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Depression and Psychotherapy for Adults in Long-Term Care Facilities

Jasper Joseph Watts
Walden University

Walden University

College of Social and Behavioral Sciences

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Jasper Watts

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Review Committee
Dr. Sandra Rasmussen, Committee Chairperson, Psychology Faculty
Dr. Robin Oatis-Ballew, Committee Member, Psychology Faculty
Dr. Michael Christopher, University Reviewer, Psychology Faculty

Chief Academic Officer
Eric Riedel, Ph.D.

Walden University
2015

Abstract

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MS, Rochester Institute of Technology, 1994

BPS, Brockport State University, 1981

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

The purpose of this study was to investigate depression and psychotherapy for adults who are in long-term care facilities. Depression is a serious problem for the elderly in general and for residents of nursing homes in particular. The current study drew on the dynamic stress vulnerability approach to explain how illness occurs in older people, using evidence obtained from the biological, social, and psychological domains with respect to depression. The research question addressed the difference in posttreatment depressive symptoms among 6 types of psychotherapy as measured by the Hamilton rating scale for depression (HRSD)? The 6 therapy techniques were (a) cognitive behavioral therapy, (b) supportive psychotherapy, (c) life review therapy, (d) reality oriented therapy, (e) mindfulness training, and (f) affect regulation therapy. A 1-group pretest-posttest research design was used with archival data from de-identified medical records. The analysis of this study controlled for pretreatment depressive symptoms as measured by the HRSD. A statistically significant main effect of psychotherapy was found, revealing a difference in posttreatment depressive symptoms as measured by the HRSD between at least 1 pair of the 6 types of psychotherapy after controlling for pretreatment HRSD. The covariate, pretreatment HRSD, was also statistically significant, indicating a relationship between pretreatment HRSD and posttreatment HRSD when controlling for psychotherapy group. This research study contributes to the breadth of information concerning efficacious treatments for depression among the elderly in nursing homes and can assist researchers, nursing homes, and doctors to promote positive social change by better treating the depressive symptoms in a pretreatment environment.

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Dedication

A special dedication and devotion for this research study is given to my wife, Virginia, and her mother, Theresa. Their inspiration and love provided the strength for completion of this study. My sister, Mary Watts, also provided me academic support and encouragement throughout this academic journey. This study is also dedicated to my "familia" Webster police officer and West Webster volunteer firefighter Lieutenant Michael Chiapperini, who lost his life on Christmas Eve 2012, serving the community he loved so much. His dedication to the people he served so faithfully was a great inspiration to me. The study is also dedicated to my father, Jack Watts, Sr., who was a resident in a long-term care facility with the Veterans Administration.

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Chapter 1: Introduction to the Study

Introduction

Vast portion of adults living in modern society prefer to continue to live independently as long as possible in the latter part of their lives. As Darkins (2006) reported, "When appropriate and given the choice, many people prefer to remain living independently in their homes and/or communities and to avoid or delay placement in long-term institutional care facilities" (p. 7). Unfortunately, the life goal of living independently for many elderly individuals is cut far too short by the death of a spouse, the onset of age-related diseases, or increasing frailties that force the individuals to turn to living in long-term care facilities. Sorenson and Mak (2011) noted, "The need to plan for future health care and residential adjustments increases with age, growing frailty, and restrictions in coverage of long-term care and will continue to grow with the population aging" (p. 112).

Moreover, because the elderly segment of the population is growing at a faster pace than the total population, far more elderly individuals will be placed in senior residential facilities in the future. For example, the demographic trends that have been experienced in North America over the past century indicate a profound shift in population (Jungers, 2010). In 1900, slightly more than 4% of the U.S. population was aged 65 years and over; in contrast, by 2008, the number had increased to 12.8%, and more rapid increases are projected for the future (Jungers, 2010). In this regard, Jungers (2010) emphasized,

> Within the next 20 years, close to one fifth (19.3%) of the U.S. population is expected to be over 65 years old. The population of older adults itself is also

> aging rapidly, with the biggest shifts occurring among adults over age 85. At 5.7 million persons, this group is 47 times larger than it was at the start of the 20th century. (p. 418)

One of the harsh realities consistently associated with living in nursing homes is the increased incidence of depression, which numerous elderly people experience as a result of their changed life conditions (Liu, 2010). Aziz, Mehringer, and Mozurkewich (2009) reported that the occurrence of major depressive disorders amid elderly residents of senior living facilities is as high as 50%. The difference in the estimates of the incidence of depression in the elderly in general and those placed in geriatric care facilities in particular is due to a need for consistency in how depression and its background are defined (Nazemi & Skoog, 2013). According to Nazemi and Skoog (2013),

> Despite considerable interest and the fact that depression is known to be highly prevalent in elderly nursing home residents, few studies exist on its incidence and risk factors. There is no consensus regarding the prevalence of depression in later life, which partly is due to a lack of diagnostic criteria for elderly. (p. 561)

This point was also made by Caley (2012), who cited a lack of studies examining the different presenting symptoms of depression among the elderly, which may differ dramatically from the established diagnostic criteria for average individuals. In this respect, Caley (2012) reported, “Late-life depression is a common mood disorder, but is under recognized and undertreated. Individuals with late life depression may have presenting symptoms that diverge from the established diagnostic criteria, which may be a reason why late-life depression is under-recognized” (p. 31). Studies to date have

consistently ranked the incidence of depression in senior living facilities as being high regardless of how the condition is defined; many researchers have found that prevalence rates of depression among residents of long-term care facilities are 3 to 4 times higher in relation to their counterparts who reside in the community (Nazemi & Skoog, 2013). In addition, the diagnosis of depression in the geriatric populace is associated with a number of comorbid conditions that can exacerbate the illness (Nazemi & Skoog, 2013). For example, the research to date concerning the association between depression in the elderly and diabetes has indicated a two-thirds increased likelihood of diabetes in the elderly population who are diagnosed with depression (Nazemi & Skoog, 2013).

Left untreated, depression can negatively affect the wellness of the elderly in any setting, adversely affecting their existing quality of wellness and accelerating their end of life in the process. To date, pharmacological interventions have been the treatments of choice for individuals in long-term care facilities, but there is an increasing amount of evidence that indicates that psychotherapy may represent a viable stand-alone or adjunct treatment alternative. This study examined the potential for using psychotherapy for treating depression in the elderly in geriatric residential care facilities. Chapter 1 of this study is used to introduce the background of the issues of interest as well as the problem of the study, the reason for the study, and the study's guiding research question.

Background

Select articles documented the problem, supported the purpose, and underscored the social significance of this study. The geriatric population in North America has increased consistently over the past few decades (Thakur & Blazer, 2008). The number of elderly living in aged care facilities in the United States continues to rise, with this

population experiencing a particularly high risk of major depressive disorders (Katon et al., 2010; Mezuk & Gallo, 2013). Depression is a major concern in regard to health issues such as addiction, cognitive decline, and chronic pain, all of which affect the quality of life for the geriatric population (National Center for Health Statistics, 2012). An association exists between mortality and the rate of depression in older adults (Thakur & Blazer, 2008). For older adults with depression, psychopharmacological treatment alone has had limited effectiveness (Gerritsen et al., 2011). Research indicates that psychotherapy may be a valuable treatment modality for depression in the geriatric population (Davison et al., 2007; Katon et al., 2010; Mezuk & Gallo, 2013; Van Hees, Rotter, Ellermann, & Evers 2013).

Despite the growing body of research concerning depression among residents in nursing homes, there has been less attention paid to the efficacy of existing pharmacological treatment protocols that are commonly used for this condition. According to Streiner and Carney (2006),

> The low estimates of psychiatric disorders among the elderly, combined with the widely held belief that depression and other disorders are common in this population, suggest that there may be some risk of misattributing physical distress or impairment to psychological factors, leading to overmedication. (p. 186).

Therefore, a need exists for additional research concerning the efficacy of existing treatment protocols that can be compared to adjunct or stand-alone psychotherapeutic interventions (Streiner & Carney, 2006).

A brief summary of the juried literature related to the scope of the study topic shows that elderly individuals who became incapable of caring for themselves were likely

to leave their independent lifestyles for a life in a long-term care facility. As a result, these elderly individuals were forced into situations wherein they were required to cope with "(a) progressively degenerative brain and body issues while (b) facing significant upheaval and change in their lives, as well as (c) new, unfamiliar, and difficult situations" (Ali Zadeh, Shahabi, & Panah, 2011, p. 57). In addition, a significant number of elderly individuals either experienced or continued to experience declines in their cognitive abilities, with approximately 15% of those living in long-term care facilities developing depression (Ali Zadeh et al., 2011). Elderly individuals who enter long-term care facilities may also experience new deficits in strength, flexibility, balance, and coordination, as well as their cardiovascular function, which are all constituent elements of frailty (O'Konski & Bane, 2010). Depression adversely affects effective problem-solving abilities in elderly long-term care residents (Sorenson & Mak, 2011). For example, according to Sorenson and Mak (2011), "Older primary care patients with more depression symptoms report less information gathering even after controlling for personality traits" (p. 112).

It is not remarkable that depression is a significant risk that is faced by both women and men who voluntarily or involuntarily leave their own homes to transition into long-term health care settings (Jungers, 2010). In this regard, Jungers (2010) emphasized, "Residents of long-term care facilities are three times more likely to experience depressive symptoms than are community dwelling older adults" (p. 417). The transition into a nursing home is frequently accompanied by fears and confusion concerning the new living environment, which is characterized by predominantly elderly, frail, and possibly confused peers (Jungers, 2010).

It is important to suggest that anyone would experience fundamental emotional and cognitive dissonance due to dramatic changes in residential situation and life conditions, but there remains a paucity of timely and relevant research concerning evidence-based alternatives to the current reliance on pharmacological interventions. For example, Bowen and Zimmerman (2008) contended that pharmacological interventions are frequently the treatment of choice because they are easier than more time-consuming psychotherapeutic approaches. Bowen and Zimmerman (2008) reported, "Given our historic focus on medical indicators of quality care (e.g., bed sores) and easily observable processes of care (e.g., restraint use), a significant gap exists in our knowledge regarding the provision of psychosocial care and quality of life" (p. 2). The term *psychosocial* encompasses a wide range of "social and emotional dimensions including common concerns for nursing home residents such as loss of relationships, loss of personal control, and adjustment to the facility, as well as mental health disorders such as depression, anxiety, dementia, and delirium" (Zlotnik & Vourlekis, 2006, p. 84). This gap in the research is additionally significant given the weight of the background described above, which directly relates to the issues of interest for the purposes of this study that are discussed further below.

Problem Statement

The size of the population of individuals 65 and older is anticipated to double in the United States by the year 2050 (National Center for Health Statistics, 2012). This increase in population is problematic for older adults in nursing homes, where depression greatly compromises quality of life and contributes to increased comorbidity that hastens mortality (Thakur & Blazer, 2008). Within the population of seniors in geriatric care

facilities, the rate of depression has been estimated between 14% and 26%, with the persons primarily affected being women (Katon et al., 2010; Mezuk & Gallo, 2013) who can reach rates as high as 50% for all residents of such facilities (Aziz et al., 2009). Tam and Lam (2012) emphasized that "There is increasing recognition that cognitive impairment occurs in geriatric depression, and that its presentation is heterogeneous" (p. 26). According to the definition provided by Brennan and Vega (2008),

> Major depressive disorder is one or more episodes characterized by symptoms of depressed mood, thoughts of suicide or death, significant weight loss or gain, sleep disorders, fatigue, loss of interest or pleasure in activities, psychomotor agitation or retardation, and a sense of worthlessness, along with other criteria related to duration, and so forth. (p. 99)

Even though the risk of the onset of major depressive disorders declines as people age, the elderly remain at a higher risk for clinically significant depressive symptomatology, which can affect between 17% to 35% of long-term care facility residents (Brennan & Vega, 2008; other authorities place the percentage even higher [Aziz et al., 2009]).

The research to date indicates that medical comorbidity and physical impairment are higher in persons suffering from depression (Katon et al., 2010; Mezuk & Gallo, 2013; Thakur & Blazer, 2008). Depression in older adults in senior care facilities is often underdiagnosed (Thakur & Blazer, 2008). This point was also made by Brennan and Vega (2008), who reported, "Depression as an illness among older adults is highly significant, given its prevalence and its overwhelming association with increased morbidity and mortality. " The geriatric population diagnosed with psychiatric disorders including depression utilize more institutional long-term care" (p. 98). In addition, the

elderly residing in aged care facilities are at high risk of having their depressive disorders misdiagnosed or undiagnosed (Brennan & Vega, 2008). The symptoms that are associated with depression in the elderly cause increased risk of impaired psychosocial functioning and disabilities (Aziz et al., 2009). According to Aziz et al. (2009), the treatment of depression in the geriatric population with depression is particularly complex for numerous reasons, consisting of the following:

1. Hepatic and renal drug and metabolite clearance may decrease.
2. The presence of medical illness and administration of multiple medications may interfere with the response to medications; conversely, the estimates of medication noncompliance in elderly patients with depression are similar to those reported for adult patients with depression, ranging from 40% to 75%.
3. Although elderly patients respond well to treatment of the acute phase of depression, only about 25% to 30% remain well after one to three years of follow-up. (p. 390)

Consequently, the restrictions that are associated with pharmacological interventions for elderly long-term care facility residents have become the focus of an increasing amount of research in recent years (Aziz et al., 2009). In summary, psychopharmacological interventions for depression with this population have had limited efficacy. Despite the wide understanding of the consequences of the diagnosis of depression for the health of the population, particularly concerning elderly people in long-term healthcare facilities, previous research has given it limited acknowledgement (Katon et al., 2010; Mezuk & Gallo, 2013). Gallo et al. (2013) indicated that more

research is needed on depression, increased comorbidity, and treatment alternatives for the geriatric population.

