

KNOWLEDGE OF LATE-LIFE DEPRESSION  
AMONG STAFF IN LONG-TERM CARE FACILITIES

by

Julie Marie Pullen

A thesis submitted in partial fulfillment  
of the requirements for the degree

of

Master of Science

in

Nursing

MONTANA STATE UNIVERSITY  
Bozeman, Montana

June, 2004

© COPYRIGHT

by

Julie Marie Pullen

2004

All Rights Reserved

APPROVAL

of a thesis submitted by

Julie Marie Pullen

This thesis has been read by each member of the thesis committee and has been found to be satisfactory regarding content, English usage, format, citations, bibliographic style, and consistency, and is ready for submission to the College of Graduate Studies.

Dr. Vonna Branam, Chairperson

Approved for the College of Nursing

Dr. Jean Ballantyne

Approved for the College of Graduate Studies

Dr. Bruce McLeod

### STATEMENT OF PERMISSION TO USE

In presenting this thesis in partial fulfillment of the requirements for a master's degree Montana State University, I agree that the Library shall make it available to borrowers under rules of the Library.

If I have indicated my intention to copyright this thesis by including a copyright notice page, copying is allowable only for scholarly purposes, consistent with "fair use" as prescribed in the U.S. Copyright Law. Requests for permission for extended quotation from our reproduction of this thesis in whole or in part may be granted only by the copyright holder.

Julie Marie Pullen  
June 1, 2004

This thesis is dedicated to my husband, Rick Pullen, a gifted physician who has spent many years healing those who suffer from depression and other mental illnesses.

The author wishes to thank committee members who guided me through this educational journey: Dr. Vonna Branam, Dr. Jean Ballantyne and Dr. Fredricka Gilje. Dr. Branam chaired the thesis committee and contributed endless humor and vitality. Dr. Ballantyne's depth of knowledge on the topic of late-life depression greatly surpasses my own. The use of her personal library is appreciated. Dr. Gilje's warm and supportive presence, as well as her interest and commitment to the mentally-ill, is unwavering.

## TABLE OF CONTENTS

1. LIST OF TABLES .....	ix
2. CHAPTER 1 INTRODUCTION.....	1
Problem Statement .....	5
Conceptual Framework .....	6
Significance to Nursing.....	10
Purpose .....	11
Definition of Terms .....	11
3. CHAPTER 2 LITERATURE REVIEW.....	14
Scope of Depression among the General Adult Population in the United States .....	15
Research Includes Elders .....	15
High Lifetime Prevalence of Depression .....	16
Special Populations Increase Lifetime Prevalence.....	17
Women and Depression.....	17
Primary Care and Depression .....	18
Treatment Failure and Depression .....	19
Scope of Depression among the Elderly Population in the United States .....	20
Research On Elders .....	20
Elders in Urban Communities .....	20
Elders in Rural Communities.....	21
Elders in Long-Term Care Facilities .....	21
Consequences of Depression.....	23
Increasing Morbidity and Mortality.....	23
History and Impact of Omnibus Budget Reconciliation Act .....	26
Historical Overview.....	26
OBRA's Impact .....	27
Unmet Psychiatric Needs.....	27
Psychopharmacology .....	28
Knowledge Deficit in the Assessment of Depression .....	30
Knowledge Deficit of Normal Aging.....	31
Knowledge among Primary Care Physicians.....	31
Knowledge among Nurses.....	33
Knowledge among Patients.....	36
Attitudes, Myths and Misconceptions.....	38
Knowledge of Co-Morbidity and Depression among Elder Care Providers.....	39
Physical Pain and Depression.....	41
Substance P, Serotonin, Norepinephrine.....	43
Cardiovascular Disease and Depression.....	44
Cerebrovascular Incidents and Depression.....	45

## TABLE OF CONTENTS CONTINUED

Gastrointestinal Disorders and Depression.....	46
Thyroid Disease and Depression .....	46
Diabetes Mellitus and Depression.....	46
Vitamin Deficiencies and Depression .....	47
Allergic Rhinitis and Depression: Emerging Evidence .....	48
Late-Life Depression .....	48
Dualism in the Health Care System .....	50
Shortage of Mental Health Providers .....	52
Deficit in Mental Health Expertise .....	53
Assessment Skills Lacking.....	54
Intervention Skills Lacking.....	57
Rural Settings: High Need.....	59
Poorer Availability of Mental Health Services.....	59
4. CHAPTER 3 METHODS.....	62
Design.....	62
Population and Sample .....	63
Protection of Human Rights .....	63
Data Collection Procedures .....	64
Instruments .....	65
Data Analysis .....	66
5. CHAPTER 4 RESULTS.....	67
Sample Description .....	67
Research Questions .....	70
Rural and Urban Sample .....	72
Summary.....	75
6. CHAPTER 5 DISCUSSION .....	77
Limitations of the Study .....	82
Implications for Nursing .....	83
Implications for Research.....	84
7. REFERENCES CITED .....	85
8. APPENDICES.....	100
Appendix A Cover Letter .....	101
Appendix B Subject Consent Form for Participation in Human Research.....	103
Appendix C Demographic Data .....	105
Appendix D Late-Life Depression Quiz .....	108



TABLE OF CONTENTS CONTINUED

Appendix E Pullen Symptom Quiz ..... 110

## LIST OF TABLES

Table	Page
1. Annual Income.....	69
2. Most Recent Continuing Education on Geriatric Depression. ....	69
3. Scores on the Late Life Depression Quiz and Pullen Symptom Quiz.....	71
4. Correlation between Level of Education and Knowledge of Depression.....	71
5. Knowledge of Nursing Care Providers and Non-Nursing Care Providers .....	72
6. Annual Income in Rural and Urban Settings.....	74
7. Comparison of Rural and Urban on Knowledge of Late-Life Depression.....	75

## CHAPTER 1

### INTRODUCTION

The burden of depression is substantial in terms of both human suffering and economics. Depression is considered to be both under-recognized and under-treated (Colenda, Streim, Greene, Meyers, Beckwith, et al., 1999; Druss, Hoff, & Rosenheck, 2000; Fava, 2003; Garrard et al., 1998; Harding, 2000; Hirschfeld et al., 1997; Katzelnick, Kobak, Greist, Jefferson, & Henk, 1997; Lantz, 2003; Lieberman, 2002; McDonald, Passik, Dugan, Rosenfeld, Theobald, et al., 1999; Moak & Borson, 2000; Orrell, Scurfield, Cloke & Renshaw, 2000; Peach, Koob, & Kraus, 2001; Reynolds & Kupfer, 1999; Unutzer et al., 1999). The lack of recognition and treatment exists despite new safe and effective antidepressants available on the market (Druss et al., 2000; Fava, 2003; Greenberg, Leong, Birnbaum, & Robinson, 2003; Reynolds & Kupfer, 1999; Unutzer et al., 1999; Zylstra & Steitz, 2000). There have been differing reports regarding the relative ranking of depression among all illnesses in the United States. Greenberg and others (2003) projected that by 2020, major depression would be second only to heart disease as a cause of worldwide disability. Another recent study ranked major depression as the leading cause of disability worldwide (Kessler et al., 2003).

Depression is one of the 10 most costly illnesses in the United States. Depression is comparable to that of coronary disease, each one costing about \$43 billion annually (American Association of Geriatric Psychiatry, 2001). Only the cost of AIDS outranks both depression and heart disease costing \$66 billion each year (AAGP, 2001; Hirschfeld

et al., 1997). It is anticipated that there will be an increase in the incidence rates and prevalence of depression in the United States in the coming years. This is due in part to the graying of America as evidenced by the increasing number of the aged population. Many of these elderly will need long-term residential care because of a debilitating depression and others will develop a depression after relocating to a long-term care facility (Bagley et al., 2000; Burrows, Satlin, Salzman, Nobel, & Lipsitz, 1995; Ryden et al., 1998).

Half of all current long-term care residents have depression (AAGP, 2001). These elders are thought to be experiencing a relapse of an earlier depression (AAGP, 2001). Individuals with depression admitted to long-term care facilities may have a markedly increased likelihood of death in the first year of admission (Diagnostic and Statistical Manual of Mental Disorders IV Text Revision, American Psychiatric Association, 2000). Colenda and others (1999) reported that two of every three long-term care residents currently have diagnosable mental disorders, including depression. Additionally, one in every four residents currently have depressive symptoms warranting further evaluation and treatment (Colenda et al., 1999).

Depressed elders have more emergency room visits, higher outpatient charges and poorer health (Greenberg et al., 2003; Jeste et al., 1999). The current health status of patients with depressive disorders is worse than those patients whose primary diagnosis is a major medical problem, such as hypertension, diabetes, advanced coronary artery disease, angina, arthritis and gastrointestinal problems (Culpepper, 2002; Greenberg et al., 2003). People with depression are more likely than their non-depressed counterparts to die

from cardiovascular disease, cerebrovascular disease, accidents and suicide (Sartorius, 2003).

Thirteen of every 100 Americans will be older than 60 within a decade. Half of those elderly will need long-term care at some point in their older years. Of those bound for long-term care settings, 80 percent will be diagnosed with depression or other mental illness during their stay (Jeste et al., 1999; Reichman et al., 1998). The anticipated number of elderly is expected to increase as baby-boomers, those born between 1946 and 1964, age in record numbers within the next 30 years (Blazer, 2002; Halpain, Harris, McClure & Jeste, 1999). Baby-boomers are expected to experience depression about twice as high as their younger cohorts (Blazer, 2002; Halpain, Harris, McClure, & Jeste, 1999; Zylstra & Steitz, 2000). In the United States, the proportion of the population aged 65 and older is projected to increase from 12.4 percent in 2000 to 19.6 percent in 2030. These percentages mean the number of elderly will increase from 35 million in 2000 to 71 million in 2030 (Goulding, Rogers, & Smith, 2003).

The higher rate of depression among baby-boomers is thought to have differing etiologies, although all are psychosocial in nature. One thought is that Western society is in an age of melancholy that has been precipitated largely by environmental and social factors, such as over-population, pollution, and the threat of nuclear war (Klerman & Weissman, 1989). Another more recent speculation concerns the economy of the baby-boomer generation. Unlike baby-boomers, older birth cohorts (those between the ages of 70 and 90) were protected by economic boom times (Blazer, 2002). After World War II, these elderly enjoyed unprecedented economic growth in the 1940s and 1950s and had money beyond Social Security upon retirement. They also received the benefit of

Medicare, which often was supplemented by private insurance. The unprecedented economic growth and financial security enjoyed by these older birth cohorts has not been experienced by baby-boomers. Blazer (2002) believes the economic downturn of the past few decades has contributed to the increasing rates of depression experienced by baby-boomers.

The increased number of elderly and their anticipated increased rates of depression together suggest the graying of America will present a significant health-care challenge. Jeste and others (1999) believe a national crisis in geriatric mental health is coming. The demographic trends suggest there will be a burgeoning demand placed on the medical and public health care systems and social services sectors (Goulding et al., 2003; Jeste et al., 1999; Rogers, 2002). Mental health needs are anticipated to be at the top of the list (Blazer, 2002; Jeste et al., 1999). Among many of those persons with mental illness, depression is either a primary diagnosis or comorbid condition. It is estimated that the mentally-ill adult population, will increase from four million (in 1970) to 15 million by 2030 as Americans age (Jeste et al., 1999).

The current health-care infrastructure, health care financing, mental health care delivery system, and the pool of mental health care personnel with appropriate geriatric training, is thought to be inadequate to meet the challenges posed by the expected increase in elderly persons with depression (Goulding et al., 2003; Jeste et al., 1999). Several authors recommend more training and education on the topic of late-life depression among all staff in the long-term care setting (Bagley et al., 2000; Burrows et al., 1995; Falck, Pot, Braam, Hanewald, & Ribbe, 1999; Leo, Sherry, DiMartino, & Karuza, 2002; Ryden et

al., 1998; Spore, Smyer & Cohn, 1991; Teresi, Abrams, Holmes, Ramirez & Eimicke, 2001; Teresi et al., 2002).

### Problem Statement

Consistent findings and recommendations reported in most of the health-care literature reviewed suggested current knowledge of late-life depression among professional and para-professional staff in long-term care facilities is unsatisfactory (Bagley et al., 2000; Blazer, 2002; Garrard et al., 1998; Gottfries, 1998; Halpain et al., 1999; Harding, 2000; Hirschfeld et al., 1997; Jeste et al., 1999; Lantz, 2003; Leo et al., 2002; Lieberman, 2002; McDonald et al., 1999; Moak & Borson, 2000; Ryan, Kidder, Daiello, & Tariot, 2002; Ryden et al., 1998; Teresi et al., 2001; Zylstra & Steitz, 2000). There were a few studies among the literature reviewed that suggested some staff persons demonstrated better assessment skills than others in the area of geriatric depression, although this was not a consistent finding (Blazer, 2002; Falck et al., 1999; Garrard et al., 1998; Proffitt, Augspurger, & Byrne, 1996; Teresi et al., 2001; Teresi et al., 2002; Zylstra & Steitz, 2000). Some studies reviewed concluded that primary care physicians lacked critical knowledge of late-life depression (Blazer, 2002; Zylstra & Steitz, 2000). Other researchers found nurses demonstrated better assessment skills in the area of geriatric depression than physicians although this too was not a consistent finding (Falck et al., 1999; Garrard et al., 1998; Teresi et al., 2001). Proffitt et al. (1996) found that nurses possessed the knowledge to accurately identify depression among the elderly but were not routinely assessing patients for depression. Other data reviewed suggested nursing aides more accurately recognized depression in their geriatric patients when compared to

registered nurses and primary care physicians (Teresi et al., 2002). Here again, this was not a consistent finding (Spore et al., 1991).

In summary, the graying of America is anticipated to dramatically increase the incidence and prevalence of depression in this country. This is due, in part, to the burgeoning aging population of baby-boomers. Baby-boomers are predicted to experience depression at higher rates than prior generations. More beds in long-term care facilities will be required to meet the demands of increased numbers of elders who will need nursing care at some point during their older years. Many of these patients will be admitted for depression, and many others will be depressed upon their relocation to the residential setting. Long-term care staff will need satisfactory knowledge of late-life depression in order to accurately assess and treat their elder patients. Therefore, the purpose of this study is to assess knowledge of depression among staff in long-term care facilities.

### Conceptual Framework

Long-term care settings retain a variety of professional and para-professional staff all with various levels of education, training and experience which are factors in how providers come to know a patient is depressed (Teresi et al., 2002). There are differing ways of knowing as proposed by nursing theorist Barbara Carper (1978). While Carper's work was focused on the development of nursing knowledge, the principles of knowing are not unique to the nursing profession. So, how do nurses and other providers of care such as, physicians, nursing aides, social workers, physical therapists, occupational therapists and pastoral counselors come to know an elderly patient is depressed?



The Greek philosopher Socrates put forth the concepts of knowing and how one comes to know something. Socrates believed all human beings must grapple with answering certain questions. He asked, “What do we know? How do we know it? How do we live with it? How do we speak about what we know?” (Hill, 1999, p.15). Other philosophers, including Martin Heidegger, Martin Buber and Emile Kant elaborated on ways of knowing (Hill, 1999; LeMay & Pitts, 1994). Heidegger, Buber and Kant are philosophers cited in the literature reviewed on Carper’s framework for ways of knowing. While methods for developing knowledge are unique to each of the ways of knowing, they are applicable to fields other than nursing (Chinn & Kramer, 1999; Hill, 1999; LeMay & Pitts, 1994).

Using this framework, Carper identified four fundamental patterns of knowing in nursing: empiric, ethics, personal and esthetic. She believed that all four patterns of knowing are essential (Carper, 1978). Among the four, the empirical way of knowing probably is the most familiar and perhaps best understood among nurses. Since the 1950s, there has been an increasing emphasis on the development of empirical knowledge for the purpose of establishing nursing as a science (Carper, 1978; Chinn & Kramer, 1999). Empirics refers to knowledge that is systematically organized and designed to explain or describe phenomena (White, 1995). Empirics is based on the assumption that what is known is accessible through the senses (Chinn & Kramer, 1999). This form of knowing usually is the result of direct observation and inspection although increasingly there has been a shift to include analysis of the theoretical. This shift has expected nurses to be able to explain or account for their observations and what they classify as facts (Carper, 1978; Chinn & Kramer, 1999).

The ethical way of knowing refers to the actions taken by nurses on the basis of what is right or wrong (Johns, 1995) or on matters of obligation or what ought to be done (Chinn & Kramer, 1999). Carper (1978) viewed the profession of nursing as providing an essential social service to include the role of patient advocate. She proposed that nurses have the responsibility to conserve life, alleviate suffering, and promote health, and acknowledged these tasks are difficult to accomplish when nurses are faced with ambiguous situations. Authors Chinn and Kramer (1999) elaborated further suggesting nurses may be faced with situations that have no right or wrong solution. There may be times nurses are faced with ethical dilemmas which only have unsatisfactory alternatives. Ethical knowing guides nurses in terms of how they conduct their practice, what they select as important, and what priorities demand advocacy (Chinn & Kramer, 1999).

The personal way of knowing is essential to understanding the meaning of health in terms of individual well-being (Carper, 1978; Silva, Sorrell & Sorrell, 1995). The personal way of knowing demands the therapeutic use of self by being authentic (Carper, 1978; Chinn & Kramer, 1999; Johns, 1995). The authentic use of self prevents the patient from being perceived as an object or illness (White, 1995) and prevents the nurse from projecting her own concerns and prejudices onto the patient (Johns, 1995). In this way, the nurse obtains an authentic personal relationship with her patient which ultimately can affect patient outcomes. "There is a growing evidence that the quality of interpersonal contacts has an influence on a person's becoming ill, coping with illness and becoming well," according to Mitchell (as cited in Carper, 1978, p. 18).

The esthetic way of knowing permits examination of nursing as an art (Carper, 1978). Esthetics refers to the nurse's ability to perceive and grasp the true nature of a

particular situation, which is the result of knowledge gained from subjective acquaintance, and the direct feeling of experience (Carper, 1978; Chinn & Kramer, 1999). Some authors call esthetic knowledge intuition (Johns, 1995; White, 1995). Intuition is not analogous to guessing, but instead is based on the kind of understanding that comes from empathy (Carper, 1978; Johns, 1995; White, 1995). Carper believed empathy was a key to the esthetic way of knowing. “One gains knowledge of another person’s singular, particular, felt experience through empathetic acquaintance” (Carper, 1978, p. 6).

The profession of nursing depends upon all four patterns of knowing: the empirical provides scientific understanding of illness and disease, the ethical guides moral judgments in complex and ambiguous situations, the personal allows for authentic use of self and appreciation of the patient as unique, and the esthetic perception allows for empathetic understanding of the patient and his suffering. There must be a balance among the four ways of knowing (Chinn & Kramer, 1999). From this balance, a sense of purpose can develop and direct nursing practice enabling the nurse to move from novice to expert as suggested by Benner (Tomey & Alligood, 2002). The four fundamental patterns allow for “knowing what we do and doing what we know” (White, 1995, p. 80).

Through the application of Carper’s theoretical framework to this study, it is apparent that long-term care staff must understand the etiology and prevalence of depression (empirics), successfully advocate for their depressed patients (ethical), use authentic self in the promotion of a therapeutic relationship (personal), and empathize in order to grasp the true suffering experienced by depressed elders (esthetics).

### Significance to Nursing

Long-term care nurses are a valuable resource for accurately identifying the depressed elderly patient (Burrows et al., 1995). Nurses and nursing assistants represent the largest number of professional staff in long-term care facilities providing care of the geriatric patient. They also provide vital indirect care as nurses typically fill supervisory positions and oversee para-professional staff in their treatment of patients. Nurses typically train para-professional staff thus directing the overall plan of care. Nurses also are responsible for patient and caregiver education. Historically, it also has been the main responsibility of nurses to report to physicians an accurate assessment of patient status. Therefore, depressed geriatric patients depend upon nurses who are adequately trained and have satisfactory knowledge of late-life depression and subsequent assessment skills. The impact of not treating depression leads to a worsening of symptoms, diminished quality of life, and often suicide (AAGP, 2001; Colenda et al., 1999; Culpepper, 2002; Greenberg et al., 2003). Higher medical costs occur from an untreated course of depression that coexists with other serious medical conditions (Colenda et al., 1999; Culpepper, 2002; Greenberg et al., 2003; Sartorius, 2003; Stewart, 2003).

