was implemented. Thus potential difficulties regarding data collection could then be identified and removed.

An example of one potential difficulty detected on the pilot study questionnaire involved a suggestion for improvement of question number three. An NP identified the “approximate number of adult patients” as a more difficult question to answer than the alternative suggestion of “number of clients seen in an average week.” This change, along with other minor simplifications, was made for the larger scale study to enhance data richness.

Data Analysis Procedures

The primary purpose of this study was to answer the question, *How do Nurse Practitioners identify and diagnose depression in adult primary care settings?* The Statistical Package for the Social Sciences (SPSS) program was used to analyze the data. Quantitative data concerning demographic characteristics of the groups were analyzed using descriptive statistics. They were presented in the form of frequency distributions, means, and measures of central tendency.

Limitations

Quantitative studies involving questionnaires of the type used in this study can vary considerably in terms of willingness to participate, possibly resulting in non-responder biases. Based on average self-reporting questionnaire response rates and Groh and Hoes (2003) study, a response rate of 45% was predicted to be reasonable

for this study. This prediction was consistent with the 48% response rate from the pilot study. Polit and Beck (2004) report that, while response rates of greater than 65% are probably sufficient for most purposes, lower response rates are common. Hence a response bias was expected in this study.

At least four additional limitations were predicted for this study. Like the original study, this one had limitations as a result of a self-report format. It is difficult to know with certainty whether participants will report their actual practice behaviors or whether responses reflect a desire to be viewed more favorably by the researcher (Groh & Hoes, 2003). Second, wording of some questions may have been unclear even though the pilot study indicated otherwise. Third, it was possible that inadequate information could have been collected in important areas. Lastly, generalizability to the target population may not be reflected by practices in the Midwest.

Chapter Summary

In this chapter, specific details of the study were discussed. The research design was quantitative, descriptive, and non-experimental in nature. Population, sampling, and setting were identified, and the data collection instrument and procedures were described. Issues of reliability and validity were discussed, as was the protection of participants. Lastly, data analysis procedures were presented, and anticipated limitations of the study were identified. Data analysis on the return surveys was done using standard statistical procedures. In addition, limitations of the study were discussed, including possibly unclear question wording and difficulty with

generalizability to the target population. Other unanticipated biases might also have been involved that were not apparent to this researcher.

In Chapter IV, study results will be presented. Findings of the surveys will be discussed in an effort to reduce the knowledge deficit of how NPs currently identify and diagnose depression in adult primary care settings. Results will be compared to findings of previous literature. Chapter IV will also include how this study contributes to the science of nursing, along with suggested recommendations for further research.

CHAPTER IV

RESULTS AND DISCUSSION

The purpose of this study was to explore how Nurse Practitioners (NPs) identify and diagnose depression in adult primary care settings. Through quantitative methods of analysis, this study examined methods that NPs employed to identify and diagnose the disorder, including traditional informal tools as well as more formal assessment ones. This chapter is devoted to questionnaire results followed by a discussion of pertinent findings.

Description of Sample and Tool

The target population for the study was NPs actively providing primary care services for adult men and women. The accessible population was state-licensed family practitioners, adult practitioners, women's health practitioners, and gerontology nurse practitioners in active primary care practices in a state in the Midwest. As mentioned earlier, the tool used for this study was a questionnaire adapted from prior research involving NPs diagnosing depression in women. An anonymous questionnaire was chosen due to its relatively less threatening means of identifying how NPs diagnose depression and whether or not diagnostic tools are used.

Procedure

An alphabetical list of the state's board of Advanced Practice Nursing in 2007 was obtained. Of the 1192 names on the list, 584 were excluded due to not meeting inclusion criteria. Simple randomization was used to determine which of the 608 remaining NPs would receive the questionnaires. Names were subsequently scrambled, and one in every four NPs was selected. The first 25 names were mailed pilot study questionnaires. Adjustments were then made to the survey before it was sent to the subsequent 125 NPs for the full-scale study.

Results

The findings that follow represent how NPs identify and diagnose depression in adult primary care settings in the Midwestern state being researched. A total of 60 surveys were returned, resulting in a 48% response rate. Of the 60 surveys returned, 53 were found to be usable. Figure 1 depicts respondents' area(s) of certification.

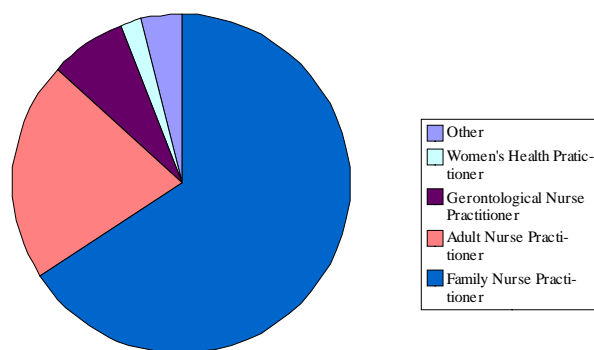


Figure 1: NP areas of certification

Note: N=53

As the chart illustrates, the majority of respondents were certified as Family Nurse Practitioners. Most of the respondents (n=49) were prepared in a master's program to become an NP (92.5%). Over thirty nine percent (n=21) of NPs reported having practiced between two and five years. (Interestingly, 22.6% [n=12] reported having practiced for two years.) Another 20.8% (n=11) had practiced between five and ten years. Lastly, thirty nine percent had practiced for more than ten years.