Purpose of the Study

Psychopharmacological interventions have been a stand-alone measure in the treatment of depression with the psycho-geriatric population (Garretson et al., 2011), particularly for those who experience dementia and associated behavioral problems, such as aggression (Buchanan, Christensen, & Hofman, 2009). Buchanan et al. (2009) emphasized that for the elderly, "Studies have indicated that these medications produce only modest benefits and carry significant dangers such as increased risk of stroke, exacerbation of cognitive decline, and increased risk of death" (p. 414). These studies have shown an increased interest in psychiatric alternatives for treating depressive disorders among the elderly in the United States and abroad (Cordon, 2008).

Evidence-based practice and best practice models of care indicate that psychotherapy could be a viable treatment for depression in older adults (Davison et al., 2007; Katon et al., 2010; Mezuk & Gallo, 2013). Likewise, Cordon (2008) emphasized, "Nonpharmacological approaches, such as cognitive-behavioral therapy, are also effective for many [elderly] patients. With the growing body of research, the practice of evidence-based medicine has been increasingly adopted in geriatric psychiatry" (p. 181). These findings suggest that there are superior alternatives available to the prevailing stand-alone pharmacological interventions that are used to treat depression in the adult population in nursing home facilities. To identify these alternatives, this quantitative study demonstrated the effectiveness of psychotherapy for adults with depression in senior care facilities. Psychotherapy can be an effective alternative and/or complementary

approach to medication when treating depression in the geriatric population in senior care facilities.

The Hamilton rating scale for depression (HRSD) was used to measure depression (Moran & Mohr, 2005). I used the HRSD to examine medical records of patients before and after psychotherapy interventions to look for decreases in depressive symptoms. The HRSD was completed to measure the existence and the degree of the severity of the nine symptoms of depression already identified. Although the HRSD is usually used in an interview setting, I used the diagnostic information provided to determine the rating of the participants' depressive symptoms prior to the onset of treatment and at the end of treatment.

Research Questions

The study was guided by the following research question: What is the difference in post treatment depressive symptoms among six types of psychotherapy as measured by the HRSD? The six therapy techniques were (a) cognitive behavioral therapy (CBT), (b) supportive psychotherapy, (c) life review therapy, (d) reality oriented therapy, (e) mindfulness training, and (f) affect regulation therapy. The analysis of this study controlled for pretreatment depressive symptoms as measured by the HRSD.

This was a quantitative study using a one-group pretest-posttest design with archival data from de-identified medical records. The information included diagnostic evaluations to indicate depression before treatment and progress notes to indicate the nature and duration of psychotherapy and changes in depressive symptoms during and after treatment as measured by the HRSD. Yarcheski and Mahon (2013) additionally laid emphasis on measuring and analyzing causal relations between the chosen variables. This

research method is used when a researcher intends to examine the relationship between the independent variable (in this case, psychotherapy interventions facilitated by College Health Enterprises psychologists) and dependent variable (in this case, reduction in depressive symptoms before and after treatment). The psychotherapy interventions found in the College Health Enterprises (CHE) records for individual therapy were cognitive behavioral therapy, supportive psychotherapy, life review therapy, and others. The documentation included the DSM-IV-TR criteria for depression (in the initial assessment) and psychotherapy services in the progress notes. Threats to internal validity included psychopharmacological issues and individuals with cognitive impairment (Alzheimer's and dementia). Thus, this method was used in establishing the variables and their relationship in the research. Archival data were used to explore and explain psychotherapy as an effective form of treatment for adults in senior care facilities diagnosed with depression as evidenced by HRSD scores.

Framework

The dynamic stress vulnerability approach may be used to explain wellness and illness in older people (Ingram, 2003; Nicholson & Neufeld, 1992; Ormel, Oldehinkel, & Brilman, 2001; Riskind & Black, 2005; Wang, 2006). The model integrates evidence obtained from the biological, social, and psychological domains in respect to illness. In the event of depression, an individual may be facing an interaction of several risk factors that are the results of the domains stated above. According to the theory, factors that are associated with the vulnerability of the individual lead to higher risks that may lead to the onset of illness in the patient through the amplification of effects from acute life events, primarily known as *modification* (Nicholson & Neufeld, 1992; Wang, 2006). A

fundamental precept of the dynamic stress vulnerability model is that stressful events such as the loss of a spouse or placement in a long-term care facility can produce adverse effects, especially in the elderly, who are already predisposed to changes in their lives (Tansella & Thornicroft, 1999; Wang, 2006). This model is congruent with the observations of Nazemi and Skoog (2013), who advised, "Older people are prone to psychiatric disorders through vicissitudes of life such as social isolation, malnutrition, economic problems, and emotional depression" (p. 56).

Various studies have suggested that the model can clarify the etiology of depression in the geriatric population. Many predisposing factors are associated with demographics of the individual, including factors such as age, gender, and living standards. Being that the level of depression is higher in adult care facilities, living in an institution can also be categorically termed a risk factor for an adult (Ingram, 2003; Nicholson & Neufeld, 1992; Ormel et al., 2001; Riskind & Black, 2005; Wang, 2006). Precipitating factors that are associated with stressors and the occurrence of acute life events can lead to higher risk that can precipitate the onset of the illness (Nicholson & Neufeld, 1992; Wang, 2006). Precipitating factors include loss of a loved one, separation from a loved one, medical conditions, and financial crisis (Nicholson & Neufeld, 1992; Wang, 2006).

Nature of Study

This was a quantitative study with a one-group pretest-posttest design using archival data from de-identified medical records. Diagnostic criteria from the DSM-IV-TR were used to identify adults with depression. Progress notes about cognitive behavioral therapy, supportive psychotherapy, life review therapy, and related

interventions were used to document psychotherapy. Depression was measured by the HRSD scores using diagnostic evaluations initially and progress notes during and at the end of psychotherapy, and this allowed for a deeper look into the changes in depressive symptoms.

RQ1. What is the difference in post treatment depressive symptoms among six types of psychotherapy as measured by the HRSD?

$H1_0$: There is not a statistically significant difference in post treatment depressive symptoms as measured by the HRSD between any of the six types of psychotherapy: (a) CBT, (b) supportive psychotherapy, (c) life review therapy, (d) reality oriented therapy, (e) mindfulness training, and (f) affect regulation therapy. The analysis of this study controls for pretreatment depressive symptoms as measured by the HRSD.

$H1_a$: There is a statistically significant difference in post treatment depressive symptoms as measured by the HRSD between at least one pair of the six types of psychotherapy: (a) CBT, (b) supportive psychotherapy, (c) life review therapy, (d) reality oriented therapy, (e) mindfulness training, and (f) affect regulation therapy. The analysis of this study controls for pretreatment depressive symptoms as measured by the HRSD.

Definitions

Depression

Depression is a psychological disorder that can impede the normal functioning of a person; it is caused by genetic, environmental, and psychological factors. It is referred to as a condition that causes a serious brain disorder in which the chemicals that the brain uses to connect to the entire body fail to be effective and an individual consequently

experiences serious mood changes, loss or increase of appetite, and a propensity to spend a lot of time thinking (National Institute of Mental Health [NIMH], 2009).

Psychotherapy

This refers to a type of therapy that involves treating people and helping them take control of their distress or difficulties. It is provided with the aim of offering people faced with depression and other types of difficulty an appropriate way of dealing with their challenges and their ways of thinking and acting toward their distress (Slavney, 2005).

Psychosocial Care

Psychosocial care, a procedure that involves nurses offering patients care through patient-nurse conversations, helps nurses to know how patients view themselves (Collins, 2012). This care principally involves dealing with the way the social life of a person affects him or her psychologically. Psychosocial care is important in nursing homes to help residents cope with the difficulties they are facing that can cause them depression.

Psychopharmacology

This refers to the study drug use in the psychiatry process to assist individuals in reaching their highest levels of functioning and body operation (Spiegel, 2003). Such drugs cause changes in the way the body and nervous system facilitate changes in behavior, mood, and the way a person functions. The resultant changes in how the body functions are called the *drug effect*.

Geriatric Psychiatry

This is a psychiatric practice that involves specialized education in the diagnosis and treatment of psychological disorders that affect elderly people (Mohammed & Abou-

Saleh, 2011). The practice involves the treatment of mental disorders caused by dementia, depression, anxiety, and traumatizing experiences such as family issues and loss of loved ones, among many other distressing experiences.

Dementia

The term *dementia* describes symptoms that cause impairments to memory, thinking, and communication (Slavney, 2005). The major characteristic of this condition is loss of memory. In some cases, dementia can be extreme, especially when there is loss of brain cells as individuals reach the latter stages of their lifespan.

Assumptions

The major assumption in this research was that elderly people who reside in nursing homes for a long period of time become depressed and that the introduction of psychopharmacological interventions can reduce depression. The above-mentioned assumption was used to formulate the independent variable (psychotherapy interventions facilitated in care homes) and dependent variable (reduction in depressive symptoms before and after treatment of the patients facing depression). Medication therapy remained a constant as the individuals receiving psychotherapy were given the same type of antidepressant medication before and after therapy, and this is recorded in the archival data. In treating depression in the geriatric population, selective serotonin reuptake inhibitors (SSRIs) are useful (Greenberg, Tesfazion, & Robinson, 2012; Wiese, 2011). These medications include Zoloft, Paxil, Prozac, Lexapro, and Celexa.

Scope and Delimitations

The stress vulnerability approach facilitates accurate explanations of wellness and illness in older people (Nicholson & Neufeld, 1992). A fundamental precept of the

dynamic stress vulnerability model is that stressful events such as the loss of a spouse or placement in a long-term care facility can produce adverse effects, especially in the elderly, who are already predisposed to changes in their lives (Tansella & Thornicroft, 1999). This model is congruent with the observations of Nazemi and Skoog (2013), who stated that the rate of mental disorders is high in the geriatric population because members of this population tend to be inactive due to age and therefore face distressing situations such as isolation, malnutrition, and economic problems and may become depressed.

Various studies have suggested that this model can explain the etiology of depression in older people. Many predisposing factors were associated with demographics of the individual, including factors such as age, gender, and living standards. Being that the level of depression is higher in adult care facilities, living in an institution can also be categorically termed a risk factor for adults (Nicholson & Neufeld, 1992). Precipitating factors associated with stressors and the occurrence of acute life events can lead to a higher risk of depression that can precipitate the onset of illness (Nicholson & Neufeld, 1992). These issues include separation from a loved one, loss of a loved one, medical conditions, and financial crisis (Nicholson & Neufeld, 1992).

Limitations

This research involved using a quantitative method as well as extensive use of archival data from medical records. The DSM-IV-TR, along with ICD codes of depression, were used to identify adults with depression. The procedure involved analyzing the progress of adults in nursing homes who were faced with depression. This involved analyzing behavioral therapy, supportive psychotherapy, life review therapy,

and related interventions that were used in the course of psychotherapy. The limitations that were faced in this research included the technicalities involved in quantitative research, and this can make interpretation difficult.

Another limitation in this research was the lack of representation of events in adult care homes. The assumption that long stays in adult care homes always cause depression for the senior population does not represent reality because not every individual who stays for a long period of time in an adult care home becomes depressed. In most cases, the geriatric population has been found to be composed of people who are content with their environments (Riskind & Black, 2005; Wang, 2006). Another limitation was that scholars can disregard quantitative types of research that have less substance based on their statistical significance. Limitations also included medication therapy, especially antidepressant medications. The research included notations of the types of antidepressant medication and dose pre and post therapy as recorded in the archival data. Further, limitations included medication therapy remaining a constant because the individuals receiving psychotherapy were given the same type of antidepressant medication pre and post therapy as recorded in the archival data.

Significance

This study addressed unmet needs of the adult population in the United States, specifically adults diagnosed with depression living in senior residential care facilities. Depression in the elderly is a stand-alone problem, is associated with increases in comorbidity, and contributes to earlier mortality (Mezuk & Gallo, 2013). These are significant issues because increasing numbers of American families are being confronted with difficult decisions concerning elderly parents. With people living longer, more and

more families in the United States are faced with constraints to the provision of care to their elderly parents and relatives, including geographic proximity, the skyrocketing costs of private caregivers, and the debilitating conditions that are associated with the aging process (Smith & Hibbler, 2008).

Placement in residential care facilities can result in a wide range of adjustment difficulties for the elderly. As Smith and Hibbler (2008) pointed out,

> Stripped of their independence both in terms of personal care and loss of privacy, these residents also face personal changes, having to share a room with another adult resident, outliving many of their friends, siblings, spouse and sometimes even their children, having little or no social ties due to an inability to drive or because of health concerns. (p. 37)

It is not surprising that this combination of traumatic life events can contribute to higher levels of depression in the elderly (Smith & Hibbler, 2008). Long-term care facility residents who experience depression and comorbidities, such as dementia and behavioral issues, are at increased risk of abuse, neglect, isolation, and unplanned discharge from their long-term care facility when compared to other facility residents (Miller, 2012). In fact, regardless of the setting, most elderly in the United States will experience depression as part of their aging process. Nazemi and Skoog (2013) emphasized, "The most common geriatric psychiatric disorder is depression, known to be a multi-factorial disorder. However, the influence of common preventable factors is yet to be discovered" (p. 559).