Without appropriate knowledge base, patients remain undiagnosed and untreated contributing to both human suffering and economic burden. Therefore, it is important to determine level of knowledge of late-life depression among those who provide care to elders in long-term care facilities.

### Purpose

The purpose of this study was to assess current level of knowledge of late-life depression among staff in long-term care facilities in both urban and rural Montana using two instruments. The first was the Late-Life Depression Quiz (Pratt, Wilson, Benthin, & Schmall, 1992), which is comprised of 13 true/false statements. The second instrument was developed by the researcher. The Pullen Symptom Quiz was comprised of 10 true/false statements based on the DSM-IV-TR (APA, 2000). The specific research questions were as follows:

1. What is the level of knowledge among staff in long-term care facilities regarding late-life depression?
2. What is the relationship among selected demographic variables among long-term care staff and their level of knowledge regarding late-life depression?

### Definition of Terms

For the purposes of this study, the following definitions of terms were formulated: Long-term care staff, rural, urban, major depression, dysthymia, minor depression, and late life depression. Long-term care staff - are defined as professionals and para-professionals who provide patient care to elders residing in long-term care facilities. This includes, but is not limited to, nursing aides, licensed practical nurses, registered nurses (two-year and four-year), advanced practice nurses, and non-nursing allied health staff, such as physicians and physician assistants, occupational therapists and assistants,

physical therapists and assistants, speech therapists and assistants, social workers and assistants, and pastoral care providers.

Rural - is defined as a community that comprised of places with fewer than 2,500 residents and is located 15 miles or more from an urban center (comprising of 50,000) (U.S. Census Bureau, 1995).

Urban - is defined as a central place and the adjacent densely settled surrounding territory that together have a minimum of 50,000 persons (U.S. Census Bureau, 1995).

Major Depression - is defined as either a depressed mood and or loss of interest or pleasure nearly everyday, and at least five of the following symptoms that have been present during the same two-week period, which represent a change from prior level of functioning: (1) depressed mood, (2) diminished interest or pleasure in normal activities, (3) significant weight loss when not dieting or weight gain, (4) insomnia or hypersomnia, (5) psychomotor agitation, (6) fatigue or loss of energy, (7) feelings of worthlessness or guilt (8) reduced concentration, (9) recurrent thoughts of death or recurrent suicidal ideation (DSM-IV-TR, APA, 2000, p. 356).

Dysthymia - is defined by at least two years of depressed mood for more days than not, and is accompanied by additional symptoms of major depression. The additional symptoms number less than the five or more which are necessary to meet criteria for Major Depression. (DSM -IV-TR, APA, 2000, p. 345).

Minor Depression - is defined as one or more periods (greater than two weeks but less than two years) of depressed mood or loss of interest in usual activities. The patient may or may not have other symptoms that are identical to major depression in intensity (Lavretsky & Kumar, 2002; Ryan et al., 2002).

Late-Life Depression - is defined as major depression, minor depression or dysthymia that occurs on or after age 65, for the purposes of this study.

## CHAPTER 2

### LITERATURE REVIEW

Depression is one of the most frequent medical illnesses among all adults (Blazer, 2002; Fava & Davidson, 1996; Greenberg et al., 2003; Kessler et al., 2003; McLean, 2000; Ohayon & Schatzberg, 2002). Some researchers believe the highest rates of depression occur among elders residing in long-term care facilities (Blazer, 2002; Goulding et al., 2000; Harding, 2000; Jeste et al., 1999; Verma, 1998). Adding to the problem of high prevalence, is the high rate at which depression among elders in long-term care settings remain undetected and consequently untreated, contributing to human suffering, morbidity, and mortality, including suicide. The topic of late-life depression is extensive in the literature. Therefore, the review of literature was extensive to gain insight into the complex nature of depression among elders in long-term care facilities.

There are seven areas of discussion. First, the review of literature opens with the broad category of scope of depression among elders in the general population in the United States. Further details regarding high rates of depression among elders in different settings is provided, and includes gender differences and treatment failures as contributing factors to late-life depression in the long-term care facility. The second broad category is the scope of depression among elderly living in urban communities, rural communities, and long-term care facilities. Third, there is a discussion of the consequences of depression to include data regarding increasing morbidity and mortality. Fourth is the history of the Omnibus Budget Reconciliation Act (OBRA), which mandated assessment



of depression in long-term care facilities. There are further details describing how OBRA impacted the prescribing habits of providers and their use of antipsychotics, benzodiazepines, sedative-hypnotics and anti-depressants. Fifth is the topic of knowledge deficit as being the main barrier to effective assessment of depression. There exists a fundamental lack of knowledge on the topic of normal ageing among primary care physicians, nurses and other providers, and depressed patients. Sixth, following the topic of normal aging is a discussion of medical co-morbidity in depressed elders. There is a discussion of: physical pain and depression, the role of substance P, serotonin and norepinephrine, cardiovascular disease and depression, cerebrovascular incidents and depression, gastrointestinal disorders and depression, thyroid disease and depression, diabetes mellitus and depression, vitamin deficiencies and depression, and allergic rhinitis and depression. The last major discussion is about late-life depression. There is a detailed examination of issues that impact late-life depression: Dualism in the health care system, a shortage of mental health providers, deficit of mental health expertise, assessment skills lacking, intervention skills lacking, and lastly, long-term care facilities in rural settings.

### Scope of Depression among the General Adult Population in the United States

#### Research Includes Elders

The rates of depression and suicide among the general adult population have been increasing, while the age of onset for major depression has been decreasing (Blazer, 2002; Medscape, 2002; Simon & VonKorff, 1992). This demographic trend has been occurring in the past few decades despite new safe and better-tolerated antidepressants (AAGP, 2001; Blazer, 2002; Druss et al., 2000; Greenberg et al., 2003; Medscape, 2002; Reynolds,

2003; Unutzer et al., 1999). It is anticipated that approximately 19 million adults in this country, including elders, will experience a depressive disorder this year (Medscape, 2002). One in six persons, at some point, will have a depressive disorder (Medscape, 2002).

### High Lifetime Prevalence of Depression

There were differing statistics reported regarding the lifetime prevalence of depression (Blazer, 2002; Fava & Davidson, 1996; Greenberg et al., 2003; Hirschfeld et al., 1997; Zhang, Rost, Fortney, & Smith, 1999). Fava and Davidson (1996) reported the lifetime prevalence of depression is between 2.6 to 5.5 percent among males and 6.0 to 11.8 percent among females. Greenberg et al. (2003) reported the lifetime prevalence for major depression is 10.3 percent among adult males and females. Kessler and others (2003) found the lifetime prevalence for major depression alone to be significantly higher – 16.2 percent which translates to between 32 and 35 million adults. Hirschfeld et al. (1997) reported on the prevalence of major depression but his figures also included dysthymia. The lifetime prevalence for major depression and dysthymia is 15 percent among adult males and 24 percent among adult females (Hirschfeld et al., 1997). Kessler and others (2003) conducted a replication of the United States National Co-Morbidity Survey and their results prompted the World Health Organization to upgrade the ranking of depression as the leading cause of disability worldwide.

### Special Populations Increase Lifetime Prevalence

There are three special populations that have been cited as contributing to the lifetime prevalence of depression in the United States. They include women, elders in primary care settings, and the population identified as treatment failures. Special populations are important to this study, due to the fact they all ultimately contribute to the group of aging Americans who are depressed and will reside in long-term care at some point in their elder years.

Women and Depression. It is well documented in the literature that the rate of depression is higher among women than men (Blazer, 2002; Ohayon & Schatzberg, 2002; Pearson, Conwell, & Lyness, 1997). This is significant because at least 50 percent of elders in long-term care settings are women, and they are depressed upon their admission to a long-term care facility or are experiencing a relapse of an earlier depression.

During the reproductive years, women experience depression at twice the rate of men (Burt & Stein, 2002; Kornstein, 2002; Stewart, 2003). The National Co-Morbidity Survey conducted in 1994 showed rates of major depression were 21.3 percent for women and 13.7 percent for men, as reviewed by Kornstein (2002). The survey found dysthymia among women was approximately double that among men. Women experienced dysthymia at the rate of 8.0 percent while 4.8 percent of male respondents were diagnosed with dysthymia (Kornstein, 2002). In addition, women are six times more likely than men to have a depression after a physical illness or injury. For example, women are twice as likely to have a depression after a myocardial infarction as compared to men suffering

from the same medical event (Medscape, 2002). In addition, it is thought that women are at increased risk of recurrent and chronic depression (Burt & Stein, 2002).

Primary Care and Depression. Researchers have examined the rates of depression among adults in the primary care setting. Among findings from the literature reviewed, rates of depression did not separate elders from all other adults. The numbers of depressed elders seen in primary care becomes significant. As out-patient depressed older adults age, it is thought they will need placement in long-term care at some point. Among all adults seen in an out-patient primary care setting, 10 percent meet criteria for major depression, and another 30 percent have significant depressive symptoms that warrant further evaluation and treatment (Hirschfeld et al., 1997). Other researchers examined patients in primary care and found higher rates of depression among higher users of out-patient services (Culpepper, 2002; Katon, VonKorff, & Lin, 1990; Katon, VonKorff, & Lin, 1992; Katzelnick et al., 1997; Lieberman, 2002). Katon et al. (1992) found 24 percent of high users of primary care services met criteria for major depression, and 68 percent had a lifetime history for that disorder. In an earlier study, Katon et al. (1990) found 40 percent of high users of health care were diagnosed with an affective disorder and two-thirds of those had a lifetime history of major depression. Katzelnick and others (1997) found in their study, of the 512 primary care patients who were high users of medical services, 150 screened positive for depression. Those patients with positive screening typically did not have significant medical illnesses. These patients were thought to be seeking treatment for depression in the guise of a medical problem.

Treatment Failure and Depression. The subject of treatment-resistant depression and chronic depression have gained momentum in recent years and has widened the impact of human suffering as more Americans are labeled non-responsive to medications (Blazer, 2002; Borson, Bartels, Colenda, Gottlieb, & Meyers, 2001; Fava & Davidson, 1996; Keller, 2003; Kornstein, 2002; Little et al., 1998; Medscape, 2002; Reynolds, 2003). This has become an increasing concern as those who are treatment resistant grow older and therefore contribute to the burgeoning number of elder Americans with depression. Chronic forms of depression include chronic major depressive disorder (major depressive episode of at least two years duration), dysthymic disorder (depressive neurosis), double depression (major depressive disorder superimposed on dysthymia), and recurrent major depressive disorder with incomplete inter-episode recovery (Blazer, 2002; Fava & Davidson, 1996; Kornstein, 1996). Fava and Davidson (1996) reported between 29 and 46 percent of depressed patients failed to respond fully with antidepressant medication of adequate dose and duration. Of that treatment-failure group, approximately 26 percent were complete non-responders (Fava & Davidson, 1996). Little and others (1998) found 18.4 percent of elderly met the criteria for treatment-resistance. The estimated lifetime prevalence of chronic depression in the general population is thought to be above five percent (Kornstein, 2002).

## Scope of Depression among the Elderly Population in the United States

### Research On Elders

There are differing reports on the rate of depression among elderly; however, the majority of older persons are neither demented nor seriously depressed. Physically-healthy seniors have the lowest rates of depression, anxiety, and substance abuse among the adult population (AAGP, 2001; Blazer, 2002; Medscape, 2003; Satcher, 1999). Colenda and others (1999) reported, of 32 million older Americans, approximately five million suffer from serious and persistent depressive symptoms (including minor depression). Another one million suffer from major depression (Colenda et al., 1999). Satcher (1999) reported about 20 percent of the population aged 55 and older experience mental disorders that are not a part of the normal aging process.

Elders in Urban Communities. It is thought that fewer numbers of depressed elderly reside in assisted-living arrangements, and even fewer still among those living independently in the community (AAGP, 2001; Blazer, 2002; Goulding et al., 2003; Harding, 2000; Hirschfeld et al., 1997; Jeste et al., 1999; McLean, 2000). Cole & Dendukuri (2003) reported major depression occurs in one to three percent of the aged population and an additional eight to 16 percent have clinically significant depressive symptoms warranting further evaluation. Fewer than 20 percent of those thought to have major depression or who have significant depressive symptoms are evaluated (Cole & Dendukuri, 2003). Blazer (2002) reviewed data from numerous clinical studies examining the prevalence of depression among the community-dwelling aged in his meta-analysis.

Several studies consistently reported an overall prevalence of approximately 15 percent, with a range from 10 to 25 percent. Blazer (2002) also reported the prevalence of depressive symptoms warranting further evaluation to be between one and five percent.

Elders in Rural Communities. There is little data available among the literature reviewed on prevalence rates of depression among elderly in the rural setting. The data among the literature reviewed is either conflicting, or difficult to compare since studies included all psychiatric illnesses. In the latter, the figures are overly inflated for depression. For example, some authors reported prevalence rates from 23 to 25 percent, but their data included all psychiatric illnesses (Abraham, Buckwalter, Neese, & Fox, 1994). The researchers previously cited found the rate of psychiatric disorders in general are much higher among rural dwellers than urbanites; however, this was not a consistent finding in the literature reviewed. Blazer (2002) found in his meta-analysis that the rates of depression were double that among urban elderly when compared to rural elders. A higher rate of depression among urbanites was found in another study also conducted by Blazer (2002). In that study, rates of depression in a rural state (North Carolina) were compared to those in an urban state (Connecticut). It was found the prevalence of depression to be one percent in North Carolina, while the rate in Connecticut was 5.4 percent.

Elders in Long-Term Care Facilities. There is substantial research which shows the prevalence of depression to be highest in the long-term care population. Some researchers believe the highest rates of depression occur among those elderly who reside in long-term care facilities where 75 to 90 percent have some psychiatric illness (AAGP,

2001; Blazer, 2002; Goulding et al., 2000; Harding, 2000; Hirschfeld et al., 1997; Jeste et al., 1999; McLean, 2000; Reynolds, 2003; Siegal, 1998; Verma, 1998). Among nursing home residents, Lantz (2003) reported 59 percent of the elderly were depressed. Teresi and others (2001) reported the prevalence of major depression among nursing home elders was 14.4 percent and the prevalence of minor depression was 16.8 percent. Another 44.2 percent of nursing home elders presented with significant depressive symptomatology warranting further evaluation and treatment (Siegal, 1998; Teresi et al., 2001). Other authors reported significant prevalence of depression in long-term care facilities (AAGP, 2001; Burrows et al., 1995; Kurlowicz, Evans, Strumpf, & Maislin, 2002; McLean, 2000; Siegal, 1998). Some data suggested the prevalence for major depression in the long-term care facility is 10 to 15 percent and the one-year incidence rate for new major depression is more than seven percent (AAGP, 2001; Burrows et al., 1995). Kurlowicz and others (2002) reported the prevalence of major depression among nursing home elderly to be between 6 and 24 percent.

In addition to those elders already diagnosed with depression, another 15 to 30 percent of geriatric patients in long-term care settings have significant depressive symptoms that warrant further assessment (AAGP, 2001; Burrows et al., 1995). Kurlowicz and others (2002) reported approximately 40 percent of elders in long-term care facilities present with clinically significant depressive symptoms, but they do not meet the criteria for major depression. Some researchers have labeled these depressive symptoms as minor depression, which causes as much distress and disability as major depression and is as often overlooked by clinicians (Bartels, Moak, & Dums, 2002; Blazer, 2002; Brown



University, 2003; Burrows et al., 1995; Charney et al., 2003; Lavretsky & Kumar, 2002; Oxma & Sengupta, 2002; Ryan et al., 2002).

There has been some controversy over defining minor depression as the clinical presentation can be variable (Lavretsky & Kumar, 2002). Some researchers have adopted the following: Minor depression is classified as one or more periods of depressive symptoms that are identical to major depression in intensity and duration but involve fewer symptoms (Brown University, 2003; Lavretsky & Kumar, 2002; Ryan et al., 2002). Ryan et al. (2002) further stated one of the symptoms must be anhedonia or depressed mood. The rates of non-major depression reach up to 50 percent in the nursing home (Brown University, 2003; Lavretsky & Kumar, 2002). Minor depression affects 25 percent of elders in the primary care setting. Across inpatient and outpatient settings, the prevalence of depressive symptoms, warranting further evaluation and treatment, is two- to four-fold higher than major depression and has become a significant health care concern (Lavretsky & Kumar, 2002). This has become an increasing problem in terms of treatment as the current trend toward evidence-based practice guidelines fail to address minor depression (Bartels et al., 2002; Kilbourne, Rollman, Schulberg, Herbeck-Belnap, & Pincus, 2002).

### Consequences of Depression

#### Increasing Morbidity and Mortality

The consequences of untreated depression include significant morbidity and mortality in the elderly (AAGP, 2001; Blazer, 2002; Butler, 1993; Charney et al., 2003; Cole & Dendukuri, 2003; Culpepper et al., 2003; Kurlowicz et al., 2002; Miller et al.,

2002; Penninx et al., 2001; Proctor et al., 2003; Rovner et al., 1991; Verma, 1998; Zhang et al., 1999). Undiagnosed depression leads to a worsening of physical symptoms and hastens disability (Colenda et al., 1999; Culpepper, 2002; Reynolds, 2003; Satcher, 1999). Depression increases the risk for cardiac mortality in subjects with and without cardiac disease at baseline (Cole & Dendukuri, 2003; Culpepper et al., 2003; Penninx et al., 2001). The researchers previously cited also found the excess cardiac mortality risk was more than twice as high for major depression as for minor depression. Those elderly admitted to skilled nursing facilities were examined by Rovner and others (1991). These researchers and others (Reynolds & Kupfer, 1999) found patients who previously had been undiagnosed with depression, had 59 percent greater mortality in their first year of admission. The suicide rate among elders is the highest compared to other age groups (AAGP, 2001; Reynolds, 2003) and has been increasing steadily in the United States since 1981 (Blazer, 2002; Butler, 1993). Individuals ages 65 and older account for approximately 19 percent of annual suicide deaths (Reynolds, 2003). The highest suicide rate among the elderly is among the oldest old – those 85 years of age and older (AAGP, 2001; Butler, 1993; Gallo & Lebowitz, 1999; Reynolds, 2003). The oldest old currently is the fastest growing segment of the older population and it is expected to grow faster than any other age group (Charney et al., 2003; Rogers, 2002).

A deficit of knowledge on the subject of normal aging is in part reflected by the numbers of those depressed elders who commit suicide (AAGP, 2001; Blazer, 2002; Borson et al., 2001; Butler, 1993; Charney et al., 2003; Garrard et al., 1998; Hirschfeld et al., 1997; Kamholz & Mellow, 1996; Lantz, 2002; Peach et al., 2001; Pearson et al., 1997; Revicki, Simon, Chan, Katon & Heiligenstein, 1998; Roff, 2001; Satcher, 1999; Verma,

1998; Woolley, 1997; Zylstra & Steitz, 2000). The elderly have the highest suicide rates of any age group (Reynolds & Kupfer, 1999) and the rates have been rising (Gallo & Lebowitz, 1999). National statistics do not include subtle forms of suicide, such as nursing home residents who stop eating. Therefore, it has been speculated that the suicide rate among the elderly has been under-estimated (Gallo & Lebowitz, 1999). The elderly account for 20 percent of suicides in the United States despite accounting for only 13 percent of the population (Roff, 2001). Approximately 60 to 75 percent of those elders aged 70 and above, who committed suicide, had diagnosable depression (Reynolds & Kupfer, 1999). Approximately 20 percent of those elders who committed suicide saw their primary care physician on the same day. Another 40 percent saw their primary care provider within one week of their deaths (AAGP, 2001; Pearson et al., 1997). In another study, three-fourths of all elderly who committed suicide had visited their primary care provider within the month (Charney et al., 2003; Garrard et al., 1998). Older adults use more lethal methods in suicide attempts than do younger persons (Gallo & Lebowitz, 1999).