Eligible respondents and their practice settings are presented in Figure 2.

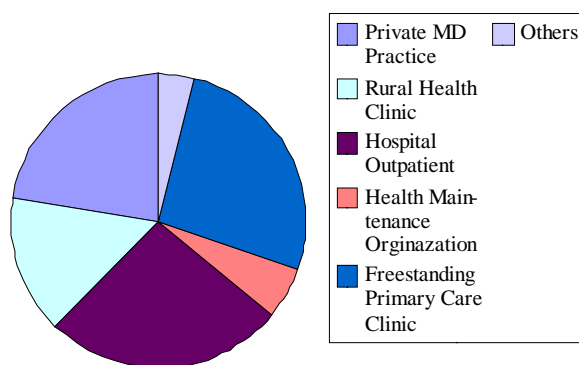


Figure 2. NP areas of practice.

Note: N=53.

All of the study participants were currently practicing Advanced Nurse Practitioners with a mean of 9.32 (SD = 6.542) years' experience. The mean age of NP participants in this study was 44.72 (SD= 8.127) years. The mean number of patients seen in a typical week was 47.9

(SD=22.819). Of the total respondents, 36.11% (n=19, SD=22.794) reported that between 10% and 25% of patients in their practice were depressed at the time they completed the survey.

NP Methods of Assessment

The majority of NPs used multiple methods to initially assess for depression. For instance, developing a complete history and physical exam was reported by 75.5% (n=40) of respondents, followed by use of depression rating/screening instruments (41.5%, n=22), referral to a psychiatrist or psychologist for diagnostic purposes (13.2%, n=7), and appropriate laboratory work (9.4%, n=5). Treatment for depression included consideration of multiple factors such as comorbid illnesses, past history of depression (including severity), family history of depression, and personal history of substance abuse.

Approximately nine standardized depression rating instruments have been in widespread use in recent years (Steer, Cavalieri, Leonard, & Beck, 1999). Of the tool-employed NPs in this survey, 85% used one (or more) of five instruments. The Beck Depression Inventory, the Zung Depression Rating Scale, and the Patient Depression Questionnaire (PDQ) were most frequently used, as illustrated.

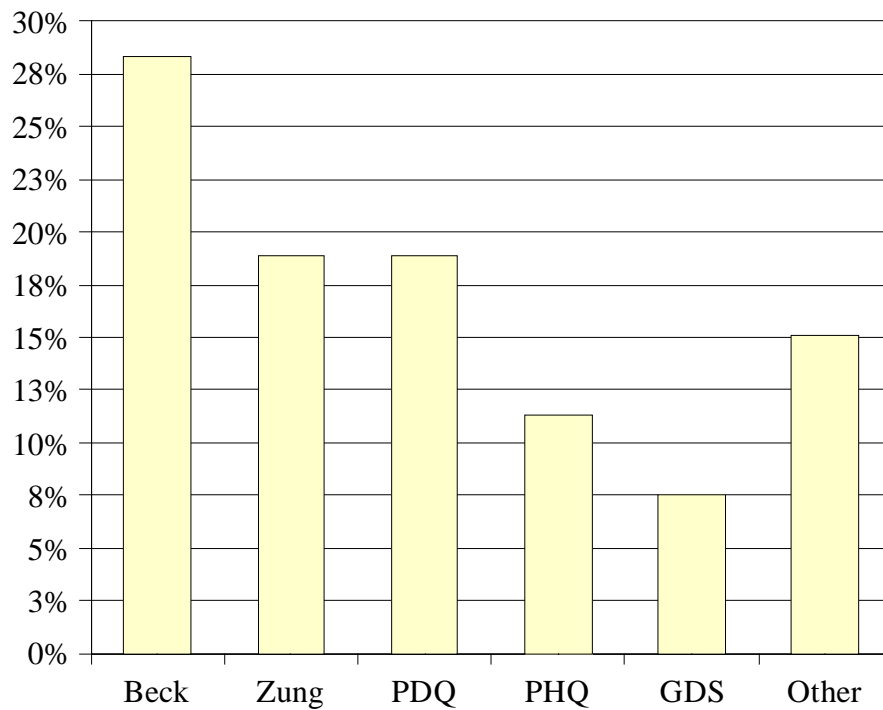


Figure 3: NP use of depression screening tools.

Note: N=53.