Research studies have shown this lack of understanding, indicating that depression results from being exposed to substandard care in long-term care facilities

(Miller, 2012). According to Zlotnik and Vourlekis (2006), the relationship between substandard care and depression is highly salient because of the growing numbers of elderly who are being placed in long-term care facilities. Zlotnik and Vourlekis advised, "Quality nursing home care is an issue for public concern as about 5% of elderly people live in these facilities, including a higher percentage of the oldest old (85 years and older)" (p. 84). The elderly who experience debilitating accidents, such as falls, who are confined to nursing homes are at high risk of developing depression (Schmid & Wells, 2010). Nearly 800,000 elderly in the United States have experienced a stroke-related fall that has debilitated them to the point that they require placement in long-term care facilities (Schmid & Wells, 2010). According to Schmid and Wells (2010), "Fall-related consequences for the older adult can be severe and include hip fractures, head trauma, increased healthcare use, increased admissions to long-term care facilities, premature disability (including restricted activity days), and death" (p. 554).

It is clear that a growing number of elderly will require placement in senior care facilities in the future, and reasonable predictions include a corresponding increase in the prevalence and incidence of depression among this group. Medication for the treatment of depression among the elderly in senior care facilities alone, though, is ineffective. For this research, I studied the effectiveness of psychotherapy for adults with depression in nursing homes. Reducing depression in residents of nursing homes may improve quality of life, decrease comorbidity complications, and increase longevity. Demonstrating the efficacy of psychotherapy in the treatment of adults with depression in long-term care facilities may increase its use as an alternative and/or complementary approach to treating adults with depression in nursing homes.

Summary

This research involved the examination of the potential for incorporating psychiatric-based therapies in lieu of or in addition to pharmacological interventions for adults in nursing homes. This research is important because depression is viewed as a serious problem for the elderly in general and for adults in nursing homes in particular. The study drew on the dynamic stress vulnerability approach to explain how illness occurs in older people, using evidence obtained from the biological, social, and psychological domains with respect to depression.

The study was guided by an assumption that gave rise to the following research question: What is the difference in post treatment depressive symptoms among six types of psychotherapy as measured by the HRSD? The six therapy techniques were (a) CBT, (b) supportive psychotherapy, (c) life review therapy, (d) reality oriented therapy, (e) mindfulness training, and (f) affect regulation therapy. The analysis of this study controlled for pretreatment depressive symptoms as measured by the HRSD.

Significant risk factors such as depression and medical decline affect individuals transitioning into long-term care settings. The transition into a senior residential care facility is frequently accompanied by fears and confusion concerning the new living environment, which is characterized by predominately elderly, frail, and possibly confused peers.

The restrictions that are associated with pharmacological interventions for elderly long-term care facility residents have become the focus of an increasing amount of research in recent years. Psychopharmacological interventions for depression with this population have had limited effectiveness in regards to treatment. More research is

needed concerning depression, increased comorbidity, and treatment of depression in older adults.

Psychopharmacological interventions have been a stand-alone measure in the treatment of depression with the psycho-geriatric population. There has been increased interest in psychiatric alternatives to treating depressive disorders among the geriatric population in North America and abroad. Therefore, it is important to incorporate psychotherapy to help solve the problem of depression that is facing the geriatric population in nursing homes.

Chapter 2 includes a literature review on psychotherapy as a viable alternative or complementary approach in treating adults with depression in long-term care facilities. In this chapter, the discussion highlights various points where analysts agree and where they depart in thought. Chapter 3 contains the methodology for this quantitative study using a one-group pretest-posttest design that uses archival data from de-identified medical records. Chapter 4 includes the results of this quantitative study, and Chapter 5 contains conclusions of this research.

Chapter 2: Literature Review

Background

Increasing evidence exists on the occurrence of cognitive impairment in geriatric depression, which is often underdiagnosed in long-term care facilities. Furthermore, there is sufficient evidence from past studies that psychotherapy may be successful in the management of depression among the geriatric population. Such evidence has been presented for the traditional psychotherapies, including interpersonal psychotherapy, psychodynamic psychotherapy, cognitive behavioral therapy, and life review therapy (Nieuwsma & Pepper, 2010). Additionally, newer forms of psychotherapy have emerged that are said to be effective and have been widely recommended but have not received sufficient research attention in regards to their effectiveness. This research, therefore, establishes whether such psychotherapy interventions lead to the reduction of depressive symptoms and whether the reduction in such symptoms gives a demonstration of the effectiveness of these psychotherapies.

To fulfill these objectives, the literature review chapter lays a foundation and framework for answering the research questions. The chapter is divided into three sections on depression, the diathesis stress model, and psychotherapy. The diathesis stress model provides the theoretical framework for this research and helps in establishing the hypotheses and variables for the research analysis. In the section on depression, I expand on the etiology and diagnosis of depression to offer a better understanding of the problem area. Lastly, I present various kinds of psychotherapy, giving in-depth explanations of the traditional types from which the contemporary types of psychotherapy have emerged. I also discuss emerging types of psychotherapies.

Literature Search Strategy

In the search for literature, I used the Walden University Library and Rochester General Hospital's Warner Library for peer-reviewed journals from PsycARTICLES, PsycINFO, PubMed, and the EBSCOhost database. The search for materials included the use of key words that reflected subtopics. For instance, for the genesis of depression, I used the key term *etiology of depression*, bringing forth numerous peer-reviewed journals that described the same. The studies I selected for review were published no earlier than 2004; in this way, I ensured that I had the most recent information.

One hundred fifty nine peer-reviewed articles were reviewed to examine depression and psychotherapy for adults living in senior care facilities. Studies that included logical fallacies such as "correlation proves causation" were eliminated from the literature search. Studies that were lacking in methodological rigor with weak evidence-based practice were eliminated from the literature review. The articles and studies selected had a basis in dynamic stress vulnerability theory or a similar theoretical foundation.

Theoretical Foundation

For more than 30 years, many investigations have shown that interpersonal psychotherapy (IPT), cognitive-behavioral therapy (CBT), and antidepressant medications have had efficacy in treating major depressive disorder (MDD; Khan, Faucett, Lichtenberg, Kirsch, & Brown, 2012). Nevertheless, in spite of the thorough implementation of the treatments in random controlled trials, significant numbers of depressed patients do not gain much from them. For instance, Van Hees et al. (2013)

indicated that among depressed persons who completed treatment, response rates were 55% for IPT, 57% for medical management, and 51% for CBT.

Another study on treatment resistant-depression indicated that 30% of the depressed persons receiving treatment responded in the first 12 weeks of the trial (Zwerenz et al., 2012, as cited in Khan et al., 2012). The most significant objective in clinical investigations is, therefore, predicting responses to MDD treatment. Moreover, if particular characteristics are linked to differential risk in certain treatments and not others, this information is likely to aid in steering patients toward methods with the highest probability of effectiveness. This research investigated the diathesis stress model, adapting Blatt's depression vulnerability personality model.

Also known as the *cognitive diathesis stress model*, the diathesis stress theories assert that when persons with tendencies toward negative cognitions are confronted with stressful events in life, they appraise the stressors and their effects negatively, contributing to the beginning and sustenance of depressive symptoms. The outcomes of studies that have investigated these models have not been similar. Zlotnick and Vourkelis (2006) suggested that lack of support for the cognitive stress models is caused by varied types of cognitions and how they link to each other; Van Hees et al. (2013) offered proof with regard to this view.

Origin of the Diathesis Stress Model

According to Braet, Vlierberghe, Vandevivere, Theuwis, and Bosmans (2013), the idea of diathesis began long ago in medical terminology. Diathesis can be found in ancient Greek medicine, with the term having its derivation in the disposition concept, which is linked to the humoral theory of disease and temperament (Chang, Sanna, Hirsch,

& Jeglic, 2010). By the 19th century, the term was often used as a psychiatric term (Slavik & Croake, 2006). In the same manner, even though the role that stress plays had, for a long time, been regarded as significant in mental disorder development, it was in the 1960s that the theory of schizophrenia brought to light stress, combining diathesis and stress (Eberhart & Hammen, 2010). Rosenthal and Bleuler developed the terminology for the interaction between diathesis and stress (Kercher & Rapee, 2009).

After the pioneering advances in this area, there were propositions of more detailed and contemporary ideas of vulnerability and stress that specified the circumstances within which a disorder ensues. For instance, Audy suggested that for health to be preserved, one needs to maintain "a dynamic equilibrium against insults from physical, psychological, infectious, chemical and social factors in the environment" (Slavik & Croake, 2006, p. 219). A disorder is seen to occur in a case when the body fails to maintain homeostasis when the equilibrium is disturbed. Factors of vulnerability affect the frequency and ease with which homeostasis is challenged by these factors, establishing the likelihood of the occurrence of a disorder. This means that a person considered to be highly vulnerable is one whom many circumstances have the ability to bring out an episode in.

Dynamic (Diathesis) Stress Model and the Genesis of Depression

According to this theory, in times of notable stressful life events, individuals having high degrees of either dependency or self-criticism have vulnerability to depression. Persons who are *self-critical* place excessive demands on themselves for the achievement of goals and continual requirements to meet high standards. They have a constant fear of being perceived as failures, impose ruminative scrutiny and blame on

themselves, and experience feelings of guilt and inferiority (Braet et al., 2013). *Dependent* persons, on the other hand, excessively depend on interpersonal relationships for the provision of self-identity and health and spend vast amounts of time ensuring that social networks are secure. They fear being abandoned and are prone to feelings of interpersonal need, anxiety, and helplessness (Seeds & Dozois, 2010). Dependency and self-criticism predict high degrees of depressive symptoms (Lu et al., 2013).

In the perspective of Zlotnick and Vourkelis (2006), a cognitive harmony of negative perspectives concerning oneself, the future, and the world as well as distortions and biases in negative information processing all act as vulnerabilities for depression. Further, a negative self-view with dysfunctional attitudes and/or cognitive distortions is stimulated by stressful events within the areas of vulnerabilities in the personality, resulting in the automatic occurrence of negative thoughts as well as depression. According to hopelessness theory, three inferential styles make an individual vulnerable to depression: the belief that negative events are caused by global or stable factors, the perception that negative events have consequences that are disastrous, and the perception of negative features in the self after stressful events. Individuals who make these inferences have a greater likelihood of experiencing depression in comparison with persons lacking these inferential styles.

Explanatory style is a contributory distal cause of the symptoms of depression that interacts with negative events in life to create hopelessness and is hypothesized to sufficiently and proximally lead to hopelessness depression. Cognitive theories of depression, therefore, indicate that persons who have negative beliefs concerning themselves, their future, and the world and who have the tendency toward stable, global,

and inner acknowledgment of negative events have a greater probability of becoming depressed when they experience stressful events as compared to those who lack such styles of cognition.

Prospective research designed to test the level at which cognitive vulnerability on a temporal basis becomes a precursor to and predictor of the increase in the symptoms of depression and commencement of depressive disorder among adolescents and the elderly has given support for the contribution of diathesis stress in hopelessness theory (Eberhart, Auerbach, Bigda-Peyton, & Abela 2011). Wang (2006) reported that, concerning Beck's theory, two prospective studies among adults have realized predicted association between negative life events and dysfunctional attitudes (Patten, 2013).

Longitudinal studies have indicated that inferential styles deemed as depressogenic concerning self or consequences, global self-worth, and dysfunctional attitudes are predictive of depressive symptoms as well as diagnoses, controlling for preceding levels of depression and many times in association with negative life events (Wagner, Chaney, Hommel, Andrews, & Jarvis, 2007). Nonetheless, other prospective investigations have not demonstrated the same (Kercher & Rapee, 2009).

A number of factors have been thought to account for the lack of consistency in the results of investigations testing models of cognitive vulnerability, including small sample sizes, lack of tests with regard to the relationship between stress and cognitions, the need for priming negative cognitions with stress inductions or moods, limitations in cognitive development, and the employment of samples going through treatment (Eberhart & Hammen, 2010).

Some investigations have found no proof in regards to the function of self-disapproval or dependency in the elevation of risk for the onset of MDD or symptoms of depression in times of stress (Kercher & Rapee, 2009). Some have realized a moderate function of self-disapproval and not dependency in the prediction of MDD relapse (Kercher & Rapee, 2009), while others have found a predicted relationship between dependency and MDD and not self-criticism and MDD (Kercher & Rapee, 2009). Still other studies that have found the existence of a diathesis-stress relationship in the prediction of depression symptoms (Eberhart & Hammen, 2010).

Treatment response emanating from the diathesis (dynamic) stress model has not received much research attention. Theoretically, the existence of personality vulnerability has the capability of compromising the efficacy of treatment in stressful events in numerous ways. For instance, individuals having high levels of self-criticism or dependency have a likelihood of developing more severe depression (Kercher & Rapee, 2009), necessitating more intense intervention, especially when the complexities are due to stress. Additionally, depression has the probability of activating maladaptive schemas of cognition and interpersonal patterns of behavior that work toward compromising treatment during stressful events.

Dependency and self-criticism have been related to depressogenic characteristics such as excessive search for reassurance (Eberhart & Hammen, 2010) and perseveration. Also, high self-criticism or dependency has the likelihood of interfering with compliance with treatment in the therapeutic relationship, compromising the capability of the individual to gain from treatment when in the presence of stress complications. Persons who criticize themselves highly have poor development of the therapeutic relationship

(Slavik & Croake, 2006). The models concerning the possible ways in which personality interferes with response to treatment in stressful times are neither exhaustive nor mutually exclusive nor likely to work together in impairing the process of recovery.

In a trial of amitriptyline within a period of between two and four weeks, Brandon et al. (2012) indicated that patients who did not respond had events that were 3 times more stressful in the treatment period as compared to those who responded. In the same way, Casañas et al. (2012) realized that stressful events have 35% involvement in the variance of the scores of depression during a 12-month-long treatment. Furthermore, an IPT plus imipramine trial indicated that patients who had experiences of severely stressful events in the initial six weeks of treatment had lower probabilities of response in comparison with those who did not report any severe event. In regard to depression and the geriatric population, selective serotonin reuptake inhibitors (SSRIs) are a useful treatment (Greenberg et al., 2012; Wiese, 2011). These medications include Zoloft, Paxil, Prozac, Lexapro, and Celexa.