History and Impact of Omnibus Budget Reconciliation Act  
on Elders in Long-Term Care Facilities

Historical Overview

National attention focusing on the unmet needs of nursing home residents gave rise to the Nursing Home Reform Act in 1987 (Public Law 100-203) also known and referred to as the Omnibus Budget Reconciliation Act (OBRA). This national legislation was the result of inadequate treatment of depression in nursing homes and inappropriate use of antipsychotic drugs as chemical restraints (Burns et al., 1993; Ryan et al., 2002; Smyer, Shea, & Streit, 1994; Streim et al., 2002). OBRA's origins stemmed from the introduction of chlorpromazine in the 1950s. This drug was one of the first in a series of new medications that enabled many patients with mental disorders to be cared for with considerably less medical and nursing oversight (Ryan et al., 2002). At that time however, little was known about the adverse reactions and medical management complexities that ultimately would arise from its use.

OBRA was designed to reform nursing homes in the following three ways. First, the new regulations required Pre-Admission Screening and Annual Resident Review (PASARR) to identify patients with mental illness and ensure they were placed in appropriate treatment settings. Second, the national mandate also required that periodic evaluations of nursing home residents be conducted with a standardized resident assessment instrument designed to identify mental and behavioral symptoms that should be addressed in the patient's plan of care. Third, the law specifically prohibited the use of physical restraints for discipline or convenience. Similarly, specific indications for the use

of antipsychotic medications were established to decrease their inappropriate use as a chemical restraint. Together, these regulations ultimately were designed to provide detection, evaluation and appropriate treatment of mental illnesses among nursing home residents (Burns et al., 1993; Sakauye, 1999; Smyer et al., 1994; Snowden & Roy-Byrne, 1998; Streim et al., 2002).

### OBRA's Impact

Unmet Psychiatric Needs. Several researchers have examined the legislative and quality-of-care impact that OBRA has had on long-term care facilities and the findings are mixed (Borson & Doane, 1997; Lantz, 2002; Lantz, Giambanco, & Buchalter, 1996; Llorente et al., 1998; Ryan et al., 2002; Sakauye, 1999; Semla, Palla, Poddig, & Brauner, 1994; Shorr, Fought, & Ray, 1994; Siegler et al., 1997). There remains a substantial percentage of nursing home residents with unmet psychiatric needs (Colenda et al., 1999; Reichman et al., 1998; Snowden & Roy-Byrne, 1998; Streim et al., 2002). Moak and Borson (2000) stated in their analysis that little more is known about the types, availability, or adequacy of mental health services provided in long-term care settings than what was known in 1987, when OBRA was implemented. Borson, Loebel, Kitchell, Domoto, and Hyde (1997) examined a sample of 510 patients referred for psychiatric assessment as part of the nursing home's required PASARR. These researchers found PASARR was satisfactory in identifying schizophrenic patients but unsatisfactory in detecting the mild- to moderately-depressed elderly individual. Lantz (2002) concluded PASARR was a system failure, and others agreed (Colenda et al., 1999).

Reichman and others (1998) conducted a survey of nursing home administrators across six states in another study that examined mental health referral needs for long-term care residents. In this sample, directors of nursing perceived 38 percent of their elderly residents to need a psychiatric evaluation and they were unable to obtain this service (Reichman et al., 1998). Some authors believe this aspect of the OBRA mandate, access to the mental health evaluation, has remained largely unmet (Borson et al., 1997; Colenda et al., 1999; Moak & Borson, 2000; Reichman et al., 1998; Streim et al., 2002).

Psychopharmacology. OBRA changed the way clinicians prescribe for their elderly patients in long-term care facilities. The greatest impact was on the prescribing of antipsychotics, benzodiazepines, sedative-hypnotics and antidepressants. The prescribing of antipsychotics, benzodiazepines and sedative-hypnotics in long-term care facilities may at first seem irrelevant to the topic of elder depression. However, these drugs have been used to manage the depressed individual who was agitated or the depressed elder who complained of poor sleep (Borson & Doane, 1997; Lantz et al., 1996; Llorente et al., 1998; Semla et al., 1994; Siegler et al., 1997; Shorr et al., 1994; Streim et al., 2002). Several researchers have examined OBRA's impact on psychotropic prescribing habits of these three drug classifications. Results of these studies generally were favorable in terms of evaluating the effectiveness of the new federal mandate outlying their administration. The researchers previously cited agree there has been a reduction in the numbers of elderly residents being treated with psychotropics who lacked approved psychiatric diagnostic indications. There was an overall reduction in the number of prescriptions for antipsychotics, sedative antihistamines and sedative-hypnotics among elderly in the

nursing home setting (Borson & Doane, 1997; Llorente et al., 1998; Ryan et al., 2002; Semla et al., 1994; Shorr et al., 1994; Siegler et al., 1997). Ryan and others (2002) have criticized recent studies for examining what should *not* be done, rather than what should be done, in terms of prescribing psychotropics in nursing homes.

Changes observed in the prescribing of antidepressants were cited by only a few authors among the literature reviewed (Borson & Doane, 1997; Lantz et al., 1996). Borson and Doane (1997) found qualitative, but not quantitative, shifts in the prescribing of these medications. Furthermore, they did not conclude if this change was an improvement over previous patterns of antidepressant prescribing habits. Other researchers found quantitative changes. Lantz and others (1996) found a significant increase in the prescribing of antidepressants since the implementation of OBRA. Some researchers believe these changes have been consistent with improving quality of nursing home care yet some questions remain (Borson & Doane, 1997; Ryan et al., 2002; Shorr et al., 1994; Streim et al., 2002). There has been a lack of research on patient outcomes and whether these changes have improved symptom control, functional status, quality of life, and contribute to the general well-being of nursing home residents.

In summary, researchers overall have been supportive of OBRA's implementation. They have cited specific positive outcomes; however, researchers view OBRA only as a good beginning to improve the care of depressed elders in long-term care facilities. There have been key issues documented that remain unresolved by this federal mandate. Inadequate detection and treatment of all mental disorders, including depression, has remained hugely inadequate and lacks resolution by OBRA (Colenda et al., 1999; Moak & Borson, 2000). Put another way, "the unfortunate fact is that treatment of mental disorders

in the nursing-facility population still does not receive the emphasis and attention that the prevalence of such disorders warrants” (Colenda et al., 1999, p. 14).

### Knowledge Deficit in the Assessment of Depression

Barriers to effective assessment of the depressed elderly patient have been identified. These barriers are largely based on a fundamental lack of knowledge in three broad subjects: normal aging, medical co-morbidity and late-life depression. First, physicians, nurses and other health care providers lack education on the topic of normal aging. This knowledge deficit has led to misconceptions about the normal aging process and ultimately negative attitudes, stereotyping and biases about the aged. Second, there is a lack of knowledge on the topic of medical co-morbidity. Numerous medical conditions can cause depression or exacerbate a pre-existing depressive condition. These physical illnesses typically create a diagnostic dilemma for health care professionals. Third, providers on all levels exhibit a deficit of knowledge in the area of geriatric mental health, depression in particular. The lack of available skilled mental health providers has exacerbated further a dualistic health care system that largely ignores mental and emotional difficulties creating an “expertise gap” particularly in the areas of assessment and intervention. This “expertise gap” is especially burdensome among those long-term care facilities in rural communities where mental health services are scarce and infrequently provided.



### Knowledge Deficit of Normal Aging

Many primary care physicians, nurses, and other health care providers lack formal education on the topic of normal aging in their respective programs of study (Abraham et al., 1994; Bartels et al., 2002; Blazer, 2002; Borson et al., 2001; Brymer et al., 1996; Carman, 1997; Halpain et al., 1999; Lakeman, 1999; Lieberman, 2002; Morris, 2001; Pearson et al., 1997; Satcher, 1999; Verma, 1998; Woolley, 1997; Zylstra & Steitz, 2000). Formal training and education in the field of gerontology has been found to improve knowledge base about the normal aging process and, indirectly, improve attitudes and remove stereotypes regarding the elderly. Some researchers observed favorable attitudes toward the elderly increase and negative stereotyping decrease as geriatric knowledge base expands (Galluzzi, 2003; Harding, 2000; Markstrom, 1991; Prevost, Wilson, & Gerber, 1991; Robbins, 2002; Robinson, 1993; Sderhamn, Lindencrona, & Gustavsson, 2001; Sheffler, 1995; Zylstra & Steitz, 2000). Ageist attitudes and stereotypical ideas have served to jeopardize the diagnosis and resolution of depression as reported by these researchers and others (Fava, 2003; Harding, 2000; Reynolds, 2003; Satcher, 1999; Verma, 1998).

Knowledge among Primary Care Physicians. Adequate knowledge base on the topic of normal aging is essential in the primary care setting (Satcher, 1999). One-third of the visits to primary care physicians are made by the aged (Woolley, 1997). Many ambulatory elderly depressed patients present to their primary care physicians instead of psychiatrists for relief of their depressive symptoms making the out-patient setting the portal of entry for mental health care (Abraham et al., 1994; Blazer, 2002; Culpepper et

al., 2003; Greden, 2003; Klinkman, 2003; Lieberman, 2002; Murrell, Himmelfarb, & Wright, 1983; Orrell et al., 2000; Pearson et al., 1997; Revicki et al., 1998; Reynolds & Kupfer, 1999; Satcher, 1999; Schulberg, Katon, Simon, & Rush, 1998; Woolley, 1997).

It is the primary care physician who typically assesses and treats the depressed elderly individual who resides in the long-term care facility (Satcher, 1999). Despite oftentimes adequate access to primary care, a significant number of depressed elderly remain undiagnosed and untreated, or diagnosed and under-treated leading to increased morbidity and mortality (Abraham et al., 1994; Blazer, 2002; Culpepper et al., 2003; Fava, 2003; Greden, 2003; Greenberg et al., 2003; Lieberman, 2002; Sartorius, 2003; Satcher, 1999; Verma, 1998). Older adults with mental disorders, including depression, are more likely than younger adults to receive inappropriate treatment (Bartels et al., 2002; Fava, 2003; Satcher, 1999; Unutzer et al., 1999).

Zylstra & Steitz (2000) found physicians scored low (65 percent) on their general knowledge of normal aging which can affect physician attitudes. One of the most missed items was equating normal aging with depression. Physicians wrongly associated depression with the normal aging process. This missed item indicated a knowledge deficit in normal aging, and it was concluded that physicians therefore would not treat a depression among their elder patients (Zylstra & Steitz, 2000). Similar findings were observed by Stewart (2003) and Abraham et al., (1994). Ageist attitudes undermine accurate diagnosis and effective treatment (Blazer, 1997; Blazer, 2002; Greden, 2003; Satcher, 1999; Woolley, 1997; Zylstra & Steitz, 2000). These authors found their results were consistent with other studies conducted nearly 20 years earlier. Many primary care providers feel frustrated by their elderly depressed patients. It has been speculated this

frustration may be a function of attitudes, again affecting the clinician's ability to accurately diagnose and treat (Glasser & Gravdal, 1997; Lieberman, 2002; Woolley 1997). A five-campus study conducted by Reuben, Fullerton, Tschann, and Croughan-Minihane (1995) found beginning medical students held unfavorable attitudes about older persons. These students associated normal aging with illness, frailty, and incompetence and typically did not pursue gerontology as a medical specialty. Blazer (2002) found a persistent myth is the assumption that people become grouchy, cranky and depressed as they age, again suggesting these behaviors are a normal part of the aging process. Blazer (2002) found this myth prevalent among providers of care, and suggested this perception functioned as a barrier to the evaluation of the aged person. Butler (1993) and Blazer (2002) attributed ageist attitudes partly to the youth-oriented culture that exists in the United States today.

Knowledge among Nurses. Nurses and other health care providers have demonstrated a knowledge deficit on the topic of normal aging. They have shown an inability to distinguish normal from abnormal behavior and thinking among the elderly (Bartels et al., 2002; Borson et al., 2001; Brown, McAvay, Raue, Moses, & Bruce, 2003; Brymer et al., 1996; Buschmann, Dixon, & Tichy, 1995; Carman, 1997; Halpain et al., 1999; Lakeman, 1999; Morris, 2001; Robinson, 1993; Woolley, 1997; Zylstra & Steitz, 2000). This is particularly true among providers of care to the oldest old, those 80 years of age and above (Abraham et al., 1994; Blazer, 2000; Borson et al., 2001; Halpain et al., 1999; Rogers, 2002).

Negative stereotyping and negative attitudes toward the elderly have been found to be prevalent among nurses and other nursing staff (Harding, 2000; Lookinland & Anson, 1995; Markstrom, 1991; Prevost et al., 1991; Reuben et al., 1995; Sderhamn et al., 2001; Sheffler, 1995; Teresi et al., 2002). Nurses perceive the elderly as “boring” (Abraham et al., 1994, p. 207). Nurses also believe the aged are fixed in their ways and therefore unable to change (Abraham et al., 1994; Verma, 1998). Verma (1998) reported that nurses are inadequately prepared to work in nursing homes as they become easily frustrated and overwhelmed with elders. Among other nursing staff, Robinson (1993) found aides tended to perceive their elderly patients as being set in their ways, complaining, bitter, forgetful, demanding, fussy and best left to themselves. Robinson (1993) recommended sensitivity training to help dispel stereotypical views.

Data from studies examining attitudes and knowledge among nursing students were similar to that of professional registered nurses (Markstrom, 1991; Poirrier, 1994; Prevost et al., 1991; Sheffler, 1995). This was consistent in another study among the literature reviewed that specifically examined the attitudes of physical therapy students (Taylor & Tovin, 2000). Another study examined the perceptions of occupational therapists and occupational therapy students and results again were similar (Glogoski-Williams, 2000).

Several authors have cited a positive correlation between attitudes and knowledge, although this was not a consistent finding (Galluzzi, 2003; Markstrom, 1991; Prevost et al., 1991; Robinson, 1993; Sderhamn et al., 2001; Sheffler, 1995; Zylstra & Steitz, 2000). Robbins’ (2002) data did not show the positive correlation between attitudes and knowledge. A geriatric educational series was designed and presented to family

medicine residents at the Riverside Osteopathic Hospital in Trenton, Michigan. The educational program contained core information on normal and abnormal physiologic and psychological aging. The post-session survey of attitudes toward the aged failed to show improvement (Robbins, 2002). It has been recommended that formal training in gerontology and gerontology clinical experiences be implemented in medical and nursing school. Furthermore, post-graduate continuing education programs to improve attitudes about elders, and knowledge of normal aging, should be encouraged if not mandated (Galluzzi, 2003; Markstrom, 1991; Prevost et al., 1991; Robinson, 1993; Sderhamn et al., 2001; Sheffler, 1995; Zylstra & Steitz, 2000).

There is a shortage of formal courses on normal aging taught in medical schools, nursing schools, and psychology and social work programs (Abraham et al., 1994; Brody, 2002; Halpain et al., 1999; Lieberman, 2002; Verma, 1998). Many professionals lack the training necessary to work effectively with the aged population (Abraham et al., 1994; Charney et al., 2003). Today, there exists a shortage of faculty in medical and nursing schools who teach gerontology. This faculty deficit has resulted in a critical shortage of health care providers who are adequately trained to work with elders. It has been recommended there be an expansion of core curriculum on aging in medical and nursing schools, as well as colleges of social work and other similar programs of study (Abraham et al., 1994; Charney et al., 2003; Verma, 1998).

It is apparent that the need for more health care providers who have training and education in gerontology is large and growing. For example, about 5,500 social workers were employed in providing direct services to elderly persons in the early 1980s yet another 60,000 will be needed by the year 2010 as baby-boomers age (Halpain et al.,

1999). “As a society we have slowly begun to acknowledge this ongoing change in demographics – or age wave – yet we have done little to prepare for it” (Halpain et al., 1999, p. 1206).

Knowledge among Patients . Perhaps it is a paradox that the older patient himself has been a barrier to effective assessment and treatment for his depression. The stereotypical notions about normal aging have been found among the aged themselves (Blazer, 2002; Butler, 1993; New York State Nurses Association, 2001; Woolley, 1997). Aged patients, like physicians and other health care providers, falsely believe emotional dysfunction is an inevitable consequence of growing old (Blazer, 2002; Butler, 1993; Pearson et al., 1997; Satcher, 1999). These patients therefore are reluctant to initiate this topic with their primary care physicians (Blazer, 2002; Butler, 1993; Kamholz & Mellow, 1996; Woolley, 1997). Typically, the aged depressed individual perceives he is responding normally to a life situation (Hirschfeld et al., 1997; Satcher, 1999). Pearson et al., (1997) reported that older individuals associated their depression with a physical illness and made somatic complaints their initial presentation. Those patients who seek help from their primary care physicians for their depressive symptoms, typically do so in the guise of medical care for somatic complaints or physical illnesses (Blazer, 2002; Charney et al., 2003; Greden, 2003; Sartorius, 2003; Stewart, 2003).

The American culture views depression as a mental disorder and older individuals feel it is socially stigmatizing to have these symptoms (Abraham et al., 1994; Bazelon Center for Mental Health Law, 2003; Culpepper et al., 2003; Klinkman, 2003; Lieberman, 2002; Pearson et al., 1997; Pincus, 2003; Satcher, 1999; Siegal, 1998; Sirey et al., 2001;

Stewart, 2003; Zylstra & Steitz, 2000). Some researchers found there was a positive correlation between the subjective sense of stigma and discontinuation of antidepressants among the aged (Sirey et al., 2001). Elders feel it is their personal responsibility to pull themselves out of a depression (Butler, 1993; Carman, 1997; Pincus, 2003). Older adults tend to view depression as a character flaw or personal weakness (Abraham et al., 1994; Zylstra & Steitz, 2000). There is an expectation that individuals ought to “bootstrap” themselves up, and failure to do so represents a moral weakness (Pincus, 2003, p. 2). Older depressed patients additionally do not see their current situation as serious enough to warrant further evaluation or treatment (Charney et al., 2003; Hirschfeld et al., 1997). Patients typically are reluctant to report psychological symptoms and frequently deny or resist suggestions that their problems have a psychological origin. As a result, older patients typically will not pursue treatment with a psychiatrist or other mental health specialist, but instead, follow-up with primary care providers. This may be attributed, in part, by the culture in which today’s older Americans were reared. Satcher (1999) has suggested today’s older Americans grew up during a time when mental illness was viewed with fear as patients were placed in asylums and shock treatments were routinely administered. As a result, there is a pattern to deny mental and emotional difficulties out of fear of being more vulnerable to an abusive mental health system. Patients have been found to prefer their mental health treatment, including adjunctive mental health counseling, by a primary care physician with whom they have a long-term and trusting relationship (Blazer, 2002; Brody, 2002; Burrows et al., 1995; Fava, 2003; Satcher, 1999).

Attitudes, Myths and Misconceptions. Kennedy (2003) and Blazer (2002)

summarized several myths about aging that are shared among patients, practitioners, and health care policy makers. There were ten common myths about elders identified. They are: 1) age is an illness; 2) genetics determine disability; 3) disability is inevitable; 4) elders are alone and isolated; 5) elders are depressed, demented or dependent; 6) social factors become less important when elders face chronic illness; 7) elders have the same needs; 8) advances in pharmacology are the most important elements in reducing late-life dependency; 9) aging is synonymous with mortality; and 10) the older the patient, the greater the cost. Contrary to these myths, research has shown that a major part of decline experienced by older adults is caused by a lack of health promotion and disease prevention rather than aging (Kennedy, 2003; McLean, 2000).

Other researchers have examined similarly-held myths and stereotypes regarding the normal aging process, such as the axiom, “you can’t teach old dog new tricks” (Rubert, Eisdorfer, & Loewenstein, 1996, p. 117). Research has shown that older adults are able to learn and can benefit from encoding strategies to increase learning. Elders traditionally have been viewed erroneously as having global memory impairment. Data from memory function tests indicated that older adults have well-preserved primary (time-limited) and tertiary (long-term) memory functions. Only secondary memory, or the ability to acquire new information, has been documented to be the most susceptible to the effects of aging (Rubert et al., 1996).