Treatment Recommendations

Nurse Practitioners reported recommending a variety of treatment options to their patients. Medication was reported by the majority of NPs (88.7%, n=47), followed by

individual therapy with a psychiatrist or psychologist (73.6%, n=39), as depicted in Figure 4. Interestingly, individual therapy with a pastoral counselor or Clinical Nurse Specialist (CNS) was recommended by 41.5% (n=22) of the NPs. Identical numbers were obtained for the treatment option of psychoeducational/stress management training. Additional significant responses were light therapy (30.2%, n=16), alternative therapy (26.4%, n=14), and dietary measures (24.5%, n=13). In the

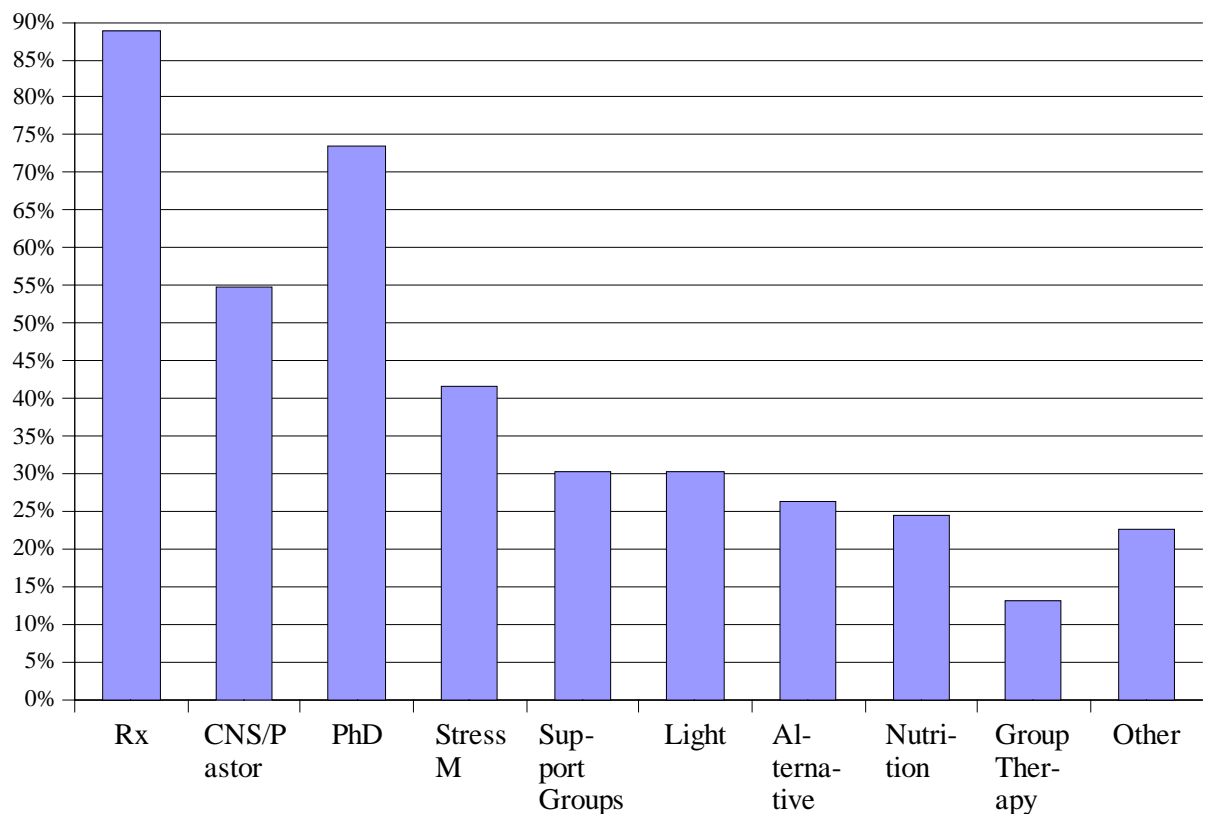


Figure 4. NP depression treatment recommendations.

Note: N=53.

“other category, exercise programs were specific treatment recommendations mentioned by five (9.4%) of the respondents.

Medication Treatment

When medications were recommended, 77.4% (n=41) prescribed the medication independently, 5% (n=3) reported prescribing in collaboration with a psychiatrist, while another 13.2% (n=7) reported prescribing in collaboration with other physicians. Approximately 11.3% (n=6) reportedly did not prescribe the initial medication, but did provide the follow-up care. (Three NPs answered with more than one response.)

Of the NPs who prescribed medication for depression, 1.9% (n=1) reported their prescribing practices were determined by medication formularies all the time, 35.8% (n=19) felt practices were determined most of the time, while 49.1% (n= 26) felt they were determined some of the time. Prescribing practices were not determined by formularies for 13.2 % (n=7) of NPs.

When individual therapy was recommended, approximately 39% (n=21) of NPs referred their patients to psychologists. Other providers included referrals to psychiatrists (35.8%, n=19), Clinical Nurse Specialists (11.3%, n=6), pastoral counseling (3.8%, n=2), and social workers (34%, n=18).