Additionally, Wang (2006) stated that severe stress experienced just before treatment began gave a prediction of poor responses. According to Wang (2006), pretreatment stress is likely to be a marker of chronic environment instability, necessitating greater work in treatment, implying that a stressful environment is capable of reflecting a style of personality, which results in increased stress levels. This means that the consequence of stress prior to treatment for the response to treatment is pronounced among patients who have maladaptive personality vulnerability.

Researchers have investigated stress preceding the commencement of depression with models based on traditional depression etiology theories, which highlight that

depression has an etiology relation to stress and is a manifestation of less severity that corresponds to a more favorable course. Contrary to this, depression having endogenous commencement needs more thorough intervention. Evidence for the difference is nevertheless mixed. In a sample of patients on ADM treatment trial, Van Hees et al. (2013) found that interpersonal stress occurring before the onset of depression was linked to a more favorable result whereas achievement stress was linked to worse results. Patient diathesis and event theme congruence additionally predicted better results.

Contrary to this, research conducted by Claridge (2014) did not indicate a major effect of prior events, giving a prediction of response in cognitive therapy carried out over a period of 16 weeks. Bowen and Zimmerman (2008) also did not find any effect on the match between response and cognitive diathesis-stress on the basis of attributional style or dysfunctional attitudes. Patients with the best results, according to Wang (2006), were those who had low degrees of pre-onset events as well as cognitive diathesis or higher levels of the same.

To date, research on the relationship of vulnerability between diathesis stress and stress in response to treatment has not answered several questions. For instance, research has not examined the diathesis stress model in the situation of stress preceding and during the period of treatment, in spite of the influence of the stressors on response to treatment demonstrated and the relevance of personality in moderating the influence. Moreover, studies have not investigated the differential relationship between diathesis-stress or stress vulnerability in the results of psychotherapy. Given the links of dependency and self-criticism to maladaptive interpersonal behaviors, depressogenic conditions, and poor

therapeutic alliance, there is a possibility that the traits will strongly moderate depression in response to varied psychotherapy treatments.

Research has provided consistent proof that events that severely threaten one's life have the strongest etiological relationship with depression (Chang et al., 2010). Contrary to this, events that are less life threatening, even though still regarded as unpleasant, may lack the psychological effects vital for the stimulation of onset depression. There is less clarity concerning the differential relationship between events that are severe and those that are not severe to treatment, and this is also true of patients receiving treatment who are already depressed. This means that a lower minimum severity of events is needed for effects of stress that maintain a depression compared to those that initiate it. Wang (2006) realized that events that are undesirable notably predict a lower probability of response, similar to the outcomes for severe events.

Depression

According to Akincigil et al. (2011), depression has been identified by the World Health Organization (WHO) as a disorder that has the features of sadness, feelings of low self-worth or guilt, disordered appetite or sleep, loss of pleasure or interest, poor concentration, and decreased energy. The symptoms or feelings can be chronic or acute, impair the capability of the individual to do normal activities, and are often recurrent. Depression has the capability of resulting in suicide, accounting for 850,000 deaths each year worldwide.

Psychological Theories of Depression

The psychological theories of depression provide an explanation of the genesis of depression, explain mood disorders, and give a framework for treatment, which affects

the selection of the type psychotherapeutic interventions as well as the plan of treatment. The major theories include the cognitive, interpersonal, psychoanalytic, and biological theories.

Cognitive Theories and the Genesis of Depression

The cognitive theories explaining the genesis of depression are divided into four theories: the hopelessness theory, learned helplessness theory, beck's cognitive theory, and the transactional stress model. According to Davison et al. (2007), Beck's cognitive theory presents the proposition that attitudes of dysfunction (cognitive schemas) form a part of the etiology in the development of depressive symptoms. Attitudes of dysfunction are described by Gallo et al. (2013) as cognitive distortions interacting with events that are stressful and can begin to produce depressive symptoms. Gallo et al. (2013) hypothesized that persons using dysfunctional attitudes risk the development of depressive symptoms; for instance, in the case of an older person who has the attitude that he or she is worthless, if this person can no longer provide financial support, then this person will develop depressive symptoms upon retirement.

Depressive attitudes can be maintained concerning accomplishments, interpersonal and/or intrapersonal factors (Davison et al., 2007; Gallo et al., 2013). Although this theory has been used in guiding psychotherapy and in developing prevention programs, it is constrained to empirical evidence. In addition, developing depressive symptoms is complex; however, the symptoms can be reduced to one cognitive vulnerability of attitude that is dysfunctional.

The next cognitive theory, the learned helplessness theory (LHT), is founded, according to Davison et al. (2007), on the proposition that the development of learned

helplessness takes place when persons develop negative attributions that results following a stimulus that cannot be controlled and does not depend on the persons' actions. According to this theory, a negative event in life gives the information to the cognitive attribution that is among the expectations or the uncontrollability that the individual's behavior has no influence on the event's outcome. The uncontrollability of the expected results produces the behavior: it reduces motivation for outcome control, brings about emotional disturbance, and interferes with learning in the future. Fear dissipates with the individual's learning that he or she can control the results; however, in the opposite case, the fear brings about the development of depressive symptoms (Davison et al., 2007).

This original theory does not address the influence of cognitive vulnerability on the outcome of the reformulation of the theory. The redeveloped theory has four assumptions: deficits such as cognitive, motivational, affective and self-esteem; the development of depressive symptoms with highly aversive outcomes that occurs when a person expects that outcomes that are highly desired will not take place or that are independent of the individual's actions; depressive symptoms' pervasiveness being dependent on the encompassing nature of the individual's style of attribution such as the attribution for helplessness; and that the individuals' intensity is dependent on the expected uncontrollability and significance associated with the outcome (Zhou, Chen, Liu, Lu, & Su, 2013). Therefore, greater expectation of uncontrollability and greater negativity of the individual's attributions yield a greater likelihood of developing more depressive symptoms.

This revised version of the hopelessness theory was renamed hopelessness theory (HT) and expanded on the original theory's propositions, implicating the development

with symptoms of depression (Zhou et al., 2013). The core hypothesis states that there is an interaction between the occurrences of a stressful event, and the cognitive vulnerability proposed purposes of predicting hopelessness development, which afterwards results into depressive symptoms. The negative referential style's cognitive vulnerability involves both the expectancy of helplessness and that of negative outcome after a negative event in life (Brockmeyer et al., 2012). A meta-analysis carried out on adolescent research using hopelessness as the theoretical framework revealed the association of negative inferential style with depressive symptoms that were self-reported as well as clinical depression; the link was stable across age, sample type, and gender (Watts & Markham, 2005).

The three cognitive theories stated above have their main limitation being their specificity. Their design allows for the development of symptoms with a single cognitive feature that is linked with depression, including negative attribution, dysfunctional attitudes, and a negative inferential style. They do not explain two major factors of development that are linked with the development of depressive symptoms. In the first place, their prevalence dramatically rises during the transitions into old age, and their specificity negates an important difference between gender variations. The transactional stress model nevertheless addresses the limitations.

With the transactional stress model (TSM), cognitive vulnerability is central to the comprehension of depressive symptoms development. It includes both the negative inferential style and the dysfunctional attitudes, but brings forth a third element: ruminative style of response. According to Davison et al. (2007), it is a manner of thinking in which persons focus their thoughts to a negative state of emotion but do not

act in manner to change their circumstance or relieve their symptoms. There is proof that this style leads to the drainage of cognitive resources and the prevention of active behaviors toward problem solving, resulting in the increase of symptoms and the duration of the exhibited depressive moods (Zhou et al., 2013).

The theory additionally proposes that the commencement of the causal chain starts with negative events occurring; this then leads to an immediate emotional response. The intensity of the negative events and the effect of stimulation with the three cognitive vulnerabilities aid in increasing the symptoms of depression. For instance, an elderly man who activates three cognitive vulnerabilities that were proposed in response to a stressful event (for instance someone not responding to the call for attention) interprets and processes that occurrence as a dysfunctional attitude (I am not loved anymore because I'm no longer able to attract attention), a negative inferential style (I do not attract attention because I am no longer able to provide financial support, and no one will ever love me), and a ruminative style of response that impedes the abandonment of the negative thoughts, which, according of this theory, results in the increase of depressive symptoms such as irritability and other, more negative life events.

Interpersonal Theories and the Genesis of Depression

The cognitive depression models have the appearance of being powerful in their capability of delineating factors that then result in the depression experience. Nevertheless, they do not offer the explanations regarding the type, negative events in life, or the effect or factors within the environment, all of which could lead to the inducement of the schemas or the negative styles of attribution.

According to Gallo et al. (2013), in the research conducted with children who had undergone child abuse, the findings showed that the children had approved strong feelings of uncontrollability because of the predicaments in their lives and reacted to circumstances with a negative attribution style, thinking of themselves as having bad characters. Maniglio (2010) found that there was high depressive symptoms among children and linked it to maladjusted cognitions, behaviors, and effects. According to the research, abuse contributes significantly to a child's attribution style, which becomes more accessible as the child grows older. According to Davison et al. (2007), psychological abuse predicts a more powerful negative attribution style, low self-esteem, and depression when compared to physical abuse. Nevertheless, victims of physical abuse and combined abuse also show the same problems. According to this research, trauma experienced in the early stages of a person's life predicts the development of a negative attribution style, learned helplessness, and depression, especially in the later years of life.

Additionally, the expectation that abusive relationships result in depression is expressed as rational. Nevertheless, there is an indication of other factors that have the capability of producing negative self-attributions that are linked to depression in childhood. Significant numbers of studies have been carried out in regards to the consequence of the emotional status of children and their parents' attachments. According to Davison et al. (2007), helplessness is stimulated by uncertainty, uncontrollability, and a response to the lack of proper and supportive parenting. The concentration of this study is that the presence of parental conflict or the parents' lack of involvement brings down the self-esteem of the child and their self-efficacy, producing

negative biases of attribution in the children. The research also revealed that children belonging to mothers who are suffering from depression have the risk of interacting less with their mothers, and these children were found to have less positive reinforcement. This kind of parenting is related to a lack of enthusiasm and persistence, a less positive view of life, and a decreased frustration threshold.

The studies give the suggestion that when parental bonding is defective, abuse exposure is present, and neglect is also present, this then precedes the development of helplessness and pessimism in the children's explanatory style. Miller **(**2012**)** identified the effect of a family structure that is less effective and defects in parental bonding as preceding the development of vulnerabilities to depression. The vulnerability may have its basis on numerous factors, particularly punitive, critical, rejecting behaviors of caregivers as engendering self-criticism, and negative attribution styles among children. Such conduct leads to vulnerability structures (Rosenquist, Fowler, & Christakis, 2011), which become the center of the negative attributions in the future and are related to cognitive vulnerability and the symptoms of depression. According to Gallo et al. (2013), such vulnerability could develop from the mother's self-worth as sensed by the child. In adulthood, low self-worth causes the child to react to challenges with hopelessness, worthlessness, and ultimately depression.

Streiner and Cairney (2006) further established that the overprotectiveness of a parent is another factor that causes children to fail to develop independence and a pattern of assurance in times that are challenging. According to Miller (2012), parenting styles that are both under involved and overinvolved are bonding failures and significantly precede the development of cognitive information processing that is negatively biased

with emotional challenges that occur later in life. Streiner and Cairney (2006) found that children develop maladaptive schemas early as a response to the ineffectiveness of their interpersonal interactions with parents and that the schemas have a strong attachment with issues such as intimacy and autonomy; the children react in this manner because they respond to issues central to their development, and the issues have the likelihood of being automatic and resulting into negative affectivity.

According to Miller (2012), responses to high- or low- protection parenting lead to an increase in vulnerability to maladaptive schema development and, subsequently, depression vulnerability. Meta-analysis has identified parenting style and bonding as being notable precursors to the later development of dysfunctional attribution styles, schemas, and depression. Furthermore, Gallo et al. (2013) supported the contribution of attribution style as predicting the development of childhood and adulthood depression.

Many researchers have identified personality vulnerability as preceding depression. According to Miller (2012), the symptoms of depression have the tendency of aggregating within families, and persons that have suffered from recurrent depression also have relatives with high rates of depression. In earlier times, depression was linked to patterns in families, and this could be associated with the negative consequences of bonding with caregivers who were also suffering from depression. Also, other researchers suggested that depressed caregivers have a lower likelihood of engaging with their children, producing uncontrollability, and learned helplessness. Payne, Palmer, and Joffe (2009) suggested that the aggregation of depression among families is linked to the negative effect of the defective styles of overprotection versus under protection parenting in reaction to the pathology of the parents and the adverse events in life during childhood.

This view is in harmony with the perspective of Berghout, Zevalkink, Katzko, and de Jong (2012) that insufficient evidence exists from twin studies that establish the existence of genetic association with depression, particularly as no gene has been recognized as being a precursor to depression development. The authors highlighted the fact that correlations may exist with numerous genetic effects, with their probability standing at maximum of 40-50%. The authors strongly acknowledged the interaction model that was proposed by other researchers. In the view of Dedić (2012), genetic factors can mediate between negative events in life and the influences of the style of parenting as well as parental bonding; genetic factors can create sensitivity to depression as a reaction to negative events in life.

Sufficient evidence exists that suggests that once the formation of a negative attribution style in childhood takes place, it is carried through to adulthood. In the perspective of Dedić (2012), adolescents who are either presently depressed or who were formerly depressed have a higher risk of experiencing a recurrence of depression in their adult lives. Katon et al. (2010) highlighted that the chronic depression precursors that have a greater dominance include heightened reactivity to stress, childhood adversity, and chronic environmental stress. According to the authors, the factors have an implication in cognitive vulnerability development in later life through later defects in the person's interpersonal reactions, changes in the nervous system, and attachment problems.