### Knowledge of Co-Morbidity and Depression among Elder Care Providers

The elderly patient presents with a complex and dynamic interplay of mental illness, disease process and psychosocial issues, all of which make co-morbidity the rule rather than the exception in geriatric practice (Alessi & Cassel, 1996; Blazer, 2002; Borson et al., 2001; Culpepper, 2002; Culpepper et al., 2003; Kamholz & Mellow, 1996; Kennedy, 2003; Klinkman, 2003; Lieberman, 2002; McLean, 2000; Pearson et al., 1997; Proctor et al., 2003; Reynolds, 2003; Reynolds & Kupfer, 1999; Rosack, 2002; Ryan et al., 2002; Satcher, 1999; Siegal, 1998; Verma, 1998). Advancing age increases the probability of medical illness, functional disability and cognitive impairment, all of which muddy the clinical picture (Alessi & Cassel, 1996; Blazer, 2002; Culpepper, 2002; Greden, 2003; Kennedy, 2003; McLean, 2000; Reynolds & Kupfer, 1999; Siegal, 1998; Verma, 1998). Proctor and others (2003) found 75 percent of depressed elders had at least one co-morbid condition requiring first-line treatment. Nearly 50 percent of all elders in the sample had two other medical conditions, and another 25 percent of elders had three or more co-morbid illnesses. The high prevalence of medical co-morbidity increases among those 75 years of age and older (Reynolds & Kupfer, 1999). It is well recognized in the literature that depression is a serious illness with potentially lethal consequences. Clinicians typically aggressively treat depression if they recognize it as such. However, clinicians who are presented with a patient who has a complex interplay of depression and medical co-morbidity typically do not respond in the same aggressive manner. Treatment for these patients has been lacking (Culpepper, 2002).

The interactions between depression and chronic medical illness are complex (Blazer, 2002; Culpepper, 2002; Gottfries, 1998; Kamholz & Mellow, 1996; Reynolds, 2003; Reynolds & Kupfer, 1999; Unutzer et al., 2002). Further obscuring the clinical picture is the number of medications typically taken by the elderly individual. It has been reported the depressed medically-ill elderly individual takes an average of six or more medications daily (Reynolds & Kupfer, 1999). Physicians often are reluctant to add another medication to an already complex regimen for a frail individual (Reynolds & Kupfer, 1999). Some drugs can exacerbate or cause a depression either through direct side effects or by way of displacement of a drug from plasma protein binding sites (Alessi & Cassel, 1996; Murphy, 2003; Ryan et al., 2002). Murphy (2003) found the elderly are more susceptible to medication side effects and these side effects usually have serious consequences. He also found the typical multi-drug regimen among the elderly further increases drug interactions and these interactions impact, sometimes adversely, multiple disease states. Murphy (2003) proposed that every clinician keep these concepts in mind when prescribing antidepressants for the elderly. Some drugs which can cause depression include antihypertensives, steroids, cimetidine, digoxin and some of the central nervous system medications, including benzodiazepines, levodopa and major tranquilizers (Alessi & Cassel, 1996; Blazer, 2002; Ryan et al., 2002). Several conditions and disorders contribute to the prevalence of depression among the elderly just as there are some disorders that mimic depression. Some of these more commonly-experienced illnesses among the elderly have been presented as a brief overview. They include pain, stroke, gastrointestinal disorders, hypothyroidism, cardiovascular disease, vitamin deficiency, and new research on the topic of allergic rhinitis as a comorbid condition.

### Physical Pain and Depression

The chief complaint made by the depressed aged person may not reflect accurately a disorder of mood, but instead may signal falsely to the clinician there are a variety of physical ailments that must be ruled-out (Blazer, 2002; Charney et al., 2003; Gottfries, 1998; Greden, 2003; Hirschfeld et al., 1997; Pearson et al., 1997; Reynolds, 2003; Sartorius, 2003; Stewart, 2003). Chronic diffuse physical pain has been cited frequently in the literature as the presenting complaint made by the depressed older person who may or may not have a significant physical illness (Blazer, 2002; Gottfries, 1998; Greden, 2003; Hirschfeld et al., 1997; Pearson et al., 1997; Sartorius, 2003; Stewart, 2003). Simon, VonKorff, Piccinelli, Fullerton, and Ormel (1999) found similar results in their international study of 1,146 patients from 15 primary care centers in 14 countries. The data showed that 69 percent of depressed patients reported physical symptoms as the reason for their visit to the physician. Reynolds (2003) reported the health care costs for the untreated depressed elder is high. The primary care provider on the average orders more laboratory tests, imaging procedures, and medical consultations for the depressed patient than his non-depressed counterpart.

The presenting clinical picture is complicated further by the fact that depression frequently co-occurs with physical disease (Blazer, 2002; Gottfries, 1998; Greden, 2003; Greenberg et al., 2003). Greden (2003) argued there has been under-recognition of depression among those with physical symptoms of pain, and this has been the single most commonly cited reason why psychiatric illnesses go undetected in the general practice setting. Historically, this point has been somewhat controversial in the literature since

somatic complaints once were perceived to be a normal part of the aging process (Norris & Woehr, 1998; Stewart, 2003). In assessing older adults for depression, the prevailing practice has been to exclude somatic symptoms in order to minimize the risk of overestimating depression in the older adult population. Norris and Woehr (1998) suggested the re-inclusion of somatic complaints in standardized screening instruments for depression, such as the Geriatric Depression Scale.

Depression occurs in approximately 50 percent of patients who have chronic pain (Fava, 2003; Greden, 2003). In one study, up to 43 percent of patients complaining of nonspecific musculoskeletal pain, and 39 percent of patients with lower back pain, were depressed (Medscape, 2003). Patients with purely psychiatric disorders also present with somatic complaints. Lieberman (2003) reported that 83 percent of all patients with psychiatric disorders presented with somatic complaints to their clinicians. The search for a medical explanation for physical complaints leads to under-recognition and under-treatment of psychiatric disorders in general and ultimately delays necessary treatment. Greden (2003) additionally reported that 30 percent of patients with depression experienced physical symptoms for more than five years before receiving the proper diagnosis. This has been a common finding among other researchers as well who reported signs and symptoms of depression that have been on-going for years before the patient is accurately diagnosed (Butler, 1993; Medscape, 2003). Oftentimes the barriers to treatment are the patient themselves who insist physicians focus on what they believe to be a physical illness, and request expensive and sometimes obscure laboratory tests (Fava, 2003). The depressed patient on average made six or more visits per year to the primary

care provider for somatic complaints and usually were treated with anxiolytics, hypnotics, and narcotics.

### Substance P, Serotonin, Norepinephrine

It has been found that Substance P, a neurotransmitter, has been implicated in the pathogenesis of depression as well as chronic pain (Jain, 2003). Substance P levels have been found to be elevated two- to three times among many depressed patients with chronic pain, such as fibromyalgia, when compared to controls (Jain, 2003). This new data has led to a different conceptualization of depression. Additionally, a growing database has suggested that serotonin and norepinephrine may share neurochemical mechanisms that link depression and physical symptoms. These two neurotransmitters have been implicated in both the perception of pain and the pathogenesis of depression (Greden, 2003; Jain, 2003).

It now is thought that depression and pain share the same biological pathway (Greden, 2003; Jain, 2003). Researchers devised a blood pressure cuff experiment to illustrate this concept of a shared pathway for physical pain and depressed mood (Pinerua-Shuhaibar et al., 1999). The purpose of this study was to examine the role of depression in the perception of pain by using a blood pressure cuff which was pumped to high levels. The subjects were patients of primary care providers and met the criteria for minor depression (between two and five endorsed symptoms according to the DSM-IV criteria). The findings were 1) patients with minor depression had decreased pain tolerance, and 2) the perception of pain was associated with changes in autonomic nervous system function. better able to understand the patient with depression who complains of chronic diffuse

physical pain and fatigue, as well as the patient with a disease process who presents with a myriad of depressive symptoms (Greden, 2003; Stewart, 2003). The presence of physical symptoms generally predicted greater severity of depression and lack of successful resolution of the mood disorder. Continuation of somatic complaints in an untreated depressed patient has become a marker for chronic depression and treatment resistance (Blazer, 2002; Jain, 2003; Kamholz & Mellow, 1996). Researchers have suggested the presence of chronic pain and fatigue can serve as indicators of depression, chronic depression, and treatment resistance (Blazer, 2002; Greden 2003; Jain, 2003).

#### Cardiovascular Disease and Depression

Myocardial infarction, ventricular dysrhythmias, and congestive heart failure have been associated with development of major depression (Blazer, 2002; Culpepper, 2002; Franco-Bronson, 1996). A depressed mood was documented in 50 percent of patients immediately after a myocardial infarction. Of that group, more than 70 percent continued to suffer from depressive symptoms up to one year after the medical event (Blazer, 2002). Depression that occurs immediately after a myocardial infarction increases the odds of dying within the next six months (Culpepper et al., 2003). There exists a complex interrelationship between depression and cardiovascular disease. Major depressive disorder occurs in 15 to 23 percent of patients with acute coronary syndromes and constitutes an independent risk factor for both morbidity and mortality (Culpepper et al., 2003).

### Cerebrovascular Incidents and Depression

Dagon (1990) argued over a decade ago that one of the greatest unmet needs of stroke patients is the failure to recognize and treat post-stroke depression. Since that time, more researchers have studied cerebrovascular events as a cause of depression (Blazer, 2002; Friedman, 2003; Miller et al., 2002; Sartorius, 2003). Approximately 40 percent of patients who have suffered a stroke have a depressive disorder (Sartorius, 2003). There has been further documented evidence for a vascular cause of late-life depression. It has been found that patients with white matter lesions were two to three times more likely to have depressive symptoms as compared with patients with only mild or no white matter lesions (Blazer, 2002; Culpepper, 2002; DeGroot et al., 2000; Miller et al., 2002; Pearson et al., 1997). Culpepper (2002) reported a 20-25 percent prevalence rate among post-stroke patients. Blazer (2002) reported a much higher figure, 60 percent. Blazer (2002) also found that clinicians have difficulty distinguishing symptoms of depression from those of a stroke. For example, vegetative symptoms of depression, such as pain, sleep difficulty, emotional lability, and psychomotor retardation or agitation, can occur singly or in combination in stroke or depressed patients (Blazer, 2002). Other researchers have found that depression arising from a cerebrovascular incident presents differently, is more chronic, and is more treatment resistant than early-onset depression from other etiologies (Miller et al., 2002). Charney et al. (2003) have recommended late-onset vascular depression be viewed as a particular sub-type. Left hemisphere lesions have been associated with early-onset post-stroke depression (Charney et al., 2003). Furthermore, post-stroke patients and all other patients in need of anti-hypertensives, should be monitored for depression due to adverse reactions of drugs, such as propranolol.

### Gastrointestinal Disorders and Depression

Depressive disorders are present in approximately 20 to 30 of those patients with gastrointestinal diseases and other physical illnesses (Charney et al., 2003; Sartorius, 2003). Depression was the most common cause of weight loss and malnutrition among elderly outpatients (Alessi & Cassel, 1996). Constipation has been cited as a common complaint among many elderly, particularly those who are depressed. Oftentimes, the constipation is not due to a gastrointestinal disease process but secondary to hypothyroidism (Alessi & Cassel, 1996; Dagon, 1990).

### Thyroid Disease and Depression

Hypothyroidism, a common disorder among older adults, frequently contributes to depression. This is another illness that makes accurate diagnosis difficult since the clinical manifestations of hypothyroidism often include depressed mood and anergia. Nearly half of the patients who did not respond initially to anti-depressant treatment were found to have hypothyroidism. Elevated thyroid-stimulating hormone levels were more common in depressed patients than in the general population (Alessi & Cassel, 1996; Blazer, 2002; Franco-Bronson, 1996).

### Diabetes Mellitus and Depression

Physicians typically fail to identify depression among diabetic patients as these individuals present to the clinician with physical complaints, such as lethargy (Alessi & Cassel, 1996; Culpepper, 2002; Franco-Bronson, 1996). It has been documented in the literature that the elderly depressed patient with diabetes mellitus often has poor glucose



control as evidenced by glycosylated hemoglobin values (HbA1C) (Culpepper, 2002; Franco-Bronson, 1996). In a meta-analysis, it was found that depression was associated with a 1.8 to 3.3 percent increase in HbA1c (Culpepper, 2002). This researcher also found that depression increases the frequency of poor outcomes among those suffering from diabetes. The presence of co-morbid depression has been found to increase diabetic symptoms, decrease adherence to the treatment plan, worsen glucose control, increase the likelihood of diabetic complications, and decrease well-being.

### Vitamin Deficiencies and Depression

Deficiencies of vitamin B12 (cobalamin) and folate have been associated with depression among the elderly (Blazer, 2002; Penninx et al., 2000). A deficiency in either vitamin can cause an impaired methylation in the central nervous system and may result in neurological and/or psychiatric disease that becomes irreversible if left untreated. Psychiatric patients, particularly depressed patients, frequently are found to have abnormalities in vitamin B12 and folate. These patients have been found to respond well to replacement therapies (Penninx et al., 2000). Features characteristic of this deficiency include memory loss, weakness, fatigue and depressed mood (Alessi & Cassel, 1996; Blazer, 2002; Penninx et al., 2000).

### Allergic Rhinitis and Depression: Emerging Evidence

Among the literature reviewed, a study suggested a link between allergic rhinitis, anxiety, and depressive disorders (Cuffel, Wamboldt, Borish, Kennedy, & Crystal-Peters, 1999). These researchers found that allergic rhinitis was associated with higher rates of depressive and anxiety disorders in a large, national sample of health care users. They also found that when patients were treated for allergic rhinitis, the medical expenditures for treatment of depression and anxiety were reduced.

There were three hypotheses put forth regarding the etiology of depression associated with co-morbid allergic rhinitis. One theory is that depression itself may be an inflammatory response, in much the same way as allergic rhinitis. Another explanation is that the presence of atopy may predispose toward the development of depression and anxiety secondary to cytokine production, which in turn, contributes to lethargy, fatigue, somnolence, difficulty with concentration, and decreased sleep and appetite, all of which are signs and symptoms of depression. The third explanation is that an atopic reaction creates an imbalance in the cholinergic and adrenergic systems, which also occurs in depression. Therefore, an acute allergic reaction may result in a neurochemical predisposition to depression (Cuffel et al., 1999).

### Late-Life Depression

Depression now is viewed as a readily treatable illness (Blazer, 2002; Charney et al., 2003; Keller, 2003; Klinkman, 2003; Stewart, 2003). More than half of older adults treated with anti-depressants experience at least a 50 percent reduction in their depressive symptoms (Bartels et al., 2002). Given this perspective, some researchers have expressed

concern over the inadequate response on the part of providers and payer sources to unite and confront one of the greatest medical challenges to face the health care system in this and coming decades (Bartels et al., 2002; Brody, 2002; Culpepper et al., 2003; Greden, 2003; Greenberg et al., 2003; Kilbourne et al., 2002; Lieberman, 2003; Pincus, 2003; Rosack, 2002; Sartorius, 2003; Unutzer et al., 2002; Verma, 1998). “. . . a serious gap exists between the established efficacy of antidepressant medications and rates of treatment for major depression in the real world” (Druss et al., 2000, p. 234). Reynolds (2003) characterized the existing gap between the availability of treatment and the provision of treatment as “scandalous” (p. 124).

This section of the literature review will explore some of the reasons for this “serious gap.” The topics include: Dualism in the health care system, shortage of mental health providers, deficit in mental health expertise, lack of assessment and intervention skills, and lastly, how all the above-cited issues impact long-term care in the rural setting. The current health care system retains a historic division in its approach to physical and mental disorders. This dualistic nature has promulgated fragmentation of care, reduced access to mental health services and mental health expertise, especially in the areas of assessment and intervention. And finally, these issues have greatly impacted those facilities located in rural settings which suffer from even more fragmented care and less access to necessary medical and specialized psychiatric services due to their geographic isolation (Abraham et al., 1994; Badger, Dumas, & Kwan, 1996; Bartels et al., 2002; Bartels, Moak et al., 2002; Blazer, 1997, 2000, 2002; Borson et al., 2001; Borson et al., 2000; Brody, 2002; Davies, Slack, Laker, & Philip, 1999; Fava, 2003; Greden, 2003; Kilbourne et al., 2002; Kurlowicz et al., 2002; Lieberman, 2002; Pincus, 2003; Podgorski,

Tariot, Blazina, Cox, & Leibovici, 1996; Proffitt et al., 1996; Satcher, 1999; Svarstad, Mount, & Bigelow, 2001; Verma, 1998; Zylstra & Steitz, 2000).

### Dualism in the Health Care System

Despite the high prevalence of psychiatric and behavioral problems among nursing home residents, most of those elderly do not receive the mental health services they need (Blazer, 1997; Blazer, 2002; Bartels, Moak, et al., 2002; Satcher, 1999; Svarstad et al., 2001). This has been attributed largely to a health care system that retains a dualistic nature which has become an economic driving force. The concept of duality may be illustrated by the perpetuation of the “carving out” of mental health services from general medical services (Bartels, Moak, et al., 2002; Blazer, 2000; Fawcett, 2002; Kilbourne et al., 2002; Pincus, 2003; Satcher, 1999; Unutzer et al., 1999). This “carving out” or split of behavioral health care services from medical services has fostered the mind-body split that has been prevalent in medical school education. This historical and philosophical view of the separation of mind and body, once perceived as leading to desired specialization of care, has ultimately led to a fragmentation of care (Fawcett, 2002; Kilbourne et al., 2002; Pincus, 2003; Satcher, 1999). The distinction between the physical and mental disorders was passed on to insurance companies, health maintenance organizations, and other payer sources that since have penalized those general practitioners who treated mental disorders. There continues to be an inadequate reimbursement for primary care providers who treat depression and other mental and behavioral disorders (Bazelon Center for Mental Health Law, 2003; Charney et al., 2003; Greden, 2003; Hirschfeld et al., 1997; Kilbourne et al., 2002; Pincus, 2003; Satcher, 1999; Unutzer et al., 1999). As a result, there remains a

tendency for primary care practitioners to focus on acute medical problems (Kilbourne et al., 2002). Further philosophical splitting has occurred among those who specialize in geriatrics. Blazer (2000) has criticized the divergence of geriatric psychiatry from geriatric medicine. He argued that geriatric psychiatry must recapture the comprehensive, interdisciplinary assessment and psychotherapy that were abandoned in favor of increasing specialization and emphasis only on pharmacologic interventions.

The distinction between medical and mental disorders is reflected in how institutions have been funded for the care of chronically mentally ill. The mental health care system has been funded largely by the public tax base, and public monies favor institutional care (Bazelon Center for Mental Health Law, 2003). A practice began in the 1960s, and continues today, of placing older adults with mental illnesses in nursing homes. This was part of a shift toward deinstitutionalization of state mental hospitals 45 years ago (Satcher, 1999). As a result, older adults with various chronic mental illnesses remain segregated in nursing homes where they continue to be unrecognized and undertreated (Bazelon Center for Mental Health Law, 2003; Satcher, 1999). A lack of parity in insurance coverage continues to exist between mental illness and general medical problems (Bazelon Center for Mental Health Law, 2003; Charney et al., 2003; Pincus, 2003). Medicare and Medicaid reimbursement for mental health services remains poor (Bazelon Center for Mental Health Law, 2003; Satcher, 1999).

### Shortage of Mental Health Providers

Since OBRA, there have been numerous federal economic incentives and subsequent disincentives put in place which ultimately have reduced available mental health services (Colenda et al., 1999; Satcher, 1999; Streim et al., 2002). The first in a wave of disincentives was the federal Balanced Budget Act of 1997 which repealed standards of psychiatric care in nursing homes and ultimately greatly reduced Medicare funding, which covers 68 percent of nursing home residents and more than 59 percent of nursing home costs. This Medicare funding cut placed the burden of providing mental health services at the doorstep of individual states by way of Medicaid. As a result, individual states could outline the mental health services they would “cover” by how they funded Medicaid. This resulted in significant disparities of mental health coverage across the country. In addition, the federal government required social services continue to be provided, however these services were lumped together under payments made directly to long-term care facilities. Simply put, long-term care facilities were required by the federal government to provide social services, yet payment for these services was made by individual states. Many times the cost of social services had to come out of the nursing home’s per diem reimbursement. The emphasis on providing services for “psychosocial well-being” has continued. Shifting economic forces and contradictory economic policies also have continued, and without any relief in sight for the long-term care facilities caring for their elderly residents (Streim et al., 2002, p. 1419).