Adequacy of Education

In this quantitative study, almost 72% (n=38) of the respondents felt their formal education adequately prepared them to identify and diagnose depression. Responses

varied in the area of hours devoted to depression-related pharmacology in formal education. The majority of the respondents could not recall or were unsure of their pharmacological preparation (34%, n=18) , while approximately 30% (n=16) of respondents recalled spending four or less hours on pharmacology. Another 30% (n=16) reported five to ten hours, and 5% (n=3) reported more than ten hours.

In the realm of continuing education, 64% (n=34) of NPs acknowledged attending local seminars in the three years prior to the time the surveys were completed. In addition, 43% (n=23) relied on statewide conferences or seminars; and 43% attended national conferences. Interesting, 28% (n=16) of respondents specifically mentioned having attended their state's American Nurses Association-sponsored conferences in the past 3 years.

Additional NP Comments

Space was allotted at the end of the surveys for NPs to cite additional comments. Of the 53 surveys meeting inclusion criteria, 16 included one or more written comments. The comments were reviewed and were found to be varied. However, four respondents wrote about the lack of psychiatrists and psychologists available in their area. As one NP commented, “The most frustrating components to mental health treatment in this geographical area is the availability of and accessibility to counselors and psychiatrists.”

Three respondents mentioned a heightened alertness for depression when co-chronic disease is involved. For example, one NP wrote, “Patients with chronic

medical diseases appear to have a much higher incidence of depression. Heart disease, diabetes, progressive neurological disorders, and the like all cause heavy wear and tear. I am anticipating or looking for depression with these types of patients.”

Another comment made by three NP respondents involved predominance of the disease in all populations. In particular, one NP identified a growing trend of childhood and adolescent depression: “Mental health issues are extremely prevalent in primary care. As a Family Nurse Practitioner, I see a lot of younger patients with depression and anxiety as well.”

Another comment voiced by three NPs pertained to common pitfalls occurring in the assessment process. One NP wrote, “Too many MDs and NPs in primary care fail to assess for potential bipolar disease, which can lead to a host of problems when the patient is given an anti-depressant. Mental health routinely is under taught in university systems.”

A second pitfall mentioned by two NPs was their patients' not being forthcoming. One NP commented, “I actually think the percentage of patients with depression is even higher than we acknowledge. Many patients do not offer the information. Depression still is viewed by some as a weakness and not a disease. Many are reluctant to undergo treatment.” The other NP wrote, “I also become frustrated when patients don't seek counseling and 'want a pill to fix things.' They don't take accountability and responsibility.”

A third pitfall mentioned by two NPs involved a definite lack of provider influence in identification and management of depression. The comment of the first NP was, “Growing trends such as the emergence of HMOs in recent years have resulted in less provider autonomy and independence in the management of depression.” As the other NP succinctly stated, “This is an insurance-driven system and no longer under my direction or prerogative.”

Discussion of Results

Several studies have been published recently that pertain to primary care providers' practice methods involving identifying and managing depression. A study by William et al. (1999) was conducted with over 1,300 primary care physicians. The goal was to better understand recognition and management of depression among MDs. Specifically, it assessed the diagnosis and treatment practices for each physician's most recent patient that was recognized to have major depression, minor depression, or dysthymia. Evaluation strategies reported included routine questioning or screening for depression (9%), diagnosis based on formal criteria (34%), direct questioning about suicide (58%), and assessment for substance abuse (68%) or medical causes of depression (84%).

Though measuring tools differed somewhat between the William et al. (1999) study and this one, results paralleled each other. For example, the former study's use of the response, “assess for medical causes of depression” compares to the latter study's use of the response, “develop a complete history and physical exam.” Responses were 84% for the former study and 75.5% for this study. Other similarly paired responses generated similar results.

A study published in 2000 queried prescribers in the New York area to identify differences among prescribing patterns for the new third generation antidepressants. Approximately one-fourth of the 398 respondents of this study were NPs; 121 of them were Physician Assistants (PAs), and the remaining respondents were Medical Doctors (MDs). One conclusion reported in this study was that all types of providers consider factors with remarkable similarity when prescribing antidepressant therapies (Garrison & Levin, 2000).

In 2003, Groh and Hoes published a study that specifically investigated NP practice methods in diagnosing and treating depressed women. In comparing this researcher's study with the Groh and Hoes study, even sampling similarities were striking. Family Nurse Practitioners comprised 67% of the Groh and Hoes sample, compared to 66% in this study. Approximately 24% of Adult Nurse Practitioners comprised the Groh and Hoes study, compared to 20.8% in this study. Gerontology NPs were 6% and 7.5%, respectively. Practice settings for both samples were also similar, especially private physician practices and rural health care clinics.

Differences between the two samples occurred as well. The majority of years in NP practice in the Groh and Hoes study was under 4 years (49%), while this study reflected the majority in practice was between two and five years and greater than ten years (42%). Also, the Groh and Hoes study noted that almost 50% of the total respondents reported between 10-15% of patients in their practices were depressed at

the time they completed the surveys. Comparatively, this study found 36% (n=19) of NPs felt that between 10-15% of patients were depressed.