Psychoanalytic Theory and the Genesis of Depression

According to the psychoanalytic theory, painful, adverse, and unbearable experiences cannot be eradicated and are repressed, remaining in the unconscious (Bagby, Quilty, & Ryder, 2008). During the early period of psychic development in

infancy and childhood, individuals go through psychic gains and losses. The capability of processing the losses emanate from inner feelings of containment gained during the stage of nurturing and evolves into healthy mental development. According to psychoanalysis, relationships emerge from the development of an infant's ego. The process of accepting what cannot be attained and mourning what cannot be obtained is vital for mental health while refusal or denial of the experience brings about detrimental effects to the normal development of the ego. These activities are basically associated with daily experiences and the internal psychic state that, many times, give a reflection of the manner in which an individual copes with daily life experiences.

Mezuk and Gallo (2013) perceived loss as the process of denial and shock accompanied by the period of letting go. When a people are initially confronted with loss, they reject the reality of the loss and not the object, ensuring that the object is clung to through hallucinations of wish fulfillment. Mourners believe that it is the information that is wrong, thereby denying the experience. Late in the lifespan, individuals can be subject to significant medical and cognitive decline where independence can diminish (Mezuk & Gallo, 2013).

NIMH (2014) explained that individuals through relationships in the early part of their lives develop an ego that is deemed fundamental to mental functioning. The development of the ego in a healthy mental state needs continuous processing of both good and unbearable experiences. According to Watts and Markham (2005), this is grouped into three stages, including notation, judgment, and action. All experiences are either voluntarily or involuntarily stored in the unconscious as either memorable or repressed and are undesirable if painful. In the case of medical or cognitive decline, the

ultimate action of an experience is avoidance of reality followed by escape into fantasy, where the experience moves to a *pleasure principle* state and not *undesirable*.

When what is undesirable is continually denied and repressed, a superego is engendered, but the original experience is maintained within the unconscious in a passive state. At another stage, other occurrences might evoke the early feelings that result in dysfunctional mental states or depression. In the view of Mezuk and Gallo (2013), the process begins with feeling, thoughts concerning the feeling, and then acting or communicating accordingly. In the case that the action is avoidance and denial of the circumstance, a false premise appears in the psyche, and an occurrence of psychic equilibrium imbalance occurs. As a consequence, there is a restriction of the development of the normal ego and a distortion of mental functioning while the experience is denied consistently, locking it in the unconscious. If this kind of behavior is maintained, the person develops an ego-destructive superego rather than developing an ego (Watts & Markham, 2005).

Superego

Cuijpers, van Straten, and Warmerdam (2008) highlighted Freud's research and how it explained that the external world is represented by the ego while the internal world is represented by the superego; the researchers also examined how Klein's views added that an unbearable situation is projected into an object, and the opposite of processing and tolerating such experiences is the experiences' denial and non-acceptance that brings about temporary reprieve. For individuals late in their lifespans, the internal world (superego) can be augmented due to the loss of their external world's (ego) substance (Cuijpers et al., 2008). In the case that the individual takes action, the painful experience

is disowned in an outward manner, but the actual experience is maintained in the original form in the unconscious. This process, according to the author, is referred to as projective identification and splitting off. Furthermore, NIMH (2014) stated that in the formative years, in a situation where there are experiences that are unbearable, painful, and intolerable, the individual is incapable of structuring normal functioning of the ego, minimizing the capability of sustaining losses and mourning them.

Biological Theory and the Genesis of Depression

There is strong evidence shown in the association between familial factors leading to depression development. Nevertheless, it is vital to evaluate environmental and other causes of depression to establish their relationship and development. Research into the biochemical factors causing depression is ongoing in regards to the interaction between stressful situations and cognitive vulnerability development. These interactions have the tendency toward the hypothalamic-pituitary-adrenal (HPA) axis or gamma amino butyric acid (GABA).

HPA Axis

When one is exposed to an event that is stressful, there is an activation of the HPA axis through the interaction among the hippocampus, amygdale, and hypothalamus (Anderson, Berk, Dean, Moylan, & Maes, 2014). The activation, a fear signal, triggers the secretion of CRF by the hypothalamus, which travels to the pituitary gland, causing the secretion of ACTH. The ACTH is moved to the adrenals, which synthesize adrenaline, corticosteroids, and cortisol. The adrenalin helps produce the activation and alarm response; cortisol becomes mediation for the response and facilitates an adaptive response, reducing alarm responses. The rise in cortisol prevents the release of more

ACTH and CRF. When this system is constantly activated, a number of notable effects are produced; for instance, volume reduction in the hippocampus and the reduction of the capability of developing new memories occurs. The hyper secretion of the cortisol is additionally linked to the serotonin receptor activity reduction and to depression (Anderson et al., 2014).

Spiegel (2003) evaluated the effectiveness of HPA axis response among family members and participants with depression. The results showed consistency with the existence of a feedback loop that is defective, and the formulation of this defect increased sensitivity to the experience of high states of emotion when responding to circumstantial stress. This research showed that a genetic factor is involved in the defective feedback loop and that there was an anomaly present in the HPA system in the participants and their family members, lowering their response thresholds (Spiegel, 2003). The lower threshold responds to the increased- or over- response to factors in the environment.

GABA

In depression genesis, GABA has also been found to be of importance. It is a neurotransmitter that is inhibitory and is engaged in the reduction of a person's response to events. A low GABA level maintains a person at a state that is more sensitive and emotionally aroused. An increase in GABA occurs through serotonin agonist administration (Andrus et al., 2012), which is low in depressed persons' blood plasma (Miura et al., 2008). According to researchers, low GABA levels mark a fairly stable trait for mood disorders, and its deficit may give a representation of genetic mood disorder vulnerability. This is consistent with the research carried out by Uher and McGuffin (2010), indicating that oversensitivity to events in life could precede the development of

depression and helplessness symptoms. According to Caley (2012), helplessness that is stress induced leads to a decrease of GABA within the hippocampus, resulting in hyper-reactivity to challenges. Furthermore, the author highlighted that mood disorder treatments could be linked to a rectification of the deficit of GABA among such persons.

Diagnosis of Depression

Over time, there has been an emergence of pragmatic definitions of depression with the newly released DSM-5*,* but for the purpose of this study, the two main methods of classifications were used: ICD 10 and DSM –IV-TR (National Center for Health Statistics, Centers for Disease Control and Prevention, 2012). DSM-5 defined the minimum requirements for severity that is considered clinically significant with additional classifications in regards to severity, course, duration of the disorder, and subtype on the basis of symptom profile.

Major Depressive Episode

The classification systems used separates mental disorders into different types on the basis of criteria with defined features. The naming of classifications has basic approaches used in all medical diagnoses systems and has numerous strengths, including fast shorthand for practitioners; the ability to result in treatments that are well defined; and statements regarding prognosis (O'hara et al., 2012). Nevertheless, it is probable that disorders diagnosed in present times give a representation of a heterogeneous group of disorders that have multiple causes. The classifications being used are from the international statistical classification of diseases and related health problems (ICD) and the diagnostic and statistical manual of mental disorders (DSM; Sclar et al., 2012). The

DSM-IV-TR is being utilized in this study because the archival data used this classification to diagnose depression at the time of treatment.

According to DSM IV-TR, forms of basic mood disorders are separated into three groupings, including dysthymic disorder, major depression disorder (MDD), and depression not otherwise specified. Mohammed and Abou-Saleh (2011) defined mood disorders as an illness with characteristics that have a varied combination of numerous symptoms that take place concurrently for a definite period and that contribute to notable marked stress or psychosocial impairment (Greenberg et al., 2012). MDD has the characteristics of having major depressive occurrences that go beyond two weeks and has the persistence of a depressive mood or notable loss of pleasure or interest, which is the core symptom required, and MDD must have a minimum of four linked symptoms (Visser et al., 2008).

DSM IV-TR additionally lists three degrees of MDD severity based on the number of the required associated symptoms, their severity, and the level of distress or functional disability being mild MDD, moderate MDD, or severe MDD. These are irrespective of the presence or absence of psychotic features. Symptoms caused by a condition of general medication, hallucinations, or delusions that are incongruent with mood or bereavement have to be ruled out.

There is a considerable overlap between the criteria for diagnosing the depressive episodes in DSM IV-TR and ICD 10, but there are a few emphatic differences. Codes and terms in DSM IV are, the majority of the time, compatible with those of ICD, and the diagnosis of MDD many times is the same in the two classifications. Nevertheless, in comparison with DSM IV-TR, the ICD 10 needs lesser symptoms (by one) for diagnosis

and has fatigue as being among its core symptoms. According to ICD 10, the patient has to be experiencing energy reduction, depressed mood, and loss of interest, and the previous symptoms must be included in the two of the seven symptoms diagnosed. DSM IV-TR, on the other hand, requires patients to have at least four of the nine symptoms, with one of the indicators being depressed mood and/or loss of interest. The symptoms for both classification systems need to be evident for at least two weeks to make a diagnosis, and the outcome of the symptoms have to be impairment of functioning that increases as the episode becomes more severe. Research usually prefers the use of DSM given that it provides guidelines for defining cases with greater detail. The symptoms required for the DSM IV-TR and ICD 10 are listed and compared in Table 1 below.

Table 1

Comparison between the DSM IV-TR and ICD 10 Requirements for Depression Diagnosis

DSM IV-TR (major/minor depressive disorder	ICD 10
Self-reported or mood change reported by others	Depressed mood
Diminished interest or pleasure	Diminished interest
Diminished energy or fatigue	Energy reduction
Inappropriate/excessive guilt or worthlessness	Diminished self-esteem of confidence Feelings of inappropriate guilt deemed inappropriate
Recurrent thoughts or attempt of death/suicide	Recurrent thoughts of suicide or death
Indecisiveness/loss of the capability to concentrate or think	Indecisiveness/loss of the capability to concentrate or think
Psychomotor retardation or agitation	Changes in psychomotor activities with retardation or agitation
Hyposomnia/insomnia	Disturbance of sleep
Notable loss of weight/appetite	Change in appetite and weight

In the determination of the severity of major depressive episode, DSM IV-TR and ICD 10 group depressive episodes with clinical significance as severe, moderate, or mild on the basis of the type, number, and symptoms severity as well as the degree of functional impairment. Table 2 indicates the number of symptoms needed by each of the systems.

Table 2

Requirements for Depression Diagnosis by Severity

	ICD 10	DSM IV-TR
Mild	4	Minimal, less than 5
Moderate	5-6	Between severe and mild
Severe	7+	Numerous symptoms, more than 5

Subthreshold Depressive Symptoms

Although milder depression forms are very common, no accepted forms of classification exist for milder depression; the closest classification for milder depression is found in minor depression. According to DSM IV-TR, a minimum of two and a maximum of five symptoms are needed for minor depression, and one has to be either loss of interest or depressed mood. This is inclusive of ICD 10 depression having four symptoms. Both of the two classifications have dysthymia, comprising of symptoms of depression not meeting the requirements for major depression but which have persistence for more than two years. Further, ICD 10 contains a mixed classification of depression and anxiety, with lesser clarity of meaning in comparison of minor depression; in a large way, ICD 10 refers to the exclusion diagnosis among those with symptoms of depression or anxiety, and the diagnosis is less than the minimum requirement for particular disorders.

Psychotherapy Theories

Psychotherapy

From the review of the psychological theories of depression, I presented the various psychotherapeutic treatments available for geriatrics with depression. The treatments that have been used are based on evidence and include life review therapy, interpersonal psychotherapy, cognitive-behavioral therapy (CBT), and psychodynamic psychotherapy. From the biological theory, Buchanan et al. (2009) acknowledged that biological interventions, for instance electroconvulsive and pharmacotherapy therapies, are considered useful, but this research does not focus on them. The foundation of pharmacotherapy is the employment of antidepressants for the purpose of altering the functioning of the brain and decreasing the symptoms of depression (Young, 2013). Although in the practical sense medication works faster when compared to psychotherapy (Johansson, Nyblom, Carlbring, Cuijpers, & Andersson, 2013), it has the capability of producing side effects as well as drug interactions (Craighead & Dunlop, 2014).

It is acknowledged in clinical psychology that there is no one-treatment method for depression (Cloosterman, Laan, & Van Alphen, 2013). Recommended services based on evidence from research exist. For instance, in the United Kingdom, CBT and IPT are strongly recommended for the treatment of depression (Cuijpers et al., 2012) while in the United States, life review therapy, IPT, and CBT are strongly recommended, especially for geriatrics (Gawrysiak et al., 2013).

These treatment methods evolve by means of varied degrees of testing before their endorsement. The development of the evidence-based methods of treatment emanate from three levels of studies: pilot studies, efficacy studies, and effectiveness studies.

Efficacy studies involve testing treatment under trills that are controlled (von Wolff, Hölzel, Westphal, Härter, & Kriston, 2012) and use comparison groups. Such studies have been criticized many times because they remove patients from the practical conditions of service delivery, thereby raising questions concerning their utility. Lastly, effectiveness studies are carried out under circumstances that resemble real life (Brakemeier & Frase, 2012).

The benefits and drawbacks of these treatment methods are documented in literature. The benefits include actuarial data leveraging in decision-making and avoiding certain pitfalls that are observed in clinical judgments (Thomas, Hopwood, Woody, Ethier, & Sadler, 2014); minimizing the risks of harming the clients through the use of proven methods of treatment (Pincus, 2010); facilitating the supervision and training of therapists (Jacobson & Mufson, 2012); and the comprehension of the idea that the time limitation and structure of the treatments has the capability of enhancing therapeutic outcomes with the client as long as the therapist maintains a focus on treatment goals and tasks (Koszycki, Bisserbe, Blier, Bradwejn, & Markowitz, 2012).