Competing economic incentives and disincentives now prevent adequate access to the few skilled and specialized mental health care providers who are available. The vast majority of psychiatric practice in long-term care settings is provided by a minority of

clinicians who devote only a small portion of their practice to geriatrics. The majority of psychiatric evaluations and interventions are made by consultants external to the nursing home setting (Bartels, Moak, et al., 2002; Bazelon Center for Mental Health Law, 2003; Colenda et al., 1999; Culpepper et al., 2003; Satcher, 1999; Streim et al., 2002).

Reichman and others (1998) reported in their survey of nursing homes directors, that access was the main barrier to psychiatric services. Their data suggested that three-fourths of the nursing home directors surveyed were unable to obtain consultation and educational services for mental and behavioral interventions (Reichman et al., 1998). In addition, the psychiatric services that were obtained were deemed inadequate (Bartels, Moak, et al., 2002; Reichman et al., 1998). These authors found that psychiatrists typically worked alone, only came to the facility to see a specific patient, and did not provide adequate follow-up nor provide staff training to ensure skilled assessment and evaluation. Therefore, the traditional as-needed consultation has been viewed as inadequate to address the many mental health needs of nursing home residents (Bartels, Moak, et al., 2002; Bazelon Center for Mental Health Law, 2003; Pincus, 2003; Reichman et al., 1998; Satcher, 1999).

### Deficit in Mental Health Expertise

Among the greatest challenges facing nursing home care staff today is the “expertise gap” (Bartels, Dums, et al., 2002, p. 1420). Several researchers have cited inadequate knowledge on late-life depression is a major barrier to effective assessment and treatment of the elderly (Bagley et al., 2000; Bartels, Forester, Miles, & Joyce, 2000; Burrows et al., 1995; Charney et al., 2003; Davies et al., 1999; Falck et al., 1999; Gallo &

Lebowitz, 1999; Garrard et al., 1998; Gottfries, 1998; Halpain et al., 1999; Hirschfeld et al., 1997; Jeste et al., 1999; Lantz, 2003; Leo et al., 2002; Lieberman, 2002; McDonald et al., 1999; Moak & Borson, 2000; Pearson et al., 1997; Pincus, 2003; Prevost et al., 1991; Proffitt et al., 1996; Reynolds & Kupfer, 1999; Ryan et al., 2002; Ryden et al., 1998; Satcher, 1999; Spore et al., 1991; Teresi et al., 2001; Teresi et al., 2002; Unutzer et al., 1999; Zylstra & Steitz, 2000).

Other researchers have identified specific knowledge deficits in the areas of assessment and non-pharmacologic interventions in the care of depressed elderly (Bartels, Dums, et al., 2002; Beekman et al., 2000; Blazer, 2002; Borson et al., 2001; Brown et al., 2003; Culpepper et al., 2003; Harding, 2000; McLean, 2000; Medscape, 2003; Ohayon & Schatzberg, 2002; Podgorski et al., 1996; Reichman et al., 1998; Siegal, 1998; Simon & Rosenbaum, 2003; Verma, 1998; Zimbhoff, 2003).

Assessment Skills Lacking. Major depression has a preponderance of features that are consistent between older and younger adults; however, minor depression can be more variable making assessment difficult for providers. Blazer (2002) found there were differences between older and younger adults and how the two populations experienced minor depression. A similar finding has been made by Lavretsky and Kumar (2002). Older individuals with minor depression are characterized by depressed mood, psychomotor retardation, poor concentration, constipation, and poor self-perception of health (Blazer, 2002; Lavretsky & Kumar, 2002). The last two features, constipation and poor self-perception of health, are not part of the diagnostic criteria for a depressive disorder in the DSM-IV-TR (APA, 2000).



There is a lack of agreement among psychiatrists, primary care providers, and nurses in their assessment of elderly. The mental health evaluations of psychiatrists, primary care providers, and nurses were compared at one nursing home in New York (Podgorski et al., 1996). In that study, the psychiatrists found 60 to 90 percent prevalence of psychiatric disorders. Primary care physicians and nurses conducted assessments after the psychiatrists completed their evaluations. Results indicated a gross underestimate of most psychiatric disorders, including depression, made by the physicians and nurses in their own assessments (Podgorski et al., 1996). Another study found nursing staff were unable to correctly identify depressed elderly in more than half the patients with major depressive disorder (Brown et al., 2003). These researchers reported two factors that predicted incorrect identification of depression. The two factors were prior use of antidepressants, and patient report of acute pain. The nurses inaccurately concluded that patients who were taking antidepressants must be depressed. They also inaccurately believed that any patient who experiences acute pain must be depressed (Brown et al., 2003). It was found that nurses who had geriatric training or geriatric clinical experience in their backgrounds were more likely to correctly identify depression in elders.

Clinicians need to understand the importance of assessing hopelessness, a key predictor of suicide (Blazer, 2002; Reynolds & Kupfer, 1999). This aspect of the patient assessment must be done even when other depressive symptoms are in remission. Suicide ideation has been missed by many primary care providers and other non-psychiatric clinicians because it is not a symptom that typically is raised during the patient assessment. Typically, clinicians query about sadness and loss of interest, but not hopelessness or suicidal ideation (Culpepper et al., 2003; Reynolds & Kupfer, 1999). In

addition, thoughts of death have been mistaken frequently for suicide ideation. Thoughts of death may be developmentally expected in older adults whereas true suicidal thoughts are not (Gallo & Lebowitz, 1999).

Nursing home care staff have difficulty differentiating depression from delirium and dementia in their assessments (Blazer, 2002; Harding, 2000; McLean, 2000; Verma, 1998). Psychosis also is a confounding variable for many staff persons. Most clinicians have the common belief that depression with psychotic features is associated with a severely depressed mood. In actuality, a person with a minor depression may have psychotic features (Ohayon & Schatzberg, 2002). In addition, psychotic depression differs from nonpsychotic depression in several respects (Ohayon & Schatzberg, 2002). Psychosis also is misunderstood and therefore mislabeled by staff as agitation.

Agitation has become another wastebasket category for long-term care staff in their assessments of depressed elders. Long-term care staff often report agitation in their assessment of elders. Agitation is used loosely yet it is not a diagnostic term. When used correctly, the term agitation refers to a group of symptoms that can result from a variety of medical or psychiatric conditions, including depression. Manifestations of agitation include pacing and restlessness, disrobing, exit-seeking, uncooperativeness and attention-seeking. Agitation, when severe, is a medical emergency. In the elderly agitated patient, special attention should be paid to etiologies such as anticholinergic intoxication and urinary tract infections (Verma, 1998; Zimbhoff, 2003).

Agitation often is confused with anxiety, another confounding variable to depression (Beekman et al., 2000; Blazer, 2002; Gallo & Lebowitz, 1999; Simon & Rosenbaum, 2003; Verma, 1998). Although high levels of co-morbidity between major

depressive disorder and pure anxiety disorders exist, there is some speculation that anxiety disorders in later life merit separate study (Beekman et al., 2000; Gallo & Lebowitz, 1999). The tripartite model of depression has been suggested as one way of conceptualizing depression which includes somatic anxiety, general distress, and negative affect. In this way, the role of anxiety in depression is better understood (Medscape, 2003). Frequently, it is the passive, quiet, and withdrawn elder who is overlooked by staff as having a minor or major depression. Typically, staff will request psychiatric consultations for the agitated or anxious patient who has become a management problem (Blazer, 2002; McLean, 2000).

Intervention Skills Lacking. Another area of the “expertise gap” manifested by nursing home care staff is a lack of knowledge in non-pharmacologic intervention. It was found that staff expected the psychiatric consultant to provide on-going education and informal training in the management of nursing home elders, especially the agitated, psychotic and anxious individual. However, training provided by the as-needed external consultant typically is not provided (Borson, Reichman, Coyne, Rovner, & Sakauye, 2000; Reichman et al., 1998). About 30 percent of nursing home directors reported little or no help in these areas. Reichman and others (1998) also found the “expertise gap” existing among nursing directors as some admitted to not fully understand the purpose of the psychiatric consultation.

There is a lack of follow-up on the part of long-term care staff to adopt the written treatment recommendations of external consultants (Bartels, Moak, et al., 2002; Snowden & Roy-Byrne, 1998). Snowden and Roy-Byrne (1998) examined the records of 523 long-

term care residents and found that only 35 percent of recommendations made for mental health services were followed. Research shows a lack of application of knowledge among nurses in the long-term care setting. Badger et al. (1996) found in their six-week evaluation of a program on depression, nurses retained the information but failed to apply their new knowledge. Among the few studies that found nurses did have satisfactory knowledge of geriatric depression, there was a lack of application of knowledge in assessment and treatment of the depressed elder (Proffitt et al., 1996). Some researchers have speculated that lack of follow-through and a poor application of knowledge regarding depression is related to organizational culture (Svarstad et al., 2001). These authors defined organizational culture as the “values, beliefs, and norms of an organization that shape its behavior” (p. 669). Little is known about nursing home culture (Svarstad et al., 2001). Svarstad and others (2001) found there are different organizational cultures that exist for managing the elderly, but believe that the resident-centered philosophy was essential for the best care. The resident-centered philosophy was in contrast to the traditional and more prevalent view of custodial care which emphasized behavioral control, and little collaboration among staff and providers. It has been speculated that the traditional custodial care philosophy has contributed to therapeutic nihilism (Pincus, 2003; Verma, 1998). Reichman and others (1998) reported that nurses, in the role of nursing home directors, assumed crucial roles in the education of direct-care staff and ultimately set the tone for the organization. A similar finding was summarized by Pincus (2003) and Verma (1998).

There are substantial limitations in the competencies of staff at all levels in managing the behaviorally and emotionally disturbed patient in the nursing home (Borson

et al., 2000; Verma, 1998). It was found that non-psychiatrist physicians and nursing aides are least prepared to manage elder residents with behavior problems. Researchers have argued that long-term care facilities need an interdisciplinary team, which includes psychiatrists, in order to correctly assess and treat depressed elders (Bartels, Moak, et al., 2002; Blazer, 2002; Borson et al., 2001; Borson et al., 2000; Verma, 1998).

### Rural Settings: High Need

Poorer Availability of Mental Health Services. Throughout the nation, rural areas generally have a higher proportion of older persons in their total population when compared to urban settings. Moreover, the population of elders in these areas is anticipated to increase. The oldest old have been increasing more rapidly than any other age group (Rogers, 2002). These demographic trends have implications for health care because the oldest old tend to be in poorer general health and require more services than the younger old.

The need for mental health services for rural elderly is high, while availability and utilization remain low (Abraham et al., 1994; Neese, Abraham, & Buckwalter, 1999; Reichman et al., 1998; Satcher, 1999). Abraham and others reported that only 8.9 percent of rural elders deemed to be in need of mental health services actually used such services. Rural residents are thought to have less access to psychiatrists compared to their urban counterparts, and therefore must rely more upon the general practitioner, non-psychiatric nurse, social worker and other professionals and para-professionals who have little or no mental health expertise (Abraham et al., 1994; Neese et al., 1999; Reichman et al., 1998; Satcher, 1999). Rural settings have fewer trained mental health professionals than urban

areas (Abraham et al., 1994; Neese et al., 1999; Reichman et al., 1998). Rural states typically lack the critical adjunctive therapies that depressed individuals need, such as cognitive-behavioral psychotherapy (Culpepper et al., 2003). In addition, recruitment and retention of certified mental health professionals, especially those who have specialized in geriatrics, was the second highest ranked policy concern identified by some states (Abraham et al., 1994). Rural settings are thought to have other unique characteristics that function as formidable barriers to necessary mental health care (Abraham et al., 1994; Blazer, 2002). Many older adults in rural areas believe that mental health problems should be treated by church or by other indigenous folk healers (Abraham et al., 1994).

Reichman and others (1998) found differences regarding psychiatric consultation rates between rural and urban nursing home settings. They found 25 percent of rural nursing homes never received needed psychiatric consultation for their residents, compared to 6.5 percent in urban areas. Of the directors of nursing homes surveyed, 36.7 percent viewed the amount of psychiatric consultations as adequate, in contrast to 60.1 percent of urban long-term care facilities.

Researchers have agreed on several points regarding rural elders. First, it is generally thought that rural elders, more so than their urban counterparts, represent a vulnerable population. Second, rural elders have a much lower use of mental health services than their needs indicate and subsequently are under-served. Third, there is inadequate access to providers with general mental health expertise. Fourth, inadequate reimbursement exists for those providers willing to evaluate and treat mental illness. Fifth, lack of knowledge on the topic of late-life depression has been cited as a key barrier to

assessment and treatment of a readily treatable illness (Abraham et al., 1994; Blazer, 2002; Neese et al., 1999; Reichman et al., 1998).

## CHAPTER 3

### METHODS

This chapter describes the research methods used to accomplish the intent of this study. Included are the research design, a description of the population and sample, the plan for the protection of human subjects, data collection methods, and data analysis procedures.

#### Design

This study used a descriptive correlation design. Information about the knowledge of geriatric depression was obtained from a convenience sample of health care providers in one urban and one rural long-term care facility. Two separate assessment instruments were used. Knowledge scores, their distribution pattern, and interrelations of demographic variables with the sample population were obtained. Demographic characteristics of the sample population included identification of the following: Age, gender, marital status, years of education, income level, professional or para-professional role within the long-term care facility, urban or rural setting of the long-term care facility employed, patient census of the long-term care facility employed, length of time in the current position, average number of hours worked per week, and last continuing education program completed.



### Population and Sample

The population was a convenience sample of direct care providers employed by two long-term care facilities in south-central Montana. The sample comprised of nurses, allied nursing staff, and other health care providers who attended staff meetings at their respective long-term care facilities. One urban and two rural long-term care facilities were selected by convenience. One of the rural long-term care facilities withdrew from participation in the study due to schedule conflicts.

Directors of nursing at the three identified long-term care facilities initially were contacted by telephone and met with individually. The purpose, design, data-collection methods, and informed consent procedures were explained. Emphasis was placed on voluntary participation by subjects. Cooperation was solicited from each of the directors of nursing to facilitate accessing the sample by way of formally scheduled staff meetings. The directors of nursing agreed to invite the researcher to attend staff meetings where the sample was accessed. The directors of nursing agreed to encourage voluntary participation. The researcher explained the purpose of the study and requested voluntary participation by the subjects. The researcher administered the informed consent forms and the survey questionnaires. The researcher collected the signed informed consent forms and completed survey questionnaires.

### Protection of Human Rights

Protection of human rights was accomplished by following the procedures in the Montana State University College of Nursing Handbook for Graduate Study (2002). The

study was reviewed and approved by the Montana State University's Institutional Review Board (IRB). Participants were asked not to include their names on the survey questionnaires. The survey questionnaires were not coded in any way. Signed informed consent documents were collected separately from completed surveys by the use of two large envelopes retained by the researcher. The completed informed consent documents and questionnaires were then secured in a locked drawer to which only the researcher had access.

### Data Collection Procedures

Survey packets were assembled once IRB approval was obtained. These packets included five items. First, a cover letter addressed to the director of nursing (see Appendix A) was included reiterating the purpose of the study and data collection methods. Second, a letter of informed consent (see Appendix B) was supplied to each participant, stating that participation in the study was strictly voluntary, and that data would be reported only as a group. Third, a demographic survey of nine items was included (see Appendix C). Fourth, the 13-item Late-Life Depression Quiz (Pratt et al., 1992) was included (see Appendix D). Fifth, the 10-item Pullen Symptom Quiz developed by the researcher was included (see Appendix E).

Data were collected during the months of September, October, and November, 2003. The informed consent documents and survey questionnaires were administered by the researcher and the directors of nursing. The administration of the informed consent document and the instrument was done in such a way as to avoid any suggestion of coercion. Participants were assured that participation was voluntary and anonymous. It

was explained that participation in the study would not pose a risk to the participants. It was also explained there was no personal benefit to be gained by participants who completed the survey questionnaires. Participants were told that data from the study would, hopefully, contribute to the understanding of knowledge of late-life depression among staff in long-term care facilities. Instructions regarding the informed consent document and survey instrument were provided. The signed informed consent documents and completed questionnaires were retained by the researcher in separate envelopes.

### Instruments

Knowledge of late-life depression was assessed using two separate instruments, the Late-Life Depression Quiz and the Pullen Symptom Quiz. The 12-item Late-Life Depression Quiz was developed by Pratt et al., (1992). The instrument was utilized by Zylstra and Steitz (2000) who added one item to the original quiz. Zylstra and Steitz (2000) added, "The older you get, the more likely you are to be depressed" in their study. The added item was retained in the Late-Life Depression Quiz administered for the purposes of this study. Each of the 13 items was evaluated as "true," "false," or "don't know." The total number of items correct measures knowledge of late-life depression; the total number of items incorrect indicates misconceptions about depression. The total number of "don't know" responses indicates the degree of uncertainty in knowledge base. The maximum score a subject could achieve on the Late Life Depression Quiz was 13 points. Pratt and others (1992) reported the reliability of the instrument to be 0.85.

The second instrument, the Pullen Symptom Quiz, was developed by the researcher for the purposes of this study. The Pullen Symptom Quiz was comprised of 10

items, worded in the form of statements. Each item was based on the symptomatology of major depression as presented by the DSM-IV-TR (APA, 2000). Respondents were given three possible answers, “true,” “false,” and “don’t know.” The total number of items correct measures knowledge of depressive symptoms; the total number of items incorrect indicates misconceptions about depressive symptoms. The total number of “don’t know” responses indicates the degree of uncertainty about depressive symptoms. The maximum score a subject could achieve on the Pullen Symptom Quiz was 10 points. The Pullen Symptom Quiz was submitted to a panel of experts for content validity.

A demographic data sheet was administered as part of the survey. Demographic characteristics of the sample population included: Age, gender, marital status, years of education, income level, current role within the long-term care facility, urban or rural setting of the long-term care facility, patient census of the long-term care facility, length of time in the current position, number of hours worked per week in the current position, and the last continuing education program completed.

### Data Analysis

Data were analyzed using the Statistical Package for the Social Sciences (SPSS). Descriptive and correlational analyses were conducted. Mean scores for the Late Life Depression Quiz and the Pullen Symptom Quiz were obtained. Pearson’s Product-Moment Correlation Coefficient was utilized to examine correlational relationships between demographic data and levels of knowledge of late-life depression.

## CHAPTER 4

### RESULTS

The purpose of this descriptive correlational study was to evaluate current knowledge of late life depression among staff in long-term care facilities in Montana using the Late-Life Depression Quiz (Pratt et al., 1992) and the Pullen Symptom Quiz. A second objective was to examine the relationship among selected demographic variables of long-term care facility staff and their knowledge of late-life depression.

Data regarding employees' knowledge of late-life depression and symptoms of depression were collected at one urban and one rural long-term care facility located in south central Montana. Employees in attendance at staff meetings at the long-term care facilities comprised the anonymous convenience sample and data were collected at three different staff meetings. Each survey packet comprised a demographic questionnaire, the Late-Life Depression Quiz and the Pullen Symptom Quiz. A second rural long-term care facility scheduled for participation withdrew from the study in December. A total of 77 surveys were completed. Thirty-three surveys were completed by staff in the rural long-term care facility and 44 surveys were completed by staff in the urban long-term care facility.

#### Sample Description

Demographic data obtained from study participants included gender, marital status, age, highest level of education, average hours per week worked, most recent

continuing education on late life depression, annual income, current role in the facility, and length of time employed at current facility.