Similar to a Groh and Hoes finding, this study demonstrated the majority of NPs utilized multiple methods to assess for depression. Development of a complete history and physical exam was reported by 84% of Groh and Hoes respondents (75.5% in this study), followed by use of depression rating/screening instruments by 53% of respondents (41.5% in this study). These and other clinical guidelines for the assessment and treatments reportedly used by the NPs are consistent with national guidelines and similar to protocols used by psychiatrists and non-psychiatric physicians (AHCPR Guidelines, 1993).

In terms of self-confidence, in the 2003 Groh and Hoes study, 65% of NPs felt confident in their ability to diagnose depression. This 2007 study showed an increase to a near 72% confidence level. In terms of significance in nursing, this study suggests that formal education may be enhancing clinicians' confidence in diagnosing depression. The implication, at least, is encouraging.

This study and others like it are significant in nursing for several reasons. As mentioned above, in the realm of formal education, the reported seven percent increase in NP self-confidence suggests that formal education may well be enhancing clinicians' confidence in diagnosing depression. In the realm of post-graduate education, another interesting fact emerged from this study. Nearly 30% (n=16) of respondents indicated a reliance on their state's annual American Nurses Association

Convention for educational updates. It appears a strong forum exists for NPs to gain continuing knowledge for their profession.

An intriguing statistic was found for significance to continuing nursing education. Only 5% of respondents (n=3) in this survey indicated a reliance on Internet sources for their knowledge. Internet use and web-based learning methods have been shown to be accepted among health professionals as a efficacious means of providing a low cost, convenient, and practical way of disseminating new information to an audience eager to learn (Kamel-Boulos & Wheeler, 2007). Additional studies involving Internet-related continuing education are recommended to explore this finding more fully.

Chapter Summary

In this chapter, study results were presented and discussed. Results were discussed in relation to findings in recent pertinent studies published on the topic. Similarities and differences between this study and similar studies to date were highlighted. Interesting findings from this study were identified and discussed. Lastly, comments from study participants were presented.

Chapter V will summarize findings and conclusions of this study. Relevance to Jean Watson's Theory of Human Caring will be incorporated, along with implications for practice, education, and administration. Chapter V will conclude with how this study contributes to the science of nursing, along with suggested recommendations for further research.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The purpose of this study was to explore how Nurse Practitioners (NPs) identify and diagnose depression in adult primary care settings. In this chapter, significant findings are summarized. In addition, conclusions of the study and implications for practice, education, and administration are identified. Finally, recommendations for further research are suggested.

Summary of Findings

Several pertinent findings arose from the study of these 53 participants. In the area of demographics, it is interesting to note that 22.6% [n=12] of NPs reported having practiced just two years. Thirty-nine percent (n=21) of NPs reported having practiced between two and five years. Another 20.8% (n=11) had practiced between five and ten years. The remaining 39% had practiced for more than ten years (n=21). The mean age of NP participants in this study was 44.72 (SD= 8.13) years. As of 2006 in the United States, the mean age for NPs is 46.0 years (Hooker & Berlin, 2007).

Assessment

The majority of NPs used multiple methods to initially assess for depression. The development of a complete history and physical exam was reported by 75.5% of NPs,

followed by use of depression rating/screening instruments (41.5%), and appropriate laboratory work (9.4%). These and other clinical guidelines for the assessment and treatment reportedly used by the NPs are consistent with national guidelines and similar to protocols used by psychiatrists and non-psychiatric physicians (U. S. Department of Health and Human Services, 1993).

One finding of this study involved the type(s) of instruments used to aid in the diagnosis of depression. Eighty-five percent of participants in this study reported using one (or more) of five instruments. In particular, the Beck Depression Inventory and the Zung Depression Rating Scale were the tools cited by most respondents. Groh and Hoes's study (2003) involving women clients reported the same finding.

Treatment

Treatment for depression included consideration of multiple factors such as co-morbid illnesses, past history of depression (including severity), family history of depression, and personal history of substance abuse. These considerations bear striking similarities to the Groh and Hoes study as well as the Agency for Health Care Policy and Research (AHCPR) guidelines.

NPs reported recommended a variety of treatment options to their patients. Medication was reported by the majority of NPs (88.7%, compared to 82% in the Groh and Hoes study), followed by individual therapy with a psychiatrist or psychologist (73.6%, compared to 83% in Groh and Hoes). A third similarity found

alternative treatment options recommended 26.4% in this study compared to 34% in Groh and Hoes.

The latter finding is an intriguing one: A significant number (approximately 27%) of NPs recommended non-traditional, alternative strategies for depression management. For example, exercise, dietary measures, and/or light therapy were worthy of mentioning in this study by NPs to their clients with depression. Treatments involving natural, alternative, and complementary practices (NACs) appear to be gaining popularity among NPs.