Even with these benefits, there are two main concerns for these kinds of treatments, which have not been defended in their advocacy; the concerns include the fear of autonomy loss in the selection of the treatment that should be used, especially for countries where restrictions could be placed, and the fear that learning every evidence-based mode of treatment for each diagnosis could be unrealistic (Rafaeli & Markowitz, 2011).

Life Review Therapy

Life review therapy can be also termed as reminiscence psychotherapy and is the sole modality that is designed particularly for geriatrics with depression (Korte, Bohlmeijer, Cappeliez, Smit, & Westerhof, 2012). It has been employed as a mechanism within other types of therapies and, at the same time, as a whole system of therapy (Nazemi & Skoog, 2013). It holds the assumption that depression is relieved when the life history of a client is revisited and reprocessed systematically (Singer, Blagov, Berry, & Oost, 2013). The therapist may utilize props such as photographs, history books, genograms, memorabilia, and timelines (Cuijpers et al., 2008). Its goal is the progressive reevaluation and integration of past experiences into meaning in its entirety. In this process, the client is likely to process conflicts that are unresolved and acquire a viewpoint of his or her life (Ayalon, Arean, & Bornfeld, 2008). The challenge of this kind of therapy is that not all the geriatrics enjoy remembering their past, and therapists, therefore, have to ensure that the therapy is appropriate before undertaking it.

Cognitive-Behavioral Therapy (CBT)

This kind of therapy holds the assumption that the cause of depression is the interaction of behaviors that are maladaptive with beliefs and thoughts. The model holds that in the case of a person who has a negative fundamental belief concerning the world, the belief manifests as negative thinking. The negative thoughts generate negative feelings. In this modality, taking the client through the therapy involves trying to change the client's perspective at the level of cognition or behavior and, as such, changes follow in the client's emotional level. In this therapy, the clients get involved by recording their

thoughts, feelings, and behaviors and with the help of the therapist, challenge their patterns of thinking.

According to Ayalon et al. (2008), there are three cognitive distortions that may be an obstacle to the therapeutic outcomes, including age as the hindrance to change, the therapist not being old enough to help, and the idea of life being okay if just a particular problem changed. The thoughts can be dealt with within the approach. The author additionally recommended changes, which can be effected to accommodate the geriatric population. In the case that the client shows problems with memory and cognition, the information should be presented in a slow and repetitive way, and, if possible, it should be written down. For those with less familiarity with psychotherapy, instilling hope through functionally explaining efficacy and telling the fact that alleviation of depression is experienced over time is helpful.

Psychodynamic Psychotherapy

This approach holds the assumption that depression takes place due to intrapsychic conflicts occurring unconsciously (Johansson et al., 2013). It is a type of watered down psychoanalysis. The difference is that rather than being treated numerous times every week in numerous years, it has the advantage of greater affordability and accessibility through a brief format that is composed of weekly sessions through many months. It leverages the present interactions between the client and the therapist for the purpose of producing change (Ormel et al., 2001). The theory assumes that difficulties experienced by the client in the client's relationship is carried through to the therapy room and redone with the therapist. This kind of therapy is recommended for persons with a kind of chronic mild depression known as dysthymia, long-time interpersonal

difficulties, or anxiety (Gawrysiak et al., 2013). Buchanan et al. (2009) pinioned that for its effectiveness, geriatrics must be interested in working with material that is unconscious, must have the capability of connecting with the therapist, and must have a motivation for change.

Interpersonal Psychotherapy (IPT)

The IPT holds the assumption that depression comes from interpersonal crisis and is targeted at social associations in the attempt at relieving depressive symptoms (Jacobson & Mufson, 2012). If the client is to be taken through IPT, the client must have a problem that is in the area of grief, role transition, interpersonal deficits, or role disputes (Koszycki et al., 2012). In the usual case, a maximum of two areas of problem are addressed because of the restriction of time, which is practically between 12 and 16 sessions.

This treatment is more suited for geriatrics because the problems they undergo many times suites one of these four problem areas (Rafaeli & Markowitz, 2011), with the most common one being role transition (for instance into retirement). In the case that retirement comes as a clinical matter, Buchanan et al. (2009) recommended issues that need to be addressed, including identity loss, identifying meaning, and time structuring. The objectives of addressing role transition involve the restoration of self-esteem and mastery for coping with major changes that have taken place. In the case that the client is going through grief, the objectives involve helping the client gain a viewpoint that is balanced, concerning the demise of the significant person, and reestablishing the client among those that are alive.

Interpersonal disputes that involve roles take place when there is discord between the client and the client's significant person. The objectives help in the resolution of the conflict by teaching the client effective relationship strategies. Finally, interpersonal deficits are rare (Van Hees et al., 2013). A person with this problem has difficulty functioning interpersonally and has rare supportive relationships. Two aspects of IPT regarded as unique are sick role and interpersonal inventory. Interpersonal inventory is a mechanism that is helpful for gaining a comprehension of an interpersonal environment that the client functions in. The knowledge gives the therapist the capability of usefully intervening at a level that is interpersonal.

After the diagnosis of the depression, the sick role is allocated to the client. The design enables the recognition that depression is a sickness as opposed to the client's fault and, in this case, attempts to decrease the client's guilt (Pincus, 2010). The acquisition of the sick role permits the client to make a choice to eliminate the social activities that may be an obstacle to the client's recovery.

IPT has three phases, giving a conceptualization that the therapist can follow. In a 12-week period, the two initial phases are where the evaluation, diagnosis, and case information are carried out. The following eight phases are intermediate. The strategies that are central in the interpersonal area of the problem are used, and the last two sessions are for termination purposes. For the purposes of preventing relapse, therapy involving monthly maintenance is recommended (Thomas et al., 2014).

Buchanan et al. (2009) indicated that when employing IPT with the geriatric population, it is important to consider acceptance of gifts given by the client because the gifts have meaning, showing that the client still has the ability to contribute in a

meaningful way; although, the gifts must not be manipulation devices. In addition to this, it is of greater relevance to aid the client in tolerating a difficult association as opposed to walking away with it. This is because separation in late life has financial and personal effects, which may be too great. Gallo et al. (2013) held the view that one needs to adapt IPT to the circumstance at hand when dealing with the geriatric population.

Other Psychotherapy Interventions

From the major psychotherapies (interpersonal psychotherapy, cognitive-behavioral therapy (CBT), psychodynamic psychotherapy, and life review therapy) other psychotherapies have been developed. These include reality orientation, supportive psychotherapy, mindfulness training, and affect regulation therapy.

Reality orientation was initially a method of enhancing the lives of confused persons in the geriatric population (Brennan & Vega, 2008). Reality orientation (RO) functions by presenting orientation information; this is believed to help people better understand their environment, which possibly leads to an enhanced sense of self-esteem and control. In clinical practice, RO has been criticized for being insensitive to the patients' needs in its application in the mechanical form (Watson & Bedard, 2006). Furthermore, constant relearning has the capability of contributing to problems of self-esteem and mood.

Supportive psychotherapy is employed to reinforce the capability of a patient to cope with stressful circumstances through numerous important activities; for instance, it can be used by listening attentively to the patient, encouraging the patient to express feelings and thoughts, helping the patient understand more their circumstance and alternatives, supporting the patient's resilience and self-esteem, and working toward

instilling a sense of hope in the patient (Rosenbaum et al., 2012). The objective of supportive psychotherapy varies from restoring and maintaining the patient's functioning to the accomplishment of the person's capability for healthy living and happiness.

Affect regulation therapy is defined as the capability to increase or maintain a state of wellbeing and positive feelings and to regulate or diminish defensive states and stress feelings (Ford, Chang, Levine, & Zhang, 2013). It is a model of developmental therapy that matures and tracks sensory-motor and psychological milestones and employs psychotherapy treatments that have the ability to access emotion, cognition, sensory-motor functions and physiological status. Such interventions help trigger the development of the brain and complete organization of neurons in children and adults, building a personality that has greater maturity and adaptability.

Affect regulation therapy augments the capability of producing an appropriate emotional reaction to any circumstance. When used as a brief form of psychotherapy (having between one and 12 sessions) it helps regulate defensive stimulation states of flight, fight, and freeze. The outcomes of the therapy are composed of regulation of effect and other personality function areas; for instance, some areas are the capacity to learn, cognitive functioning, socialization, stress resilience and self-expression, and the enhancement of mood (Dales & Jerry, 2008).

Mindfulness training, also known as mindfulness-based cognitive therapy (MBCT), is designed to avoid depression symptom increase, particularly among persons with MDD. It uses the traditional CBT techniques in addition to newer strategies such as mindfulness meditation and mindfulness (Bos, Merea, Brink, Sanderman, &

Bartels-Velthuis, 2014). Although the cognitive part of it helps the participants understand depression, mindfulness emphasizes on being conscious of the entirety of an individual's feelings and thoughts and accepting them without reacting to or getting attached to them. The theory behind MBCT is that when individuals who have experienced an episode of depression get distressed, they go back to automatic cognitive processes, which have the ability to trigger depression (Christopher & Maris, 2010; Goldberg, Davis, & Hoyt, 2013). Its objective is the interruption of automatic processes and training participants and to put emphasis on incoming stimuli, observing and accepting them without judgment. This permits the participants to be conscious of when the automatic processes take place and to change their reaction to reflection.

Conducting Psychotherapy among the Elderly

When working with geriatric residents, certain guidelines need to be followed when conducting therapy. The guidelines help in equipping psychologists for ethical and effective work with the elderly. The psychologists and other clinicians need to have knowledge of assessing suicide risk because suicide risk is linked to depression among the elderly (Alexopoulos et al., 2009). Psychologists and other clinicians also need to quickly grasp signs that could lead to the presence of abuse among those that are vulnerable, and the elderly must have the awareness of the uniqueness of their social experiences such as health problems, age discrimination, issues involving grandparenting, and retirement. The clinician also should have a comprehensive understanding of individuals in senior care facilities in regards to their leisure time functioning, medical

and cognitive decline issues, and other clinical complexities significant to this population (Alexopoulos et al., 2009).

Efficacy of Psychotherapies

The issue of equal efficacy of psychotherapies for a similar disorder has been researched for more than 30 years (Van der Lem et al., 2012), and empirical research is yet to establish a definite response. Meta-analyses carried out in earlier times gave an indication that varied psychotherapy types were similarly efficacious. The explanation behind this finding is that the majority of the effects of psychological remedies came as a result of common, non-particular factors and not specific techniques (Shean, 2012). These factors include the alliance of therapy between the client and the therapist, a clear reason behind the cause of the client's problems, and belief in the type of treatment (Barth et al., 2013). Also, this can be explained by the statement that psychotherapy effects are realized by varied specific mechanisms of therapy and by the largeness of the number of moderators and mediators such that small variations between treatment in particular classifications of patients is unnoticed due to unsatisfactory statistical power or due to the lack of sensitivity of research methods (Claridge, 2014).

Several of those studies do not lay emphasis on a clear population being diagnosed, do not utilize interventions having strict protocols, and the quality of the studies' methodologies was poorer when compared to the majority of current studies. In the treatment of depression that is between mild and moderate, a significant number of comparative psychotherapy is better designed. Systematic reviews that are more recent and meta-analyses have looked into differential efficacy of depression psychotherapies.

Early meta-analysis on depression cognitive therapy indicated outcomes that are very positive (Ambresin, Despland, Preisig, & de Roten, 2012). Nevertheless, a meta-analysis carried out highlighted researcher allegiance as possibly confounding earlier research (von Wolff et al., 2012). A new later meta-analysis gave indicators of greater efficacy of CBT in comparison with other therapies (Van Hees et al., 2013) even though the results were not confirmed when comparisons between cognitive behavior therapy and other therapies considered to be high quality were made. The therapies were not designed to be compared.

In the last 30 years, more than 150 studies that were either comparative or controlled have investigated the efficacy of psychological depression treatments (Gerritsen et al, 2011). These studies have attempted to give worthwhile opportunities for the examination of equal efficacy among psychotherapies. A recent metaregression of 83 studies where psychological depression treatment controls were compared (Bragesjö, Clinton, & Sandell, 2004) provided few indicators of the superiority in terms of efficacy of a single type of psychotherapy over the others.

Nevertheless, few have laid emphasis on studies where varied psychological treatment types were directly compared to each other within a similar trial. In these types of trials, participants are randomly given one type of treatment or two treatments, allowing for the calculation of effect sizes after the test, demonstrating the differences with these two treatment types. The majority of meta-analyses in the past focused on the general efficacy of specific treatment types in comparison with control conditions and compared the same with the general efficacy of other treatment types. The results of the meta-analyses described may have been affected by different factors in each of the

studies such as the length and type of treatment, initial severity of the symptom, and the kind of control group used (Young, 2013). The implication is that differences between the varied treatments' efficacy may not have reflected the superiority of a form of treatment over another.

Two meta-analyses carried out investigated direct comparisons between varied types of psychological adult depression treatments. In the first study, findings indicated that cognitive behavioral and cognitive therapies had more profound effects when compared to other verbal therapies (Cloosterman et al., 2013). Nevertheless, the groupings of psychological treatments were very broad, and there were no clear presentations of their definitions. This study, additionally, did not investigate heterogeneity, did not analyze subgroups, and given that majority of the studies in the group had been published, the comparisons included did not have very large numbers (Cuijpers et al., 2012). The other study investigated whether cognitive therapy had superior efficacy when compared to other therapies, but the categories included were also very broad, did not include the analysis of subgroups, and the comparisons were in small numbers. Although the results were nearly the same and indicated that cognitive therapy had greater efficacy, later studies have revealed that it is no greater than other treatments of high quality.