Of the total sample, eight participants were male (10.4%) and 69 participants were female (89.6%). Forty-six (59.7%) were married, 17 participants were single (22.1%), and 13 participants were divorced (16.9%). The mean age of the total sample was 37.9 years with a range for the entire sample from 17 to 61 years of age.

Thirty-eight of the study participants (49.4%) were high school graduates. Twenty-four (31.2%) of the respondents listed their educational level as diploma or associate degree. Nine participants (11.7%) reported their educational level as baccalaureate degree and six study participants (7.8%) listed their education as graduate degree or beyond.

Study participants were asked to select income categories that best described their annual salary. Table 1 displays income categories of the sample.

Table 1. Annual Income.

	<u>N</u>	<u>Percent</u>
Less than \$5,000	3	3.9
\$5,000 to \$10,000	9	11.7
\$11,000 to \$20,000	21	27.3
\$21,000 to \$30,000	21	27.3
More than \$30,000	21	27.3

Study participants were asked to identify their role within the long-term care facility. Thirty-two (41.6%) of the study participants described their current role as certified nursing assistant (CNA), ten (13%) described their role as licensed practical

nurse (LPN), and ten (13%) stated their role as registered nurse (RN). Twelve respondents (15.6%) identified themselves as being in a health care role other than CNA, LPN and RN. They included pharmacist, occupational therapist, social worker, physical therapist, physical therapy assistant, rehabilitation technician and nurses' aide, the latter of whom it was assumed was not certified. Ten respondents (13.0%) identified themselves as working in an administrative capacity.

The majority of the participants (63.6 %) reported working in the current long term care facility for less than five years duration. Nineteen participants (24.7%) reported having worked in their current settings between 6 and 12 years. The remainder of the participants worked more than 12 years, with four (5.2%) having worked more than 20 years.

Study participants were asked to report their most recent continuing education session on the topic of late life depression and these data are depicted in Table 2. Forty-six participants (59.8%) had attended a continuing education session on late life depression within the last two years, while six (7.8) of the participants reported they have never attended continuing education of this type. Seven participants (9.1%) did not respond to the item.

Table 2. Most Recent Continuing Education on Geriatric Depression.

	<b><u>N</u></b>	<b><u>Percent</u></b>
Within the last two 2 years	46	59.8
Between 2 and 4 years	9	11.7
More than 4 years ago	9	11.7
Never	6	7.8

### Research Questions

The study results answered two research questions, the first of which was “What is the level of knowledge among staff in long-term care facilities on the topic of late-life depression?” The second research question asked, “What is the relationship among selected demographic variables of long care staff and their level of knowledge regarding late-life depression?”

To answer the research questions, study participants were asked to complete the Late-Life Depression Quiz (LLDQ) and the Pullen Symptom Quiz (PSQ). The LLDQ is a reliable and valid instrument which has been used to assess knowledge of late life depression. The instrument comprises 13 items written in the form of statements. Respondents were instructed to choose one of the following answers: true, false or don't know.

The Pullen Symptom Quiz was developed by the researcher and comprises 10 statements. Each respondent was instructed to choose one of the following as a correct answer: true, false, and don't know. As a newly developed instrument, the PSQ does not have established reliability; however, a panel of experts determined the PSQ has content validity. Additionally, intercorrelations of the items from the LLDQ and the PSQ correlated significantly suggesting that the two instruments were both testing the construct of late life depression (see Table 4).

Seventy-six participants completed the Late Life Depression Quiz (Pratt et al., 1992) and Pullen Symptom Quiz. The number of correct responses was tabulated for each



quiz and reported as a mean score and percent score of correct responses. The total sample achieved a score of less than 70 percent correct on both the LLDQ and PSQ.

The mean score for the total sample population on the LLDQ was 8.07 or 62 percent correct responses. The mean score for the total sample on the PSQ was 6.0 or 60 percent correct responses. These data are reported in Table 3.

Table 3. Scores on the Late Life Depression Quiz and Pullen Symptom Quiz

	<b>N= 76</b>	<b><u>Mean (SD)</u></b>	<b><u>Percent Correct</u></b>
Late Life Depression Quiz		8.0 (2.85)	62%
Pullen Symptom Quiz		6.0 (2.25)	60%

When the demographic variables of age and highest level of education were correlated using the Pearson r, a statistically significant positive correlation between the study participants' level of education and knowledge of late life depression was found. Those study participants with a higher level of education scored higher on the two measures of knowledge of late life depression. These findings are reported in Tables 4.

Table 4. Correlation between Level of Education and Knowledge of Depression

	<b><u>Age</u></b>	<b><u>Education</u></b>	<b><u>LLDQ</u></b>	<b><u>PSQ</u></b>
PSQ	-.039	.427*	.557**	_____
LLDQ	.056	.316*	_____	.557**
Age	_____	.109	.056	.039
Education	.109	_____	.316*	.427*

\* p = .005 \*\* p = .000

Of the 77 participants in the study, a subgroup of 53 were identified as “nursing care providers” and consisted of registered nurses, licensed practical nurses, certified nursing assistants, and nurses’ aides. Using a t-test of independent samples, the data were examined to see if this subgroup of “nursing care providers” scored differently on knowledge of late-life depression compared to those participants who were classified as “non-nursing care providers”. There was no statistically significant difference between the nursing care providers’ knowledge of late-life depression and the non-nursing care providers knowledge of late life depression. However, nursing care providers did perform slightly better on the Pullen Symptom Quiz compared to non-nursing care providers. Table 5 reflects this finding.

Table 5. Knowledge of Nursing Care Providers and Non-Nursing Care Providers

	<u>Nursing Care Providers</u>			<u>Non-Nursing Care Providers</u>		
	<u>N</u>	<u>Mean</u>	<u>Percent Score</u>	<u>N</u>	<u>Mean</u>	<u>Percent Score</u>
LLDQ	53	8.1	62.0%	22	8.0	61.5%
PSQ	53	6.2	62.0%	22	5.6	56.0%

#### Rural and Urban Sample

Data were collected from study participants in a long term care facility in a rural setting and a long term care facility in an urban setting. While no specific research questions of the study focused on differences between the rural and urban samples, data were examined for differences between the demographic characteristics of the rural and urban sample as well as their knowledge of late-life depression.

There were 33 study participants in the long-term care facility in the rural setting and 44 study participants in the urban setting. The two samples were very similar regarding gender, age, marital status, years of employment at current setting, and average hours per week worked.

There were differences between the rural and urban sample in terms of levels of formal education, current role in the facility, last continuing education session attended, economic status, and knowledge of late-life depression. Participants in the rural setting were less formally educated than their urban counterparts. Twenty-two respondents (66.7%) in the rural setting listed high school as the highest level of education achieved, while 16 participants (36.4%) in the urban setting reported high school as their highest level of education. Only two participants (6.0%) in the rural setting reported education at the baccalaureate level and beyond. This compares to 13 participants (29.5%) in the urban setting who reported education at the baccalaureate level or beyond.

Seventeen respondents (51.5%) in the rural setting were certified nursing assistants while fifteen respondents (34.1%) in the urban setting were certified nursing assistants (CNA). There were only two registered nurses (6.1%) in the rural setting, and eight registered nurses (18.2%) in the urban setting. In addition, there were two (4.5%) participants who identified themselves as nurses' aides in the rural setting only, and it is assumed these individuals were not certified as CNAs.

Another difference between the rural and urban setting related to the most recent continuing education session attended on late-life depression. Less than half of the rural respondents (45.5%) had attended a continuing education session on depression within

the last two years. The majority (70.4%) of the urban respondents had attended a continuing education session on late life depression within the same time-frame.

Respondents in the two settings reported different levels of income. Twenty rural respondents (60.6%) reported an income of less than \$21,000. This is in contrast to the urban setting where 31 respondents (70.4%) reported an income equal to or greater than \$21,000. Only three participants (9.1%) in the rural setting earned more than \$30,000 a year compared to 18 (40.9%) in the urban setting. The data on annual income for the rural and urban sample is reflected in Table 6.

Table 6. Annual Income in Rural and Urban Settings.

	<u>Rural</u>		<u>Urban</u>	
	<u>N</u>	<u>Percent</u>	<u>N</u>	<u>Percent</u>
Less than \$5,000	1	3.0	2	4.5
\$5,000 to \$10,000	6	18.2	3	6.8
\$11,000 to \$20,000	13	39.4	8	18.2
\$21,000 to \$30,000	8	24.2	13	29.5
More than \$30,000	3	9.1	18	40.9

Data revealed a significant difference between the rural and urban sample with regard to knowledge of late-life depression as the rural respondents scored lower on both measures of late life depression than their urban counterparts. A t-test of independent groups was used to examine this difference. These data demonstrating this difference are shown in Table 7.

Table 7. Comparison of Rural and Urban on Knowledge of Late Life Depression

	<b>Rural</b> <b>N = 33</b> <b>Mean (SD)</b>	<b>Urban</b> <b>N = 44</b> <b>Mean (SD)</b>	<b>t-test Value</b>
LLDQ	7.2 (2.91)	8.7 (2.64)	-2.44*
PSQ	5.4 (2.44)	6.5 (1.99)	

---

- $p = .017$

### Summary

The purpose of this descriptive correlational study was to evaluate current knowledge of late-life depression among staff in long-term care facilities. A second objective was to determine if any relationship exists among selected demographic variables among long-term care staff and their level of knowledge regarding late-life depression. The data collected were sufficient to address both questions.

First, participants' mean score on the LLDQ was 8.0 or 62 percent correct. Participants' mean score on the PSQ was 6.0 or 60 percent correct. This suggests a less than satisfactory level of knowledge of late-life depression with 70 percent correct generally considered the minimum acceptable passing score. Secondly, the data revealed a significant correlation between knowledge of late-life depression and level of education. The higher the level of education, the higher the score on both instruments measuring knowledge of late life depression. Those study participants with the highest level of education, achieved higher scores.

A subgroup of participants were identified as “nursing care providers” and were compared to “non-nursing care providers” on their level of knowledge of late-life depression. There was no significant difference in knowledge of late-life depression between the two groups.

More than half of the rural participants functioned in the role of certified nursing assistants, compared to one-third in the urban setting. It was found that rural participants were less educated, earned less money, attended fewer continuing education sessions, and performed lower on both measures of knowledge of late-life depression when compared to their urban counterparts.

## CHAPTER 5

### DISCUSSION

The purpose of this descriptive correlational study was to assess current knowledge of late-life depression among staff in long-term care facilities in Montana using the Late-Life Depression Quiz and the Pullen Symptom Quiz. A secondary objective was to examine the relationship among selected demographic variables of long-term care facility staff and their knowledge of late-life depression.

In general, a score of less than 70 percent correct is considered to be the minimum score one must obtain to demonstrate a satisfactory level of knowledge about a topic. In this study, performance on the Late-Life Depression Quiz (LLDQ) and the Pullen Symptom Quiz (PSQ) by the total sample was below 70 percent correct. This finding is consistent with the literature reviewed. Other studies measuring knowledge of late-life depression using the LLDQ, and other similar instruments, also found study participants tended to score below 70 percent (Bagley et al., 2000; Blazer, 2002; Garrard et al., 1998; Gottfries, 1998; Halpain et al., 1999; Lantz, 2003; Zylstra & Steitz, 2000). Indeed, it has been proposed that all providers of care in long-term care settings lack formal education in the areas of gerontology and normal aging, and this knowledge deficit may explain the less than satisfactory performance on measures of knowledge of late-life depression. Consequently, staff in long-term care settings are unable to recognize depression in their elder patients and remain unable to adequately assess, appropriately intervene, and monitor for therapeutic efficacy of anti-depressant medications (Abraham

et al., 1994; Bagley et al., 2000; Blazer, 2002; Brody, 2002; Brown et al., 2003; Halpain et al., 1999; Lieberman, 2002; Podgorski et al., 1996; Verma, 1998).

Other studies (Goulding et al., 2003; Jeste et al., 1999) that have measured knowledge of late-life depression tended to show that those who scored at a satisfactory level (more than 70 percent correct) were gerontologists, geriatricians, and others with advanced education and specialized training in the field of gerontology. In this study, even though the total sample scored less than 70 per cent on the measures of late-life depression, there was a positive correlation between level of education and scores on knowledge of late-life depression. Those study participants with higher levels of education did score higher on the LLD and the PSQ measures of late life depression. Researchers (Galluzzi, 2003; Harding, 2000; Robbins, 2002) have found that the higher the level of education, in general, the higher the score on instruments measuring knowledge of late-life depression. However, it is worth noting that the majority (41.6%) of staff in the study sample consisted of certified nursing assistants, all of whom indicated their highest level of education as high school. Therefore, this is undoubtedly a factor which contributed to total sample scores of less than 70 percent on the measures of late-life depression.

A subgroup analysis of the scores on late life depression between nursing care providers and non-nursing care providers in this study revealed findings consistent with a minority of the literature reviewed. It has been found that nursing care providers have not performed better on instruments measuring knowledge of late-life depression when compared to their non-nursing counterparts (Falck et al., 1999; Garrard et al., 1998; Proffitt et al., 1996). Findings from this study showed nursing care providers tended to



outperform their non-nursing counterparts only on one of the instruments, the PSQ. The trend of nursing care providers to score slightly better than non-nursing care providers on the PSQ (but not the LLDQ) is an interesting finding. The LLDQ and the PSQ are similarly formatted instruments. Both pose statements in a true/false format. While the LLDQ has been described in the literature as an instrument that measures knowledge of depression, it is comprised of statements that assess information beyond mere facts about depression. To some degree, the instrument may be measuring knowledge of normal aging, misconceptions about elders, and ageist attitudes (Zylstra & Steitz, 2000).

The PSQ tested knowledge of symptoms of major depression as outlined by the DSM-IV-TR. The items reflected the major criteria for diagnosis, including depressed mood, sleep, interest, guilt, energy, concentration, appetite, psychomotor retardation, and suicidal ideation. While the instrument has never been previously used, the items on the two instruments did inter-correlate significantly suggesting the PSQ does measure late-life depression. Nursing care providers scored higher than their non-nursing care counterparts on the PSQ and it may be that nursing care providers have more empirical knowledge of the criteria for diagnosing depression as outlined in the DSM-IV-TR, and therefore may recognize the symptoms embedded in the statements.

Another explanation to consider is that nursing care providers have other ways of knowing, as described by Carper (1978) in her theoretical research. Perhaps nursing care providers “know” a patient is depressed based on personal experience with similar patients or perhaps they have an intuitive knowledge about depression which enables them to better recognize the symptoms of depression as described on the PSQ. This was a possibility cited in a study (Teresi et al., 2002) which found that nursing care providers

with the least amount of education “knew” more about late-life depression in their elder patients than other providers who were more highly educated.

Demographic characteristics between providers in the long-term care facility staff in the rural and urban settings differed in interesting ways. There were differences in roles, education, income, and participation in continuing education sessions.

The rural long-term care staff were largely CNAs and were less educated than their urban counterparts which had more RNs and other providers at the baccalaureate level and beyond. It was also found that rural participants earned less income, had attended fewer continuing education sessions, and scored lower on both instruments measuring knowledge of late-life depression. The findings in this study are consistent with other studies in the literature review which examined differences between rural and urban settings. It has been reported that staff in rural long-term care facilities are less educated, and that fewer still have training in mental health, when compared to urban counterparts (Abraham et al., 1994; Neese et al., 1999; Reichman et al., 1998; Satcher, 1999).

It is important to note however there is a lack of research examining rural and urban differences. It has been reported that rural settings have unique characteristics that function as formidable barriers to mental health care (Abraham et al., 1994). Some of the unique characteristics most relevant to this study may be that rural long-term care staff live in geographically isolated areas and so have fewer opportunities to readily access higher education opportunities. It can be surmised that rural staff have less access to colleagues with higher levels of education. Colleagues with more advanced degrees often provide important mentoring and sharing of information with those less educated. Lastly,

an important point is that geographic isolation prohibits access to on-going continuing education.

Another interesting finding in this study about staff in rural long-term care facilities was they earned considerably less income than urban staff. It could be argued that for rural staff, there was less money available to pay for continuing education sessions on late life depression. It may be that organizational culture of long-term care facilities in rural areas may be more fixed in their ways because of geographic isolation, and therefore are less open to application of new knowledge obtained from a continuing education session if it is made available.

In summary, the findings of this study are consistent with the literature reviewed. While there was a positive correlation between level of education and scores on the LLDQ and PSQ, the total sample still scored at less than 70 percent on the measures of late-life depression. While nursing care providers scored slightly higher on the PSQ than non nursing providers, it is clear that, in general, all long term care facility staff lacked an acceptable level of knowledge regarding late life depression. This knowledge deficit is even more apparent among long-term care staff in the rural setting who have fewer educational advantages and opportunities compared to their urban counterparts. Lack of knowledge of late-life depression ultimately affects those depressed elders in the long-term care setting who remain under-diagnosed and under-treated.

### Limitations of the Study

This study was a convenience sample of staff in one rural and one urban long-term care facility. Those who agreed to participate in the study were in attendance at staff meetings at their respective facilities and therefore were not randomly selected. Therefore, results of this study should not be generalized to other staff in rural and urban long-term care facilities elsewhere.

Directors of nursing at each of the facilities verbalized the necessity of anonymity so staff would not feel concerned that performance on the instruments would adversely affect their jobs. As a result, when collecting the data anonymously, the investigator was precluded from adequate opportunity to code the data. This limited the ability to examine individual scores on the measures of late-life depression with demographic variables such as specific role within the facility. The fact that the data were predominantly nominal level may have limited the use of sophisticated statistical maneuvers.

Lastly, the PSQ was a new instrument which was developed by the researcher and used for the first time in this study. Content validity of the PSQ was established for this study, and inter-correlations on the LLD and the PSQ were significant, but the reliability and validity of the instrument has not been established. As a result, findings from the PSQ are limited to this sample, and may not be generalized to other sample populations.

### Implications for Nursing

The findings of this study suggest that there is a continuing lack of knowledge among nursing care providers on late life depression. On-going continuing education sessions on late life depression are needed for nursing care staff in long-term care facilities. There appears to be an even greater need among those nursing staff who, in the rural long-term care facility, are faced with more barriers to education than their urban counterparts. Providing continuing education on late life depression is particularly important in light of the fact that more than half (54%) of the study participants are CNAs and LPNs who are providing the majority of elder patient care. As a result, the least educated nursing care providers are making key assessments of their depressed elder patients. Some researchers (Badger et al., 1996; Proffitt et al., 1996) cited in the literature suggested directors of nursing in long-term care facilities must provide an atmosphere for learning. Directors of nursing occupy important positions of leadership and set the tone for the organization. Continuing education can be effective if it is provided within the context of an organizational culture that is open to new information (Pincus, 2003; Verma, 1998). There have been few studies conducted on nursing home organizational culture. The findings suggested that among long-term care facilities, there is a lack of continuing education sessions and little follow-up with regard to knowledge retention and application of new knowledge. Ultimately, this lack of knowledge impacts patients as severely as it does staff since it is the responsibility of staff to assess for late-life depression, implement the appropriate interventions, and monitor for therapeutic

efficacy of anti-depressant treatment. It is thought that only through the promotion of knowledge and skills can depressed elders obtain necessary care.

In light of the demographics suggesting there will be an unprecedented number of depressed elders needing long-term care over the next few decades, the need for continuing education and training of staff on this important topic remains clear.

### Implications for Research

Some directions for future research are proposed as a result of this study. There is insufficient research that has been conducted examining differences between levels of knowledge of late-life depression among rural and urban providers in long-term care settings. Future studies are needed to examine knowledge level of late-life depression among the varying providers of care in each of the settings.

Another potential research study that would be of interest is how experiential knowledge impacts or is related to knowledge of late-life depression among nursing care providers in long-term care facilities. Using Carper's framework, a qualitative study to examine and explore the impact of other ways of knowing late-life depression might be illuminating.