Internet-based Education

An interesting finding of this study was a lack of Internet use for continuing education mentioned by NPs currently practicing in the Midwest. The availability of Internet use and web-based learning methods have been shown to be accepted among health professionals nationally. Low cost, convenience, and practicality are three characteristics making Internet education efficacious. Health care professionals in particular often require new information but are unable to be flexible with their time as a result of their chosen careers in health care (Kamel-Boulos & Wheeler, 2007).

Conclusions

Consistency in Practice

Similar to other study findings, this study found that the majority of NPs used multiple methods to initially assess for depression. Included in methodology were factors such as the development of a complete history and physical exam, past medical history, family medical history, use of depression rating/screening instruments, and appropriate laboratory work. These factors are consistent with national guidelines and similar to protocols used by psychiatrists and non-psychiatric physicians (Garrison & Levin, 2000).

Gender Considerations

As stated earlier, literature reviews of past research demonstrate a paucity of information gathered about how NPs diagnose depression in adult men. Though comparatively more women are afflicted with the disease, more successful suicides occur among the male population. “Although elderly adults comprise only 13% of the population, they represent 25% of suicide attempts” (Conwell, 1997). Interestingly, results of most aspects of the Groh and Hoes (2003) study compared to this one demonstrate similarities in areas such as assessment methods used and treatment options employed. The consistent findings suggest that gender does not seem to be a major consideration in identifying and diagnosing depression.

Pharmacological Preparation

The majority of the respondents could not recall or were unsure of their pharmacological preparation (34%, n=18), while approximately 30% (n=16) of respondents recalled spending four or less hours on pharmacology. Another 30% (n=16) reported five to ten hours. A conclusion of this study is that at least 60% (n=32) of NPs had ten or less hours of formal education in one of the primary treatment modalities of depression.

Relevance of Theoretical Framework

Jean Watson identified 10 carative factors in her 1988 theory of transpersonal caring. In her book *Nursing: Human Science and Human Care* (1988), she describes the carative factors as providing a structured, standardized approach to the caring aspects of nursing. As an example, sensitivity for self and others is the third carative factor listed in her book (Watson, 1988). The carative objective pertaining to the factor is to identify feelings of comfort with self and others. For counseling purposes, a focused question derived from the objective might be, "Can you tell me about your present family situation and network?"

Another example involves the sixth carative problem-solving caring process. The carative objective pertaining to this factor is to identify the patient's ability to solve problems for his or her self. In counseling with a patient, the NP might guide

conversation toward the objective by asking, “What is your life occupied with now?” or, “What can you do to make yourself feel better?”

This research study suggests that NPs employ a combination of many methods to identify and diagnose depression in adult populations. Formal and informal diagnostic tools, professional judgment, intuition, self-respect, respect for the patient, reliance on a formal education, post-graduate school continuing education, and experience all work together in the process of caring for adult patients. In essence, NPs in primary care clinical settings seem to use principles of transpersonal caring to identify and direct the care activities of their depressed clients.

Implications

There are several implications resulting from findings of this study. In the realm of formal NP education, there appear to be some gaps in knowledge, particularly in pharmacology-related courses. In addition, NPs continue to report a lack of self-confidence in diagnosing depression, though evidence suggests consistency is occurring in the profession when compared to other health care professions. It also appears that education on the selection and use of an appropriate screening tool would be helpful. Incorporating these techniques in graduate schools will hopefully raise students' comfort levels in identifying depression.

Implications for post-graduate continuing nursing education also are identifiable. Nearly 30% of respondents indicated a reliance on their state's annual American

Nurses Association Convention for educational updates. It appears a strong forum exists for NPs to gain continuing knowledge for their profession. In addition, it is noteworthy that there is a thirst for more clinical knowledge by this profession.

An implication for post-graduate continuing nursing education is to explore gaps in Internet usage and why they are occurring in this area of the country. Internet education has been shown to be efficacious among health care professionals. Possibly a geographic explanation exists, or perhaps the questionnaire could have been worded to specifically mention Internet learning or the lack thereof.

In addition, this study has implications for clinical nursing practice. Mortality and morbidity data concerning depression clearly show a diminished incidence with early interventions. The majority of mental health issues are increasingly identified in primary care settings. Now clinically depressed patients may remain in a therapeutic relationship with their primary health care provider for accurate diagnosis and management of their disease. Psychiatric referrals are not required to reach a goal of successful treatment.

Recommendations

Several significant recommendations for identifying and diagnosing depression emerge from this study. A recommendation for formal NP education involves two facets. First, it may be helpful to improve knowledge and proficiency in the use of

employing specific screening tools for assessing depression. Second, additional education may improve NP self-confidence and expertise in the realm of pharmacological treatment methods.

Recommendations for clinical primary care practice are similar to those of NP education. In addition, attainable goals include increasing provider awareness and encouraging sharpened diagnostic skills for evaluating both men and women. It has also been reported that improved client satisfaction levels occur when primary health care providers coordinate care for mental and physical problems at the same time. Given the reciprocal relationship of health problems and depression in adults, providing integrated care for physical and mental health problems in the same setting seems unarguably indicated (Skultety & Zeiss, 2006).