Past Research on Psychotherapy Treatments

The issue of equal efficacy of psychotherapies for a similar disorder has been researched for more than 30 years, and empirical research has yet to establish a definite response. Past meta-analyses indicated that varied psychotherapy types were similarly efficacious. The explanation behind this finding is that the majority of the effects of

psychological remedies come as a result of common, nonparticular factors and not from specific techniques. These factors include the alliance of therapy between the client and the therapist, a clear reason behind the cause of the client's problems, and belief in the type of treatment. Also, this can be explained by the statement that psychotherapy effects are realized by varied specific mechanisms of therapy and the largeness of the number of moderators and mediators such that small variations between treatment in particular classifications of patients is unnoticed due to unsatisfactory statistical power or due to the lack of sensitivity of research methods.

Several of those studies do not emphasize clear populations being diagnosed, do not utilize interventions having strict protocols, and do not have good quality methodologies when compared to majority of the current studies. In the treatment of depression that is between mild and moderate, a significant number of better-designed comparative psychotherapy has appeared. Systematic reviews that are more recent and meta-analyses have looked into differential efficacy of depression psychotherapies.

Summary

The literature review and research reflects the problem statement: Individuals in long-term care facilities may not be receiving treatment for depressive symptoms. To date, research on the relationship of vulnerability between diathesis stress and psychotherapeutic treatment does not answer several questions. For instance, studies have not investigated the diathesis stress model in the situation of stress preceding and during the period of treatment in spite of the influence of the stressors in the response to treatment and the relevance of personality in moderating the influence. Moreover, studies have not investigated the differential relationship between diathesis-stress or stress

vulnerability to the results of psychotherapy. Given the links of dependency and self-criticism to maladaptive interpersonal behaviors, depressogenic conditions, and poor therapeutic alliance, there is a possibility that the traits will strongly moderate depression in response to the varied psychotherapy treatments.

Research has provided consistent evidence that events that severely threaten one's life have the strongest etiological relationship with depression. Contrary to this, events that are less life threatening, even though unpleasant, may lack the psychological effects that are vital for the stimulation of onset. There is less clarity concerning the differential relationship between events that are severe and those that are not severe in regards to treatment and already depressed patients receiving treatment. Events that are undesirable notably predict a lower probability of response, similar to the outcomes for severe events. The diathesis-stress or stress vulnerability is considered noteworthy for further study, but this research will not focus on these procedures. This study compared the different psychotherapies discussed in this chapter. Chapter 3 addresses the one-group pretest-posttest design, utilizing archival data to accurately research the gap in the literature for the effectiveness of psychotherapy in nursing homes.

Chapter 3: Research Methods

Introduction

The purpose of this retrospective, quantitative study was to investigate the potential for incorporating psychiatric-based therapies for depression in the elderly in lieu of or in addition to pharmacological interventions in long-term care facilities. This study investigated which of the six psychotherapies used was most effective in decreasing depressive symptoms. I looked at the effectiveness of the different types of psychotherapies for adults with depression in senior living facilities. Psychotherapy may be an effective alternative and/or complementary approach to medication-only treatment of depression in adults in senior care facilities (Davison et al., 2007; Dedić, 2012; Garretson et al., 2011; Hall, Goddard, Opio, Speck, & Higginson, 2012; Katon et al., 2010; Kaye, Harrington, & LaPlante, 2010; Mezuk & Gallo, 2013; Thakur & Blazer, 2008; Van Hees et al., 2013). I used the HRSD to examine medical records of patients before and after psychotherapy interventions to look for decreases in depressive symptoms.

In this chapter, I discuss the way in which this study was conducted. Furthermore, I explain the research design, sampling procedures, sample data collection techniques (including the research instruments), validity, and reliability of the archival data and the instruments used, research limitations, and the ethical considerations for this research. The aim of this chapter is to explain and guide the process of data collection and analysis.

Research Design and Rationale

The study was guided by the following research question: What is the difference in post treatment depressive symptoms among six types of psychotherapy as measured by

the HRSD? The six therapy techniques used by College Health Enterprises (CHE) psychologists for psychotherapy found in the medical records included (a) cognitive behavioral therapy, (b) supportive psychotherapy, (c) life review therapy, (d) reality oriented therapy, (e) mindfulness training, and (f) affect regulation therapy. The analysis of this study controlled for pretreatment depressive symptoms as measured by the HRSD.

This was a quantitative, retrospective, pretest-posttest, exploratory research design using archival data from CHE de-identified medical records. Information collected included diagnostic evaluations that indicated depression before psychotherapy treatment and progress notes and discharge summaries that indicated the nature and duration of psychotherapy and the changes in depressive symptoms during and after treatment. This research design and method are used when a researcher intends to examine the relationships between the dependent variable (in this case, post treatment depression levels shown by the patient) and independent variable (in this case, therapy intervention group), while controlling for a single covariate (in this case, pretreatment depression levels shown by patient). The design is presented in Figure 1.

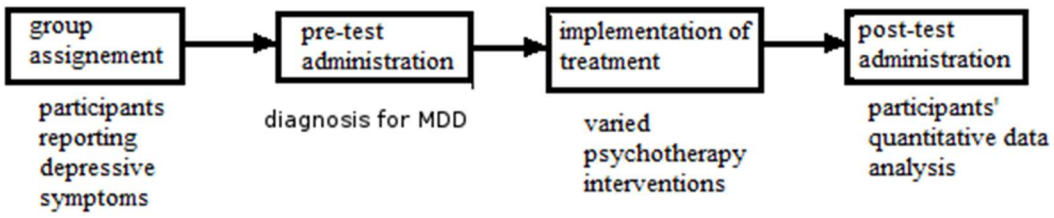

Figure 1. The one-group pretest-posttest research design.

This design has numerous disadvantages, including the lack of a control group, which does not permit the researcher to compare psychotherapy interventions to other types of interventions or no interventions (Margetts, 2011). Another disadvantage is that the scores on the pretest have the possibility of impacting posttest scores.

Methodology

Population Data

The population data that were included in this research consist of medical records of adults in long-term care facilities who have a diagnosis of depression and who have undergone certain psychotherapy interventions by CHE psychologists in the past 3 years. The participant-deidentified archival data were obtained from College Health Enterprises (CHE) participant medical records and were subjected to further analysis for the purposes of meeting the criteria for inclusion in the study. From these medical records, of those individuals who were diagnosed with depression and were eligible for inclusion, I selected 86 medical records from the particular psychotherapy treatments from a data population of approximately $N = 175$ medical records. Additional medical records were used until the sample size was reached; 15 medical records from each type of psychotherapy were used.

Sample Size

G*Power 3.1.9.2 software (Faul et al., 2014) was used to determine the sample size for this study. Power is defined as (1-β), where β is the chance of Type II error (i.e., the probability that the null hypothesis is accepted when it is actually false). At a power of .80, one has an 80% chance of seeing significance that is truly in the data.

Cohen (1992) determined the effect sizes (*f*) for ANCOVA as small (*f* = .10), medium (*f* = .25), and large (*f* = .40). The criteria for this study were set at an alpha level of .05, power of .80, and a large effect (due to limitations created by the size of the population) of *f* = .40, with six groups and one covariate. Calculations indicated that a total sample size of *n* = 86 would be required to power the ANCOVA analysis, which was used to address the research question within the study. To achieve equal group sizes, I collected a sample of size *n* = 90 (15 records per group).

Sampling Procedures

Systematic sampling was used to ensure appropriate representation for the medical records data within the sample data. The first step was calculating *k*, which is equal to the total population data (estimated to be *N* = 175) divided by the sample size (*n* = 90). A random integer between one and *k* was then chosen as the start point (*x*). Using this start point, every *k*th record was chosen to be used in the study (making the files chosen *x, x* + *k, x* + 2*k, x* + 3*k,* ...). Files were excluded if they did not follow the inclusion criteria, if they followed the exclusion criteria, or if they belonged to a group that already contained the 15 participants required for each group. A count of the excluded files was taken and used to calculate a new *k* (*k = (N* - 90*)* / *#of files excluded*). Using this new *k*, the same process was done to obtain the remaining number of files required for the sample size of 90. If more files were excluded, then the process was repeated until the necessary 90 records (15 records from each group) were collected.

In selecting the sample records to use for the study, I used criteria for inclusion and exclusion to select study participants. The inclusion criteria for participant record selection into the study included adults in long-term care facilities who had met the

DSM-IV criteria for depression and had received only one type of psychotherapy intervention as recorded in CHE medical records. Inclusion criteria also included a mental status exam pretreatment and post treatment and the name and the same dose from the same type of antidepressant medications for depression pre and post when the records were reviewed. I examined archival data pre and post for any of these and other antidepressants and their respective doses. For depression in the geriatric population, SSRIs are a useful treatment (Greenberg et al., 2012; Wiese, 2011). These medications include Zoloft, Paxil, Prozac, Lexapro, and Celexa. Psychotherapy may be an effective alternative and/or complementary approach to medication when treating depression in adults in senior care facilities (Davison et al., 2007; Dedić, 2012). A comprehensive mental status exam before psychotherapy upon intake and a thorough discharge summary after psychotherapy also comprised the inclusion criteria. Regarding inclusion, participants were adults diagnosed with depression who had received only one of the six types of psychotherapies at least 4 times in 12 weeks. The efficacy of a minimum of four sessions within a 12-week period for therapeutic impact used by CHE clinicians was based on guidelines for psychological practice for older adults (Abeles et al., 1998; Ambresin et al., 2012; Barth et al., 2013; Doblin, 2002).

The research also incorporated criteria for exclusion, such as a history of schizoaffective disorder, manic episodes, organic affective syndrome, and antisocial personality disorder. Furthermore, participants' records were excluded in the case that they had been diagnosed with Alzheimer's, dementia, other cognitive impairments, anorexia nervosa, or alcohol or drug dependence in 3 preceding months.

The participant medical records that met the criteria for inclusion were separated into six groups depending on the type of treatments patients had received, including (a) CBT, (b) supportive psychotherapy, (c) life review therapy, (d) reality oriented therapy, (e) mindfulness training, and (f) affect regulation therapy. These six treatment types were the treatment modalities used by CHE psychologists, and therapy type of treatment checkboxes were completed in all CHE documents used. Individuals meeting the DSM-IV-TR diagnosis for depression were included in the study (being in psychotherapy for depression showed that the individual met the DSM-IV-TR diagnosis for depression). The DSM-IV-TR diagnosis of depression involves nine symptoms that impair participation in the social context. The nine depression symptoms of the DSM-IV-TR are (a) depressed mood, (b) reduced pleasure in daily activities, (c) significant sleep disturbances, (d) marked weight disturbances, (e) marked fatigue, (f) loss of energy, (g) psychomotor agitation, (h) feelings of excessive or inadequate guilt or worthlessness, (i) decreased memory and focus, and (j) recurrent thoughts of suicide or attempt. The DSM-IV-TR was used because the DSM-IV-TR was in use when the original data were collected.

Data Collection

After the sample medical records were selected, two other clinicians and I collected the information obtained from the selected medical records. Additionally, the two other clinicians and myself scored the HRSD to ensure interrater reliability for the HRSD (see Appendix A) for each patient record chosen for the data sample using data found in each of the medical records; protocols for this data extraction can be found in Appendix A. A total of two HRSD scores were obtained. One score was obtained from a

HRSD completed prior to receiving treatment (pre-intervention), and one score was collected after therapy intervention (post treatment) for each patient. Interventions included at least four psychotherapy treatments in 12 weeks. The DSM-IV-TR served as the guide for completion of the HRSD. The CHE medical records include extensive pre- and post-therapy psychological information that enabled the two other clinicians and myself to complete the pre- and post-treatment HRSD scoring. A comprehensive mental status exam before the psychotherapy upon intake and a thorough discharge summary after psychotherapy provided the necessary information to complete the HRSD. Several CHE records were scored successfully in clinical practice using the HRSD. CHE uses psychological tests and measurements as part of the documentation with individuals in long-term care facilities. The six types of psychotherapy treatments were evenly distributed among potential participants without any integration of treatments. CHE documentation included a psychotherapy type selection box for each intake, therapy session, and discharge summary to ensure that therapy treatment was the same throughout the course of treatment for data collection. Individuals' current medications were also included in the CHE documentation. The two other clinicians, along with myself, helped to ensure accuracy in the HRSD completion. These clinicians looked at HRSD scores including pre- and post-therapy times to determine changes in depressive symptoms. Archival data drawn from medical charts and institutional records were used to complete rating scales, including the HRSD, Charlson comorbidity index, and cumulative illness rating scale (CIRS) in the geriatric and intellectual disabilities populations (Beloosesky & Weiss, 2011; Parmelee, Thurs, Katz, & Lawton, 1995; Salvi et al., 2008). The use of clinical records, including medical records, can provide extensive

data that is necessary to complete depression scales, including the HRSD (Alexopoulos et al., 2009; Burrows, Morris, Simon, Hirdis, & Phillips, 2000; Korner et al., 2007).

The treatment response was measured by breaking down the nine DSM-IV-TR symptoms into the 21 items in the HRSD, and this was measured during a 12-week period starting on the first day of treatment through to the end of the 12th week. According to Moran and Mohr (2005), the HRSD is the benchmark for conducting clinical diagnoses for an adult population and is strongly reliable and valid. Although the HRSD is often used with semistructured interviews, I, through the examination of the patients' information (DSM-IV), rated the patients' experiences on the 21 measures of the HRSD using information obtained from patient records. The clinicians and I have received adequate training to ensure that ratings matched the highest quality use for the instrument, thus reducing researcher bias. Additionally, the medical records using the DSM-IV were translated to the HRSD by two other clinicians at CHE Senior Psychological Services to test the interrater reliability of the measurements collected. Medication therapy remained a constant as the individuals receiving psychotherapy were given the same type of antidepressant medication for depression pre- and post-therapy as recorded in the archival data.