REFERENCES CITED

### References Cited

- Abraham, I. L., Buckwalter, K. C., Neese, J. B., & Fox, J. C. (1994). Mental health of rural elderly: A research agenda for nursing. *Issues in Mental Health Nursing, 15*, 203-213.
- Alessi, C. A., & Cassel, C. K. (1996). Medical evaluation and common medical problems. In J. Sadavoy, L. W. Lazarus, L. F. Jarvik & G. T. Grossberg (Eds.), *Comprehensive review of geriatric psychiatry – II* (pp. 251-285). Washington, DC: American Psychiatric Press.
- American Association for Geriatric Psychiatry. (2001). *Late life depression: A fact sheet*. Retrieved October 2, 2001, from [http://www.aagpgpa.org/p\\_c/depression.asp](http://www.aagpgpa.org/p_c/depression.asp)
- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders-text revision* (4<sup>th</sup> ed.). Washington, DC: APA.
- Badger, T. A., Dumas, R., & Kwan, T. (1996). Knowledge of depression and application to practice: A program evaluation. *Issues in Mental Health Nursing, 17*(2), 93-109.
- Bagley, H., Cordingley, L., Burns, A., Mozley, C. G., Sutcliffe, C., Challis, D., & Huxley, P. (2000). Recognition of depression by staff in nursing and residential homes. *Journal of Clinical Nursing, 9*, 445-450.
- Bartels, S. J., Dums, A. R., Oxman, T. E., Schneider, L. S., Arean, P. A., Alexopoulos, G. S., et al. (2002). Evidence-based practices in geriatric mental health care. *Psychiatric Services, 53*, 1419-1431.
- Bartels, S. J., Forester, B., Miles, K. M., & Joyce, T. (2000). Mental health service use by elderly patients with bipolar disorder and unipolar major depression. *American Journal of Geriatric Psychiatry, 8*, 160-166.
- Bartels, S. J., Moak, G. S., & Dums, A. R. (2002). Mental health services in nursing homes: Models of mental services in nursing homes – a review of the literature. *Psychiatric Services, 53*, 1390-1396.
- Bazon Center for Mental Health Law. (2003). *Last in line: Barriers to community integration of older adults with mental illnesses and recommendations for change*. Retrieved July 6, 2003, from [www.bazon.org/issues/elderly/publications/lastinline.htm](http://www.bazon.org/issues/elderly/publications/lastinline.htm)



- Beekman, A. T., deBeurs, E., van Balkom, A. J., Deeg, D. J., van Dyck, R., & van Tilburg, W. (2000). Anxiety and depression in later life: Co-occurrence and communality of risk factors. *American Journal of Psychiatry*, *157*(1), 89-95.
- Blazer, D. A. (1997). Depression in the elderly: Myths and misconceptions. In F. Voit (Series Ed.) & R. L. Martin (Vol. Ed.), *The Psychiatric Clinics of North America: Vol. 20. Geriatric psychiatry: What's new about the old* (pp. 111-119). Philadelphia, PA: W. B. Saunders Company.
- Blazer, D. A. (2000). Psychiatry and the oldest old. *American Journal of Psychiatry*, *157*(12), 1915-1924.
- Blazer, D. A. (2002). *Depression in late life*. (3<sup>rd</sup> ed.). New York: Springer Publishing.
- Borson, S., Bartels, S. J., Colenda, C. C., Gottlieb, G. L., & Meyers, B. (2001). Geriatric mental health services research: Strategic plan for an aging population consensus statement. *American Journal of Geriatric Psychiatry*, *9*(3), 191-204.
- Borson, S., & Doane, K. (1997). The impact of OBRA-87 on psychotropic drug prescribing in skilled nursing facilities. *Psychiatric Services*, *48*, 1289-1296.
- Borson, S., Loebel, J. P., Kitchell, M., Domoto, S., & Hyde, T. (1997). Psychiatric assessments of nursing home residents under OBRA-87: Should PASARR be reformed? Pre-admission screening annual review. *Journal of American Geriatric Society*, *45*(10), 1173-1181.
- Borson, S., Reichman, W. E., Coyne, A. C., Rovner, B., & Sakauye, K. (2000). Effectiveness of nursing home staff as managers of disruptive behavior: Perceptions of nursing directors. *American Journal of Geriatric Psychiatry*, *8*, 251-253.
- Brody, D. S. (2002). How can psychiatry and primary care work together more effectively to manage patients with mental disorders? *Psychiatric Annals*, *32*(9), 535-540.
- Brown, E. L., McAvay, G., Raue, P. J., Moses, S., & Bruce, M. L. (2003). Recognition of depression among elderly recipients of home care services. *Psychiatric Services*, *54*, 208-213.
- Brown University Geriatric Psychopharmacology Update (2003). *Diagnosing and treating minor depression is vital in elderly*, *6*(7), 1-3.
- Brymer, C., Cavanagh, P., Bawden, M., Denomy, E., Wells, K., Cook, C., et al. (1996). Geriatric educational needs assessment of emergency department nurses. *Gerontology & Geriatrics Education*, *17*(1), 51-64.

- Burns, B. J., Wagner, R., Taube, J. E., Magaziner, J., Permutt, T., & Landerman, L. R. (1993). Mental health service use by the elderly in nursing homes. *American Journal of Public Health, 83*(3), 331-337.
- Burrows, A. B., Satlin, A., Salzman, C., Nobel, K., & Lipsitz, L. A. (1995). Depression in a long-term care facility: Clinical features and discordance between nursing assessment and patient interviews. *Journal of the American Geriatric Society, 43*, 1118-1122.
- Burt, V. K., & Stein, K. (2002). Epidemiology of depression throughout the female life cycle. *Journal of Clinical Psychiatry, 63*(7), 9-15.
- Buschmann, M. T., Dixon, M. A., & Tichy, A. M. (1995). Geriatric depression. *Home Healthcare Nurse, 13*(3), 47-59.
- Butler, R. N. (1993). Prevalence and consequences of depression in the elderly. *Geriatrics, 48*(2), 2-5.
- Carman, M. B. (1997). The psychology of normal aging. In F. Voit (Series Ed.) & R. L. Martin (Vol. Ed.), *The Psychiatric Clinics of North America: Vol. 20. Geriatric psychiatry: What's new about the old?* (pp. 15-24). Philadelphia, PA: W. B. Saunders Company.
- Carper, B. A. (1978). Fundamental patterns of knowing in nursing. *Advances in Nursing Science, 1*(1), 13-23.
- Charney, D. S., Reynolds, C. F., Lewis, L., Lebowitz, B. D., Sunderland, T., Alexopoulos, G. S., et al. (2003). Perspectives: Depression and bipolar support alliance consensus statement on the unmet needs in diagnosis and treatment of mood disorders in late life. *Archives of General Psychiatry, 60*, 664-672.
- Chinn, P. L., & Kramer, M. K. (1999). *Theory and nursing: Integrated knowledge development* (5<sup>th</sup> ed.). St. Louis: Mosby.
- Cole, M. G., & Dendukuri, N. (2003). Risk factors for depression among elderly community subjects: A systematic review and meta-analysis. *American Journal of Psychiatry, 160*, 1147-1156.
- Colenda, C. C., Streim, J., Greene, J. A., Meyers, N., Beckwith, E., & Rabins, P. (1999). Guest editorial: The impact of OBRA-87 on psychiatric services in nursing homes – joint testimony of the American Psychiatric Association and the American Association for Geriatric Psychiatry. *The American Journal of Geriatric Psychiatry, 7*, 12-17.

- Cuffel, B., Wamboldt, M., Borish, L., Kennedy, S., & Crystal-Peters, J. (1999). Economic consequences of comorbid depression, anxiety, and allergic rhinitis. *Psychosomatics*, *40*, 491-496.
- Culpepper, L. (2002). Depression and chronic medical illness: Diabetes as a model. *Psychiatric Annals*, *32*(9), 528-534.
- Culpepper, L., Krishnan, K. R. R., Kroenke, K., Rosenbaum, J. F., Susman, J. L., & Thase, M. E. (2003). Spotlight on remission: Achieving an evidence-based goal in depression and anxiety disorders. *Medical Crossfire: Debates, Peer Exchange, and Insights in Medicine*, *4*(11) 1-17.
- Dagon, E. M. (1990). Other organic mental syndromes. In D. Bienenfeld (Ed.), *Clinical geropsychiatry* (3<sup>rd</sup> ed., pp. 85-105). Baltimore, MD: Williams & Wilkins.
- Davies, S., Slack, R., Laker, S., & Philip, I. (1999). The educational preparation of staff in nursing homes: Relationship with resident autonomy. *Journal of Advanced Nursing*, *29*(1), 208-217.
- DeGroot, J. C., DeLeeuw, F. E., Oudkerk, M., Hofman, A., Jolles, J., & Breteler, M. M. (2000). Cerebral white matter lesions and depressive symptoms in elderly adults. *Archives of General Psychiatry*, *57*(11), 1071-1076.
- Druss, B. G., Hoff, R. A., & Rosenheck, R. A. (2000). Underuse of antidepressants in major depression: Prevalence and correlates in a national sample of young adults. *Journal of Clinical Psychiatry*, *61*(3), 234-237.
- Falck, R. P., Pot, A. M., Braam, A. W., Hanewald, G. J., & Ribbe, M. W. (1999). Prevalence and diagnosis of depression in frail nursing home patients: A pilot study. *Tijdschr Gerontology & Geriatrics*, *30*(5), 193-199.
- Fava, M. (2003). Depression with physical symptoms: Treating to remission. *Journal of Clinical Psychiatry*, *64*(Suppl. 7), 24-28.
- Fava, M., & Davidson, K. G. (1996). Definition and epidemiology of treatment-resistant depression. In M. Hornig-Rohan & J. Amsterdam (Guest Eds.), *The Psychiatric Clinics of North America: Vol. 19. Treatment-resistant depression* (pp. 179-200). Philadelphia, PA: W. B. Saunders Company.
- Fawcett, J. (2002). Putting the person back together. *Psychiatric Annals*, *32*(9), 500.
- Franco-Bronson, K. (1996). The management of treatment-resistant depression in the medically ill. In M. Hornig-Rohan & J. D. Amsterdam (Guest Eds.), *The Psychiatric Clinics of North America: Vol 19. Treatment-resistant depression* (pp. 329-350). Philadelphia, PA: W. B. Saunders Company.

- Friedman, R. (2003). Imperceptible strokes linked to depression in elderly. *Medscape from WebMD*. Retrieved June 1, 2003 from [http://www.medscapewebmd/viewarticle/236194\\_1](http://www.medscapewebmd/viewarticle/236194_1)
- Gallo, J. J., & Lebowitz, B. D. (1999). The epidemiology of common late-life mental disorders in the community: Themes for the new century. *Psychiatric Services, 50*, 1158-1166.
- Galluzzi, K. E. (2003). Training needed to dispel negative stereotype of elderly patients. *Journal of the American Osteopathic Association, 103*(1), 7.
- Garrard, J., Rolnick, S. J., Nitz, N. M., Luepke, L., Jackson, J., Fischer, L. R., et al. (1998). Clinical detection of depression among community-based elderly people with self-reported symptoms of depression. *Journal of Gerontology: Medical Sciences 53*(3), 92-101.
- Glasser, M., & Gravdal, J. A. (1997). Assessment and treatment of geriatric depression in primary care settings. *Archives of Family Medicine, 6*(5), 433-438.
- Glogoski-Williams, C. (2000). Recognition of depression in the older adult. *Occupational Therapy in Mental Health, 15*(2), 17-34.
- Gottfries, C. G. (2003). Is there a difference between elderly and younger patients with regard to symptomatology and etiology of depression? *International Clinical Psychopharmacology, 13*(5), 13-18.
- Goulding, M. R., Rogers, M. E., & Smith, S. M. (March 31, 2003). Public health and aging: Trends in aging – United States and worldwide. *Morbidity & Mortality Weekly Report*. Retrieved April 4, 2003, from <http://Medscape.com>
- Greden, J. F. (2003). Physical symptoms of depression: Unmet needs. *Journal of Clinical Psychiatry, 64*(Suppl. 7), 5-11.
- Greenberg, P. E., Leong, S. A., Birnbaum, H. G., & Robinson, R. L. (2003). The economic burden of depression with painful symptoms. *Journal of Clinical Psychiatry, 64*(Suppl. 7), 17-23.
- Halpain, M. C., Harris, M. J., McClure, F. S., & Jeste, D. V. (1999). Training in geriatric mental health: Needs and strategies. *Psychiatric Services, 50*, 1205-1208.
- Harding, S. (2000). Assessing for depression in older people. *Collegian, 7*(3), 9-13.
- Hill, P. (1999). *Lacan for beginners*. New York, NY: Writers and Readers Publishing.

- Hirschfeld, R. M. A., Keller, M. B., Panico, S., Arons, B. S., Barlow, D., Davidoff, F., et al. (1997). The National Depressive and Manic Depressive Association consensus statement on the undertreatment of depression. *The Journal of the American Medical Association*, 277(4), 333-338.
- Jain, R. (2003). Addressing both the emotional and physical symptoms in depression. *Medscape from WebMD*. Retrieved June 10, 2003, from [www.medscapewebmd/viewarticle557292\\_1](http://www.medscapewebmd/viewarticle557292_1)
- Jeste, D. V., Alexopoulos, G. S., Bartels, S. J., Cummings, J. L., Gallo, J. J., Gottlieb, G. L., et al. (1999). Consensus statement on the upcoming crisis in geriatric mental health: Research agenda for the next two decades. *Archives of General Psychiatry*, 56(9), 848-853.
- Johns, C. (1995). Framing learning through reflection within Carper's fundamental ways of knowing in nursing. *Journal of Advanced Nursing*, 22, 226-234.
- Kamholz, B. A., & Mellow, A. M. (1996). Management of treatment resistance in the depressed geriatric patient. In M. Hornig-Rohan & J. D. Amsterdam (Eds.), *The Psychiatric Clinics of North American: Vol. 19. Treatment-resistant depression* (pp. 269-286). Philadelphia, PA: W. B. Saunders Company.
- Katon, W., Von Korff, M., & Lin, E. (1990). Distressed utilizers of medical care: DSM-III-R diagnoses and treatment needs. *General Hospital Psychiatry*, 12, 355-362.
- Katon, W., Von Korff, M., & Lin, E. (1992). Adequacy and duration of antidepressant treatment in primary care. *Medical Care*, 30, 67-76.
- Katzelnick, D. J., Kobak, K. A., Greist, J. H., Jefferson, J. W., & Henk, H. J. (1997). Effect of primary care treatment of depression on service use by patients with high medical expenditures. *Psychiatric Services*, 48(1), 59-64.
- Keller, M. B. (2003). Paroxetine treatment of major depressive disorder. *Psychopharmacology Bulletin*, 37(Suppl. 1), 42-51.
- Kessler, R. C., Berglund, P., Demler, O., Jin, R., Koretz, D., Merikangas, K. R., et al. (2003). The epidemiology of major depressive disorder: Results from the National Comorbidity Survey Replication (NCS-R). *Journal of the American Medical Association*, 289, 3095-3105.
- Kilbourne, A. M., Rollman, B. L., Schulberg, H. C., Herbeck-Belnap, B., & Pincus, H. A. (2002). A clinical framework for depression treatment in primary care. *Psychiatric Annals*, 32 (9), 545-553.

- Klerman, G. L., & Weissman, M. M. (1989). Increasing rates of depression. *Journal of the American Medication Association, 261*(15), 2229-2235.
- Klinkman, M. S. (2003). The role of algorithms in the detection and treatment of depression in primary care. *The Journal of Clinical Psychiatry, 64*(2), 19-23.
- Kornstein, S. (2002). Chronic depression in women. *The Journal of Clinical Psychiatry, 63*(7), 602-609.
- Kurlowicz, L. H., Evans, L. K., Strumpf, N. E., & Maislin, G. (2002). A psychometric evaluation of the Cornell Scale for depression in dementia in a frail, nursing home population. *American Journal of Geriatric Psychiatry, 10*, 600-608.
- Lakeman, R. (1999). Growing old versus declining miserably: Some facts about depression and the older adult. *Vision, 5*(9), 6-12.
- Lantz, M. S. (March 17, 2003). *Depression in nursing home residents*. Retrieved April 4, 2003, from <http://www.Medscape.com/viewarticle/430711>
- Lantz, M. S., Giambanco, V., & Buchalter, E. N. (1996). A ten-year review of the effect of OBRA-87 on psychotropic prescribing practices in an academic nursing home. *Psychiatric Services, 47*, 951-955.
- Lavretsky, H., & Kumar, A. (2002). Clinically significant non-major depression: Old concepts, new insights. *American Journal of Geriatric Psychiatry, 10*, 239-255.
- LeMay, E., & Pitts, J. A. (1994). *Heidegger for beginners*. New York, NY: Writers and Readers Publishing, Inc.
- Leo, R. J., Sherry, C., DiMartino, S., & Karuza, J. (2002). Psychiatric consultation in the nursing home: Referral patterns and recognition of depression. *Journal of Psychosomatic Research, 53*(3), 783-787.
- Lieberman, J. A. (2002). Depression: A common illness uncommonly diagnosed. *Psychiatric Annals, 32*(9), 522-526.
- Little, J. T., Reynolds, C. F., Dew, M. A., Frank, E., Begley, A. E., Miller, M. D., et al. (1998). How common is resistance to treatment in recurrent, nonpsychotic geriatric depression? *American Journal of Psychiatry, 155*, 1035-1038.
- Llorente, M. D., Olsen, E. J., Leyva, O., Silverman, M. A., Lewis, J. E., & Rivero, J. (1998). Use of antipsychotic drugs in nursing homes: Current complicity with OBRA regulations. *Journal of American Geriatric Society, 46*(2), 198-201.

- Lookinland, S., & Anson, K. (1995). Perpetuation of ageist attitudes among present and future health care personnel: Implications for elder care. *Journal of Advanced Nursing, 21*(1), 47-56.
- Markstrom, M. E. (1991). *Senior nursing students' attitudes toward elderly persons and implications for curriculum design in baccalaureate nursing schools* [Abstract]. Unpublished doctoral dissertation, Michigan State University.
- McDonald, M. V., Passik, S. D., Dugan, W., Rosenfield, B., Theobald, D. E., & Edgerton, S. (1999). Nurses' recognition of depression in their patients with cancer. *Oncology Nursing Forum, 26*(3), 593-599.
- McLean, J. (2000). Undiagnosed depressive symptoms in residents of long-term care. *Geriatrics, 18*(3), 3-7.
- Medscape from WebMD. (2002). *Epidemiology and demographics of depression*. Retrieved March 17, 2003, from [http://www.Medscape.com/viewarticle/441429\\_1](http://www.Medscape.com/viewarticle/441429_1)
- Medscape from WebMD (2003). *Geriatrics – myths and perspectives*. Retrieved February 15, 2003 from [http://www.medscape.com/viewarticle/44129\\_8](http://www.medscape.com/viewarticle/44129_8)
- Medscape from WebMD. (2003). *The tripartite model of depression*. Retrieved March 17, 2003, from [http://www.medscape.com/viewarticle/441429\\_5](http://www.medscape.com/viewarticle/441429_5)
- Miller, M. D., Lenze, E. J., Dew, M. A., Whyte, E., Weber, E., Begley, A. E., et al. (2002). Effect of cerebrovascular risk factors on depression treatment outcome in later life. *American Journal of Geriatric Psychiatry, 10*, 592-598.
- Moak, G., & Borson, S. (2000). Mental health services in long-term care: Still an unmet need. *American Journal of Geriatric Psychiatry, 8*, 96-100.
- Montana State University. (2003). *College of nursing: Graduate program handbook, revised summer*. Bozeman: MSU.
- Morris, D. L. (2001). Geriatric mental health: An overview. *Journal of the American Psychiatric Nurses Association, 7*(6).
- Murphy, G. M. (2003). *Pharmacogenetics of the antidepressant response*. 7<sup>th</sup> Stanford Psychopharmacology Review Course. Stanford, CA: Stanford University Press.
- Murrell, S. A., Himmelfarb, S., & Wright, K. (1983). Prevalence of depression and its correlates in older adults. *American Journal of Epidemiology, 117*(2), 173-185.