Recommendations for primary care research involve an increased focus on adult male populations, especially older adult men. Higher successful suicide rates occurring in men is one compelling reason why more research is needed in general. In particular,

More description of the specifics of primary care interventions and providers is needed... Specific psychotherapy details should be included to allow for replication of the intervention. In addition ...descriptive statistics should be reported that allow for the effect size calculations and a clearer understanding of the results (Skultety & Zeiss, 2006).

A recommendation in nursing research is for additional quantitative and qualitative studies to explore the processes by which Nurse Practitioners identify and diagnose depression in general and select populations. In particular, more knowledge is needed in the understudied older adult male population. The prevalence of depression in older primary care patients may range from 7% to 36%, and the majority of successful suicides occur in this group (Koenig & Blazer, 1992).

Chapter Summary

The purpose of this study was to explore how Nurse Practitioners (NPs) identify and diagnose depression in adult primary care settings. In this chapter, significant findings and conclusions were presented. Implications for practice, education, and research were identified. Recommendations for further studies were given.

Much work has been done, but much more work is needed. One important step is identifying where knowledge deficits and inconsistencies are occurring in practice. A second important step is raising awareness about depression's prevalence. The majority of mental health issues are identified in primary care settings, and mortality and morbidity data show diminished incidence with early intervention. Nurse Practitioners treating adults in primary care settings are in an excellent position to recognize and begin treating depression. As stressed earlier, the high association between depression's morbidity and mortality and suicide is a compelling reason to learn to recognize its presence.

APPENDIX A

**IDENTIFICATION AND DIAGNOSIS OF DEPRESSION
BY NURSE PRACTITIONERS**

Please answer the following questions:

1. Area of certification:

- ☐ Family nurse practitioner
- ☐ Adult nurse practitioner
- ☐ Geriatric nurse practitioner
- ☐ Women's health practitioner
- ☐ Other _____

1. In what kind of program did you participate to become a Nurse Practitioner?

- ☐ Certification – less than 9 months in length
- ☐ Certification – 9 months or longer
- ☐ Masters
- ☐ Post Masters
- ☐ Other (specify)_____

3. Currently practicing?

- ☐ Yes
- ☐ No (Last year practiced _____)

4. In what type of facility are you or have you practiced?

- ☐ Private Nurse Practitioner
- ☐ Private MD Practice
- ☐ Family Planning Clinic
- ☐ Rural health clinic
- ☐ Public Health Department Clinic
- ☐ Homeless/ Migrant Clinic
- ☐ Hospital Outpatient Clinic
- ☐ Other Freestanding Primary Care Clinic
- ☐ College Health Services
- ☐ Home Health Agency
- ☐ Hospital-employed
- ☐ Health Maintenance Organization
- ☐ Prison System
- ☐ Hospice
- ☐ Other (please explain)_____

5. Years practicing as an advanced nurse practitioner in a primary care setting:

6. Your age: _____

7. Number of clients seen in an average week: _____

8. Approximate percentage of patients in your practice with depression:

9. Describe the initial step(s) you perform when you suspect a patient is depressed:

10. If you use a rating/screening instrument, which one(s) do you use:

- ☐ Beck Depression Inventory
- ☐ Center for Epidemiologic Studies (CES-D)
- ☐ Hamilton Depression Rating Scale (Ham-D)
- ☐ Patient Depression Questionnaire (PDQ)
- ☐ Prime MD
- ☐ Zung Depression Rating Scale
- ☐ Other _____

11. If you do not use a rating/screening instrument to evaluate for depression, upon what do you rely?

12. What factors do you consider when deciding on treatment for a patient diagnosed with depression?

- ☐ concurrent medical illnesses
- ☐ past history of depression
- ☐ family history of depression
- ☐ severity of depression
- ☐ substance abuse
- ☐ other _____

13. What treatment options do you generally recommend/prescribe for depressed patients in your practice (**check all that apply**):

- ☐ Alternative practices (therapeutic touch, herbal therapy, acupuncture, St. John's wort, etc.)
- ☐ Dietary/nutritional consult
- ☐ Group psychotherapy
- ☐ Individual therapy with a psychiatrist or psychologist
- ☐ Individual therapy (pastoral counseling, clinical nurse specialist, etc.)
- ☐ Light therapy
- ☐ Medication

- ☐ Psychoeducational or stress management
- ☐ Community support groups (Recovery, Inc., Manic Depressive Association, etc)
- ☐ Other _____

14. When a diagnosis of depression is made and medication is required, do you:

- ☐ prescribe the medication independently
- ☐ prescribe the medication in collaboration with a psychiatrist
- ☐ prescribe the medication in collaboration with a primary care physician
- ☐ do not prescribe the initial medication, but do the follow-up care

15. Are your prescribing practices determined by a formulary (e.g. HMO/insurances):

- ☐ All of the time
- ☐ Most of the time
- ☐ Some of the time
- ☐ None of the time

16. When you refer for individual therapy, to whom do you refer to **most** often:

- ☐ Clinical nurse specialist
- ☐ Pastoral counseling
- ☐ Psychiatrist
- ☐ Psychiatric nurse practitioner
- ☐ Social worker
- ☐ Other _____

17. Do you feel your formal education adequately prepared you to detect and diagnose depression?

- ☐ Yes
- ☐ No

Comments: _____

18. Approximately how many hours of depression-related pharmacology did you receive in your formal training? _____

19. What continuing education seminars/workshops have you attended in the past three years that were related to mental health issues?