- Neese, J. B., Abraham, I. L., & Buckwalter, K. C. (1999). Utilization of mental health services among rural elderly. *Archives of Psychiatric Nursing, 13*(1), 30-40.
- New York State Nurses Association. (2001). Geriatric depression. Retrieved January 1, 2003, from <http://www.nurseslearning.com/syllabus.cfm?Coursekey=1596>
- Norris, M. P., & Woehr, M. D. (1998). Differentiating somatic symptoms in the elderly: Depression, aging, or illness? *Journal of Mental Health and Aging, 4*(3), 347-357.
- Ohayon, M. M. & Schatzberg, A. F. (2002). Prevalence of depressive episodes with psychotic features in the general population. *American Journal of Psychiatry, 159*, 1855-1861.
- Orrell, M., Scurfield, P., Cloke, L., & Renshaw, J. (2000). The management of depression in older people in primary care: A survey of general practitioners. *Aging and Mental Health, 4*, 305-308.
- Oxman, T. E., & Sengupta, A. (2002). Treatment of minor depression. *American Journal of Geriatric Psychiatry, 10*, 256-264.
- Peach, J., Koob, J. J., & Kraus, M. J. (2001). Psychometric evaluation of the Geriatric Depression Scale (GDS): Supporting its use in health care settings. *Clinical Gerontologist, 23*(3/4), 57-68.
- Pearson, J. L., Conwell, Y., & Lyness, J. M. (1997). Late-life suicide and depression in the primary care setting. *New Directions for Mental Health Services, 76*, 13-38.
- Penninx, B. W., Beekman, A. T., Honig, A., Deeg, D. J., Schoevers, R. A., van Eijk, J. T., et al. (2001). Depression and cardiac mortality: Results from a community-based longitudinal study. *Archives of General Psychiatry, 58*(3), 221-227.
- Penninx, B. W., Guralnik, J. M., Ferrucci, L., Fried, L. P., Allen, R. H., & Stabler, S. P. (2000). Vitamin B12 deficiency and depression in physically disabled older women: Epidemiologic evidence from the women's health and aging study. *American Journal of Psychiatry, 157*, 715-721.
- Pincus, H. A. (2003). The future of behavioral health and primary care: Drowning in the mainstream or left on the bank? *Psychosomatics, 44*(1), 1-16.
- Pinerua-Shuhaibar, L., Prieto-Rincon, D., Ferrer, A., Bonilla, E., Maixner, W., & Suarez-Roca, H. (1999). Reduced tolerance and cardiovascular response to ischemic pain in minor depression. *Journal of Affective Disorders, 56*, 119-126.



- Podgorski, C. A., Tariot, P. N., Blazina, L., Cox, C., & Leibovici, A. (1996). Cross-discipline disparities in perceptions of mental disorders in a long-term care facility. *Journal of the American Geriatric Society, 44*(7), 792-797.
- Poirrier, G. P. (1994). *The effects of an educational intervention on young adult undergraduate students' stereotypical ageist attitudes toward the elderly* [Abstract]. Unpublished doctoral dissertation, Louisiana State University.
- Pratt, C., Wilson, W., Benthin, A., & Schimall, V. (1992). Alcohol problems and depression in later life: Development of two knowledge quizzes. *The Gerontologist, 32*, 175-183.
- Prevost, S., Wilson, E., & Gerber, D. (1991). Acute care nurses' knowledge and attitudes related to aging. *Heart & Lung: Journal of Critical Care, 20*(3), 302-309.
- Proctor, E. K., Morrow-Howell, N. L., Dore, P., Wentz, J., Rubin, E. H., Thompson, S., et al. (2003). Comorbid medical conditions among depressed elderly patients discharged home after acute psychiatric care. *American Journal of Geriatric Psychiatry, 11*, 329-338.
- Proffit, C., Augspurger, P., & Byrne, M. (1996). Geriatric depression: A survey of nurses' knowledge and assessment practices. *Issues in Mental Health Nursing, 17*(2), 123-130.
- Reichman, W. E., Coyne, A. C., Borson, S., Negron, A. E., Rovner, B. W., Pelchat, R. J., et al. (1998). Psychiatric consultation in the nursing home: A survey of six states. *American Journal of Geriatric Psychiatry, 6*, 320-327.
- Reuben, D. B., Fullerton, J. T., Tschann, J. M., & Croughan-Minihane, M. (1995). Attitudes of beginning medical students toward older persons. *Journal of the American Geriatric Society, 43*, 1430-1436.
- Revicki, D. A., Simon, G. E., Chan, K., Katon, W., & Heiligenstein, J. (1998). Depression, health-related quality of life, and medical cost outcomes of receiving recommended levels of antidepressant treatment. *Journal of Family Practice, 47*(6), 446-460.
- Reynolds, C. F. (2003). Paroxetine treatment of depression in late life. *Psychopharmacology Bulletin, 37*(Suppl. 1), 123-134.
- Reynolds, C. F. & Kupfer, D. J. (1999). Depression and aging: A look to the future. *Psychiatric Services, 50*, 1167-1172.

- Robbins, M. R. (2002). Training family medicine residents for assessment and advocacy of older adults. *Journal of the American Osteopathic Association, 102*, 632-636.
- Robinson, A. D. (1993). Perceptions of the elderly among nursing home aides of three black cultural groups. *Journal of National Black Nurses' Association, 6*(2), 15-26.
- Roff, S. (2001). Suicide and the elderly: Issues for clinical practice. *Journal of Gerontological Social Work, 35*(2), 21-36.
- Rogers, C. C. (2002). The older population in 21<sup>st</sup> century rural America. *Rural America, 17*(3), 2-10.
- Rosack, J. (2002). Data show strong link between depression, mortality. *Psychiatric News, 37*(20), 22-25.
- Rovner, B., German, P., Brant, L., Clark, R., Burton, L., & Folstein, M. (1991). Depression and mortality in nursing homes. *Journal of the American Medical Association, 265*(8), 993-996.
- Rubert, M. P., Eisdorfer, C., & Loewenstein, D. A. (1996). Normal aging: Changes in sensory/perceptual and cognitive abilities. In J. Sadavoy, L. W. Lazarus, L. F. Jarvik, & G. T. Grossberg (Eds.), *Comprehensive review of geriatric psychiatry – II* (pp. 113-134). Washington, DC: American Psychiatric Press.
- Ryan, J. M., Kidder, S. W., Daiello, L. A., & Tariot, P. N. (2002). Mental health services in nursing homes: Psychopharmacologic interventions in nursing homes: What do we know and where should we go? *Psychiatric Services, 53*, 1407-1413.
- Ryden, M. B., Pearson, V., Kaas, M. J., Snyder, M., Krichbaum, K., Lee, H., et al. (1998). Assessment of depression in a population at risk . . . newly admitted nursing home residents. *Journal of Gerontologic Nursing, 24*(2), 21-29.
- Sakauye, K. M. (1996). *Psychiatric care in the nursing home*. New York: Oxford University Press.
- Sartorius, N. (2003). Physical symptoms of depression as a public health concern. *Journal of Clinical Psychiatry, 64*(Suppl. 7), 3-4.
- Satcher, D. (1999). *Older adults and mental health: Issues and opportunities. An executive summary*. U.S. Public Health Service.
- Schulberg, H. C., Katon, W., Simon, G. E., & Rush, J. (1998). Treating major depression in primary care practice: An update of the Agency for Health Care policy and research practice guidelines. *Archives of General Psychiatry, 55*, 1121-1127.

- Sderhamn, O., Lindencrona, C., & Gustavsson, S. M. (2001). Attitudes toward older people among nursing students and registered nurses in Sweden. *Nurse Education Today*, 21(3), 225-229.
- Semla, T. P., Palla, K., Poddig, B., & Brauner, D. J. (1994). Effect of the Omnibus Reconciliation Act 1987 on antipsychotic prescribing in nursing home residents. *Journal of American Geriatric Society*, 42(6), 648-652.
- Sheffler, S. J. (1995). Do clinical experiences affect nursing students' attitudes toward the elderly? *Journal of Nursing Education*, 34(7), 312-316.
- Shorr, R. I., Fought, R. L., & Ray, W. A. (1994). Changes in antipsychotic drug use in nursing homes during implementation of the OBRA-87 regulations. *Journal of American Medical Association*, 271(5), 358-362.
- Siegal, A. (1998). *Better treatments for geriatric depression: A geriatric update*. (Available from Mental Health Source, Continuing Medical Education, 2801 McGaw Avenue, Irvine, CA 92614).
- Siegler, E. L., Capezuti, E., Maislin, G., Baumgarten, M., Evans, L., & Strump, R. (1997). Effects of a restraint reduction intervention and OBRA '87 regulations on psychoactive drug use in nursing homes. *Journal of American Geriatric Society*, 45(7), 791-796.
- Silva, M. C., Sorrell, J. M., & Sorrell, C. D. (1995). From Carper's patterns of knowing to ways of being: An ontological philosophical shift in nursing. *Advances in Nursing Science*, 18(1), 1-13.
- Simon, G. E., & VonKorff, M. (1992). Reevaluation of secular trends in depression rates. *American Journal of Epidemiology*, 135(12), 1411-1422.
- Simon, G. E., VonKorff, M., Piccinelli, M., Fullerton, C., & Ormel, J. (1999). An international study of the relation between somatic symptoms and depression. *New England Journal of Medicine*, 341, 1329-1335.
- Simon, N. M., & Rosenbaum, J. F. (2003). Anxiety and depression comorbidity: Implications and interventions. *Medscape from WebMD*. Retrieved June 5, 2003, from <http://www.medscapewebmd/anxiety/depression>
- Sirey, J. A., Bruce, M. L., Alexopoulos, G. S., Perlick, D. A., Raue, P., Friedman, S. J., et al. (2001). Perceived stigma as a predictor of treatment discontinuation in young and older outpatients with depression. *American Journal of Psychiatry*, 158, 479-481.

- Smyer, M. A., Shea, D. G., & Streit, A. (1994). The provision and use of mental health services in nursing homes: Results from the National Medical Expenditure Survey. *American Journal of Public Health, 84*(2), 284-287.
- Snowden, M., & Roy-Byrne, P. (1998). Mental illness and nursing home reform: OBRA-87 ten years later. *Psychiatric Services, 49*, 229-233.
- Spore, D. L., Smyer, M. A., & Cohn, M. D. (1991). Assessing nursing assistants' knowledge of behavioral approaches to mental health problems. *The Gerontologist, 31*(3), 309-317.
- Stewart, D. E. (2003). Physical symptoms of depression: Unmet needs in special populations. *Journal of Clinical Psychiatry, 64*(Suppl.), 12-16.
- Streim, J. E., Beckwith, E. W., Arapakos, D., Banta, P., Dunn, R., & Hoyer, T. (2002). Mental health services in nursing homes: Regulatory oversight, payment policy, and quality improvements in mental health care in nursing homes. *Psychiatric Services, 53*(11), 1414-1418.
- Svarstad, B. L., Mount, J. K., & Bigelow, W. (2001). Variations in treatment culture of nursing homes and responses to regulations to reduce drug use. *Psychiatric Services, 52*(5), 666-678.
- Taylor, L. F., & Tovin, M. M. (2000). Student physical therapists' attitudes toward working with elderly patients. *Physical and Occupational Therapy in Geriatrics, 18*(2), 21-37.
- Teresi, J. A., Abrams, R., Holmes, D., Ramirez, M., & Eimicke, J. P. (2001). Prevalence of depression and depression recognition in nursing homes. *Social Psychiatry and Psychiatric Epidemiology, 36*(12), 613-620.
- Teresi, J. A., Abrams, R., Holmes, D., Ramirez, M., Shapiro, C., & Eimicke, J. P. (2002). Influence of cognitive impairment, illness, gender, and African-American status on psychiatric ratings and staff recognition of depression. *American Journal of Geriatric Psychiatry, 10*, 506-514.
- Tomey, A. M. & Alligood, M. R. (2002). *Nursing theorists and their work* (5<sup>th</sup> ed.). St. Louis: Mosby.
- United States Census Bureau. (1995). *Urban and rural definitions*. Retrieved May 1, 2003, from <http://www.fammed.washington.edu/wwamirhre/rucas/taxonomies/.htm>

- Unutzer, J., Katon, W., Russo, J., Simon, G., Bush, T., Walker, E., et al. (1999). Patterns of care for depressed older adults in a large-staff model HMO. *American Journal of Geriatric Psychiatry*, 7, 235-243.
- Unutzer, J., Patrick, D. L., Marmon, T., Simon, G. E., & Katon, W. J. (2002). Depressive symptoms and mortality in a prospective study of 2,558 older adults. *American Journal of Geriatric Psychiatry*, 10, 521-530.
- Verma, S. (1998). *Psychopharmacologic and behavioral management of agitated and aggressive patients: A geriatric update*. (Available from Mental Health Source, Continuing Medical Education, 2801 McGaw Avenue, Irvine, CA 92614).
- White, J. (1995). Patterns of knowing: Review, critique, and update. *Advances in Nursing Science*, 17(4), 73-86.
- Woolley, D. C. (1997). Geriatric psychiatric in primary care: A focus on ambulatory settings. In F. Voit (Series Ed.) & R. L. Martin (Vol. Ed.), *The Psychiatric Clinics of North America: Vol. 20. Geriatric psychiatry: What's new about the old?* (pp. 241-259). Philadelphia, PA: W. B. Saunders Company.
- Zhang, M., Rost, K. M., Fortney, J. C., & Smith, G. R. (1999). A community study of treatment and employment earnings. *Psychiatric Services*, 50, 1209-1213.
- Zimbroff, D. A. (2003). Clinical management of agitation. *Medscape from WebMD*. Retrieved June 1, 2003, from <http://www.medscapewebmd/agitation>
- Zylstra, R. G., & Steitz, J. A. (2000). Knowledge of late life depression and aging among primary care physicians. *Aging and Mental Health*, 4(1), 30-35.

APPENDICES

APPENDIX A

COVER LETTER

Dear Director of Nursing,

Thank you for facilitating participation in the research study: Knowledge of Late-Life Depression among Staff in Long-Term Care. The purpose of this study is to further understand what staff in long-term care facilities know on this important topic.

As we discussed, the researcher will obtain data during the months of September, October or November, 2003. At that time, the purpose of the study will be explained to those direct care providers. It is anticipated that each participants will take about 15 minutes to complete the informed consent document and the three survey questionnaires.

It is important to remember that participation on the part of the employees is entirely voluntary. They are free to stop their participation at any time. There are no known anticipated risks for the participants. There are no known benefits to you the participants. There are no costs to you.

Completed signed informed consent documents and completed survey questionnaires will be retained separately by the researcher. The forms are not coded in any way. Subjects will be told not to put their names on the survey questionnaires. Results will be reported to you only as a group.

Please feel free to contact me at any time during the course of the study. You can reach me at (406) 245 - 1624. Thank you again for your time and interest.

Sincerely,

Julie Pullen BSN, RN, MS  
Family Nurse Practitioner student  
Montana State University



APPENDIX B

SUBJECT CONSENT FORM FOR PARTICIPATION IN HUMAN RESEARCH

AT MONTANA STATE UNIVERSITY

Project Title: Knowledge of Late-Life Depression among Staff in Long-Term Care.

Introduction: You are being asked to participate in a study about knowledge of late-life depression among providers of care in long-term care facilities. It is important to gain a better understanding of the current knowledge of staff on the topic of late-life depression because many elders have this illness. Your participation in this study is entirely voluntary. Please understand that you may stop your participation at any time during the course of the study.

Procedures: If you agree to participate, you can complete the informed consent document, and the three survey questionnaires. There are approximately 30 items. It will take you about 15 minutes to complete them.

Benefits: This study is of no benefit to you.

Risks: This study poses no risks to you. Your participation or decision not to participate will not adversely affect you or your job in any way.

Costs: There are no costs to you if you choose to participate.

Confidentiality: Anonymity is guaranteed. Please do not write your name on the survey questionnaires. The forms are not coded in any way. Results of the survey questionnaires will be retained separately from the signed informed consent documents. Results will be reported as a group only.

Questions: Please feel free to ask any questions during your participation. You may also contact the researcher, Julie Pullen, RN at 406-245-1624 if you have questions later.

---

Signature of Participant / Date

APPENDIX C

DEMOGRAPHIC DATA

Please complete by writing in or circling the appropriate response.

1. What was your age at your most recent birthday? \_\_\_\_\_.
2. Gender:
  1. Male
  2. Female.
3. What is your marital status?
  1. Married.
  2. Single
  3. Divorced
  4. Widowed
4. What is your highest level of education?
  1. High School
  2. Diploma
  3. Associate
  4. Baccalaureate
  5. Graduate degree
  6. Beyond the Graduate degree
5. What is your total gross yearly income?
  1. Less than \$5,000
  2. \$5,000 - \$10,000
  3. \$11,000 - \$20,000
  4. \$21,000 - \$30,000
  5. More than \$30,000
6. What is your current role as a provider in this facility?
  1. CNA
  2. LPN
  3. RN
  4. OTHER \_\_\_\_\_.
7. How long have you worked at this facility?
  1. 0 - 5 years

2. 6 - 12 years
3. 12 - 20 years
4. More than 20 years.

8. What is the average number of hours per week that you work?

1. 8 - 20
2. 21 - 30
3. 31 - 40
4. More than 40

9. When was the most recent continuing education on geriatric depression you attended?

1. Within the last year
2. More than one year ago
3. More than two years ago
4. More than three years ago
5. More than four years ago

APPENDIX D

LATE-LIFE DEPRESSION QUIZ

Please circle one response for each of the following statements.

1. If depression is severe, there is little the depressed person can do to help him/herself.  

True	False	Don't Know
------	-------	------------
2. There is a higher suicide rate among the elderly than among younger adults.  

True	False	Don't Know
------	-------	------------
3. The older you get, the more likely you are to be depressed.  

True	False	Don't Know
------	-------	------------
4. It is common for older people to talk about suicide.  

True	False	Don't Know
------	-------	------------
5. Family and friends can usually help the depressed older person by telling him or her "count your blessings" or "look on the bright side."  

True	False	Don't Know
------	-------	------------
6. Older people are more likely than younger people to say "I'm depressed."  

True	False	Don't Know
------	-------	------------
7. It is normal for older people to feel depressed a good part of the time.  

True	False	Don't Know
------	-------	------------
8. Depression is easy to recognize in an older person who is physically ill.  

True	False	Don't Know
------	-------	------------
9. Depression among the elderly can be effectively treated with medications.  

True	False	Don't Know
------	-------	------------
10. Health professionals often have difficulty diagnosing depression in older adults.  

True	False	Don't Know
------	-------	------------
11. A complete medical evaluation is needed to rule out physical reasons for depression.  

True	False	Don't Know
------	-------	------------
12. Memory problems may be a sign of depression.  

True	False	Don't Know
------	-------	------------
13. Most older people who talk about committing suicide are not serious.  

True	False	Don't Know
------	-------	------------

APPENDIX E

PULLEN SYMPTOM QUIZ



Please circle one response for each of the following statements.

1. Among elderly patients in long-term care, feelings of sadness is a clear indication of depression.  

True	False	Don't Know
------	-------	------------
2. It is normal for elderly patients in long-term care settings to be depressed.  

True	False	Don't Know
------	-------	------------
3. Changes in sleep behavior, among elderly patients in long-term care, is an indication of depression.  

True	False	Don't Know
------	-------	------------
4. Fatigue and loss of energy are normal among the elderly in long-term care settings.  

True	False	Don't Know
------	-------	------------
5. Among the elderly in long-term care, physical pain does not indicate depression.  

True	False	Don't Know
------	-------	------------
6. A loss of more than five percent body weight is an indication of depression among the elderly in long-term care.  

True	False	Don't Know
------	-------	------------
7. It is normal for the elderly in long-term care to have thoughts about death and dying.  

True	False	Don't Know
------	-------	------------
8. It is normal for the elderly in long-term care to lose interest and not get too excited about outside activities.  

True	False	Don't Know
------	-------	------------
9. A sign of depression, among the elderly in long-term care, is a decrease in activity level.  

True	False	Don't Know
------	-------	------------
10. Tearfulness and being easily upset commonly occur and are to be expected among elderly in long-term care.  

True	False	Don't Know
------	-------	------------