20. Other Comments:

Thank you for helping us better understand the practices of Nurse Practitioners!

APPENDIX B

APPENDIX C

Hello Mary,

I am so glad you found our article helpful. I am not aware of other articles written on the topic. I am more than happy to share the survey however, I don't have an electronic version -- have a new computer since we did the study and not sure what happened to that file!! I can send yu a hard copy if you provide your address.

Who are you sending the survey to? How large will your sample be? Do you work in psych? Good luck, and will wait to hear from you re: address. carla groh

On Fri, 06 Jul 2007 07:04:07 -0500

Mary Stuyvenberg <mstuyvenberg@new.rr.com> wrote:

Hello Dr. Groh,

I am an MSN student at University of Wisconsin-Oshkosh. My clinical paper is a quantitative, exploratory study of how NPs diagnose depression. Your article "Practice Methods Among Nurse Practitioners Treating Depressed Women" has been very helpful to me--I'm so glad I was able to locate it!

A few questions for you: 1) Are you aware of other studies on the issue done since yours?

2) I would be thrilled to be able to see your survey tool sent to the 3,000 NPs and perhaps even utilize it in my study if I may. Is that possible?

3) Any other advice you may have for me?

Thanks so much!

Sincerely,

Mary Stuyvenberg, R.N., B.S.N.

Graduate School Student at UW-Oshkosh

Please reply to

mstuyvenberg@new.rr.com or stuyvm48@uwosh.edu

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APPENDIX D

Mary,

We don't have any other data on reliability and validity that I've already shared with you. In terms of reliability, the survey was just a survey that asked number of women they see for depression, etc -- most of the questions are not conducive to running reliability measures on. This is really all I can tell you. Good luck. carla

On Fri, 25 Jan 2008 08:26:21 -0600

Mary Heimmermann <mstuyvenberg@new.rr.com> wrote:

>Thank you, Dr. Groh, for your prompt response!

>

>In speaking w/ my chair, I was asked by her if there is
>any way you or Linda Hoes might be able to be more
>specific about reliability and validity findings. My
>chair and I would *so appreciate it *for the clinical
>paper as well as the presentation of findings.

>

>I am still not understanding this aspect of nursing
>research; in fact, the entire class and project has been
>a struggle for me. However, I am learning plenty! I've
>attached the questionnaire adapted from yours in the
>event you are interested.

>

> Thanks again,
> Mary Heimmermann

>>

>>

>

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APPENDIX E

INFORMATIONAL LETTER

The purpose of this summary is to describe the research study, “Identification and Diagnosis of Depression by Nurse Practitioners” and to explain the study's scope, aims, and purpose.

I am conducting research designed to explore Nurse Practitioners' methods of identifying and diagnosing depression in primary care settings. A reasonably expected benefit of the project includes the enlargement of current knowledge base of caring for depressed adult populations. It is also hoped the study will heighten awareness of various depression screening tools available. Finally, the study may help guide Nurse Practitioners toward the utilization of the diagnostic methods currently available.

There are two reasonably expected benefits for participating in the project. Primarily you will benefit the profession by contributing information on the diagnosing of depression. There may be an additional societal benefit due to the acquisition of knowledge that may eventually improve mental health care in the state.

The procedure used is a random selection of Nurse Practitioners' (NPs) holding active licenses in the state of Wisconsin. Approximately 125 adult, family, and geriatric nurse practitioners will be expected to participate in the study. **The information you include will remain completely anonymous.** Please do not put your name or any other identifying information on the questionnaire. [If you wish a copy of the study results, place your name and address on a separate piece of paper and include it with the returned questionnaire.] Please answer every question to avoid having your questionnaire excluded from the project. The collected data will be secure, and the questionnaire itself will be destroyed after data are entered into a computer database. Your expected time involvement will be 5-10 minutes.

It is not expected that you will experience any harm or discomfort from participating in the study. An alternate procedure that could have been used in this was an electronic mailing of the questionnaire. The principal investigator chose the United States Postal Service mailing due to its more personal approach. Information which identifies you will be unknown to the principal investigator and therefore will not be able to be released to anyone. **Your participation in the study is completely voluntary—you are not required to participate.** If you decide not to complete and return the survey, there will be no consequences for you.

If you have any question about this study, you may call or write:

Mary Heimmermann
308 Thomas Court
Neenah, WI 54956
920 725 0238
mstuyvenberg@new.rr.com

Thank you very much for your assistance!

APPENDIX F

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