Instrumentation

The instrument that was used in this research was the HRSD. The HRSD was completed to measure the existence and the degree of severity of the nine symptoms of depression already identified. Although patients were usually examined in an interview setting, I used the diagnostic information provided to determine the rating of the participants' depressive symptoms as evidenced by the medical record prior to the onset

of treatment and at the end of treatment. The protocol for this scale-to-scale transformation can be found in Appendix A.

Discriminant validity for the HRSD is found through the demonstration in prior literature where groups that vary in their status of diagnosis can indeed be separated through the use of the scale. Bent-Hansen and Bech (2011) made use of a receiver-operating curve for the statistical determination of cut-off scores for the detection of depression (sensitivity) and its corresponding rates of specificity, negative and positive predictive powers, and sensitivity in the separation of depressed and nondepressed patients. They also examined the capability of the HRSD in differentiating varied groups of clinically depressed patients by means of statistical methods for the detection of the differences in mean groups (Bent-Hansen & Bech, 2011). Tests of validity for the HRSD by use of receiver operating curves have been carried out in detecting depression among other conditions and have realized large and consistent predictive powers (Bent-Hansen & Bech, 2011). Others have found very low predictive powers (Kertzman, Treves, Treves, Vainder, & Korczyn, 2002). According to Zimmerman et al. (2012), the HRSD has the capability of discriminating psychiatric patients between depression classification groups of severe, moderate, and mild dysfunctions based on the global severity scale. Also, Ghosal, Debnath, Mondal, Chowdhary, and Mallik (2012) highlighted that HRSD has the ability to differentiate endogenous from nonendogenous depression. Moreover, the researchers determined that the HRSD can differentiate between patients with anxiety and patients with depression, and a higher correlation was found with external depression measures when compared with anxiety (Ghosal et al., 2012).

Content validity for the HRSD is found through the examination of items on the scale to determine if they correspond with the known characteristics of the syndrome (Bent-Hansen & Bech, 2011). Numerous symptoms within the HRSD (e.g., psychic anxiety) are not recognized officially in the DSM-IV-TR criteria even though they are acknowledged to be characteristics linked with depression. Significant features in the DSM-IV-TR are usually in items with greater complexity and, at times, not captured. For example, although guilt is captured, there is no explicit evaluation of worthlessness feelings or difficulties in concentration, and difficulties in decision-making are buried in the interest/work item, which comprises social avoidance, listlessness, decreased productivity, and indecisiveness (Kertzman et al., 2002). This leads to the use of HRSD scores rather than DSM-IV-TR scores to ensure that these elements that could potentially be lost are accounted for in the analysis.

Several studies have been carried out that have assessed the predictive validity of the HRSD (Ghosal et al., 2012; Williams, 2001). Williams (2001) reported that the HRSD has greater sensitivity to change when compared to the Beck depression inventory because of the ability of the HRSD to detect change in 3 weeks when compared to the Beck depression inventory's 12 weeks. Nevertheless, HRSD as a multidimensional instrument has been found to have the disadvantage of particular treatments only having the likelihood of affecting one dimension (Kertzman et al., 2002).

Convergent validity for the HRSD was determined by Ghosal et al. (2012) via the generation of Pearson *r* coefficients that have values greater than 0.5 and have measures within the syndrome that were correlated with each other. The HRSD convergent validity

has been reported to be between 0.65 and 0.90, with global measures such as the Montgomery-Asberg depression rating scale being used (Ghosal et al., 2012).

Factorial validity for the HRSD has been determined by means of factor analysis to show that multiple samples tested with the HRSD have a meaningful structure (Ghosal et al., 2012). Numerous factors have been identified within a range of two to eight total factors, including insomnia, depressed mood, psychic anxiety, suicide, somatic anxiety, and agitation. The HRSD scale is not uni-dimensional because varied sets do not give a reliable representation of the general insomnia and depression factors, and the exact structure of its multidimensionality is still unclear (Ghosal et al., 2012).

Internal consistency of the HRSD was evaluated by means of Cronbach's alpha, and adequacy is reached when its value is equal to or greater than 0.7 (Ghosal et al., 2012). Internal reliability was calculated for each of the individual items of the HRSD via correlation between the Pearson's *r* and the HRSD items, the correlations all being greater than 0.2. Numerous studies have demonstrated that various versions of the HRSD have internal consistencies ranging between 0.48 and 0.92, with higher coefficients being calculated with the employment of structured interviews (Kertzman et al., 2002). Recent studies, for example, showed that the HRSD-21 version has a coefficient of 0.83, the HRSD-24 has a coefficient of 0.88, and that most of the HRSD items have sufficient reliability (Kertzman et al., 2002).

Retest reliability evaluates the degree to which numerous HRSD scale administrations lead to similar results. The reliability through the employment of the structured interview guide has shown high results, up to 0.81, among raters who have minimal training and who are from various disciplines (Zimmerman et al., 2012).

Interrater reliability of the HRSD gives the assessment of the degree to which multiple raters produce similar results. The method preferred for calculation is often the intraclass correlation (*r*) that permits adjustment for agreement by probability. The minimum value of the *r* coefficient should be 0.6 in order to be acceptable (Ghosal et al., 2012). The intraclass correlations for the HRSD have been found to be high, with a range of 0.80 to 0.98, and all items have sufficient reliability while using the interview guide (Bent-Hansen and Bech, 2011).

Operationalization

The inclusion criteria for participant record selection into the study included adults in long-term care facilities who had met the DSM-IV-TR criteria for depression and received only one type of psychotherapy intervention. Exclusion criteria included patients who did not have a history of Alzheimer's, dementia, or other cognitive impairments, schizoaffective disorder, manic episodes, organic affective syndrome, or antisocial personality disorder, and who were diagnosed with anorexia nervosa or alcohol or drug dependence in the 3 preceding months.

The variables operationalized included the psychotherapy interventions coded in particular numbers, pretreatment HRSD scores, and post treatment HRSD scores. The data operationalized were derived from patients' documents, initial assessments, and progress notes within the long-term care facilities. The protocol for this extraction can be found in Appendix A.

Independent variable. There was one independent variable in this study, the operationalization can be seen below:

Psychotherapy intervention. Psychotherapy intervention was a categorical variable and was comprised of the following six categories: (a) CBT, (b) supportive psychotherapy, (c) life review therapy, (d) reality oriented therapy, (e) mindfulness training, or (f) affect regulation therapy. Each study participant was classified into only one of the six categories.

Covariate. There was one covariate used in this study, pretreatment HRSD.

Pretreatment HRSD. Pretreatment HRSD is a continuous variable that measured the nine DSM-IV symptoms of depression via a total of 21 individual items on the HRSD instrumentation retrieved from a time before the patient was given treatment. Each item of the HRSD was scored on a Likert scale, and final scores range from zero to 54. Scoring was done by summing the scores on each of the 21 items of the HRSD.

Dependent variable. There was one dependent variable in this study, post treatment HRSD.

Post treatment HRSD. Post treatment HRSD was a continuous variable, which measured the nine DSM-IV-TR symptoms of depression via a total of 21 individual items on the HRSD instrumentation retrieved from after the patient was given treatment. Each item of the HRSD was scored on a Likert scale, and final scores ranged from zero to 54. Scoring was done by summing the scores on each of the 21 items of the HRSD.

Research Questions and Hypotheses

This study was guided by the following research question and associated statistical hypotheses:

RQ1. What is the difference in post treatment depressive symptoms among six types of psychotherapy as measured by the HRSD?

$H1_0$: There is not a statistically significant difference in post treatment depressive symptoms as measured by the HRSD between any of the six types of psychotherapy: (a) CBT, (b) supportive psychotherapy, (c) life review therapy, (d) reality oriented therapy, (e) mindfulness training, and (f) affect regulation therapy. The analysis of this study controls for pretreatment depressive symptoms as measured by the HRSD.

$H1_a$: There is a statistically significant difference in post treatment depressive symptoms as measured by the HRSD between at least one pair of the six types of psychotherapy: (a) CBT, (b) supportive psychotherapy, (c) life review therapy, (d) reality oriented therapy, (e) mindfulness training, and (f) affect regulation therapy. The analysis of this study controls for pretreatment depressive symptoms as measured by the HRSD.

Data Analysis Plan

I utilized SPSS software to calculate descriptive statistics, frequencies, and analysis results. All inferential tests for the hypotheses used to address the research question of the study were set at a 95% level of significance. Prior to hypothesis testing, measures of central tendency (mean, median, and standard deviation) were provided for both pretreatment HRSD and post treatment HRSD. Frequencies and percentages were provided for psychotherapy intervention.

An ANCOVA was performed to test the null hypothesis that there is no statistically significant difference in depressive symptoms, as measured by the HRSD, between any of the six types of psychotherapies (CBT, supportive psychotherapy, life review therapy, reality oriented therapy, mindfulness training, and affect regulation therapy). ANCOVA is useful in studies where one wishes to control for initial differences between each of the groups before a comparison between the groups is made (Gall, Gall,

& Borg, 2007). Preexisting differences in this study were measured using the pretreatment HRSD scores and were examined as a covariate with one independent variable between groups (psychotherapy intervention), with post treatment HRSD being used as the dependent variable in analysis.

Assumptions for the use of ANCOVA to be checked prior to analysis included the absence of outliers, normality of the covariates and dependent variables, equality of variances, and linearity between the covariate and the dependent variable of the study. First, a boxplot of the dependent variable was used to visually inspect for the presence of outliers. According to Tabachnick and Fidell (2007), a variable that does not contain more than 5% outliers is an acceptable standard. If outliers are detected, then the measurements of the dependent variable will be standardized to test for extreme outliers, which will be indicated by a z-score greater than 3.3. ANCOVA is sensitive to the presence of outliers if the outliers are all within the variable ranges, and the mean, median, and 5% trimmed mean are all close in value (Tabachnick & Fidell, 2007); therefore, a comparison between the 5% trimmed mean and the mean was performed to confirm that the values were close. If outliers were determined to not be adversely affecting the data, they were kept to retain as much power as possible in the study.

Next, normality for both the covariate and dependent variable was investigated using the Kolmogorav-Smirnov test for normality, with a significant p-value being $<.05$. A visual check of the variables' histograms and normal Q-Q plots was examined to determine if the normality assumption was met. ANCOVA is sensitive to deviations from normality as long as the equality of the variance assumption has been met. A

transformation of the data was used if both the normality and equal variance assumptions were both not met.

Additionally, homogeneity of variances was investigated using Levene's test, with a significant *p*-value of <.01. The lower level of significance of the *p*-value is used for Levene's test because Levene's test can detect significant differences in variances when the differences are not very distinct (Pallant, 2007).

Finally, a scatterplot of the covariate (pretreatment HRSD) versus the dependent variable (post treatment HRSD) was used to examine the assumption of linearity between covariates and dependent variables.

If either the equal variance or linearity assumptions were violated, then the Greenhouse-Geisser correction for determination of statistical significance, which is an offered adjustment in SPSS that provides a correction and adjusts the degrees of freedom, was used to interpret the findings.

Hypothesis testing included the independent variable of psychotherapy intervention, which contains six different categories: (a) CBT, (b) supportive psychotherapy, (c) life review therapy, (d) reality oriented therapy, (e) mindfulness training, or (f) affect regulation therapy; and a single covariate, *pretreatment HRSD*.

The hypotheses for RQ1 was tested using the psychotherapy intervention independent variable between each of the six types of psychotherapies. The dependent variable used in this analysis was *post treatment HRSD, as* defined above.

Threats to Validity

The first threat to the validity of the archival data was the lack of my involvement in the initial assignment of participants into psychotherapy groups. I did not recruit

participants but collected data from a retrospective chart review. However, the staff psychologists, in the course of diagnosis and assignment of the method of treatment, randomly assigned patients into the six psychotherapy interventions and into the various treatment mechanisms, thereby implying an indirect achievement of random participant selection and, consequently, distributing potential bias.

According to Gravetter and Forzano (2010), randomization is a powerful tool for controlling extraneous variables. However, in this study, I was not able to provide direct randomization that could have led to a decrease in the control of extraneous variables. Nevertheless, I used diagnostic exclusion criteria in the selection of the sample data to control intervening variables by restricting the age of persons being studied. Furthermore, because a clinical trial was not possible for this study due to the retrospective design being used, further control of extraneous variables, which randomization may not account for, was not possible. According to Margetts (2011) psychotherapy ought to be adapted to the needs of the participants, and the relationship between the therapist and the patient varies with the personalities of the patients. Therefore, the procedures are standardized, so they cannot be similar from one patient to another within the same psychotherapy method of intervention. However, the materials used to extract quantitative data from the psychologists' notes made use of the HRSD and was standardized, following the same procedure and same rating mechanisms; therefore, this process helped to control possible extraneous variables (Ghosal et al., 2012).

I was involved in converting the notes and progress reports from qualitative form (descriptive data) into quantitative forms (numerical data), a practice that runs the risk of the introduction of bias. This bias was reduced in two ways during data collection: the

first was ensuring that I did not make contact with any of the patients under treatment while at the same time only examining data for patients who had already completed the psychotherapy treatments at the time of collection; and, second, I followed specific protocols for transforming the data, which can be found in Appendix A. By using HRSD scoring in combination with specific protocols, the bias I could have introduced was decreased due to the use of standard guidelines throughout data collection. Another threat to internal validity includes issues with cognitive impairment (Alzheimer's and dementia). The chart review does not utilize individuals diagnosed with Alzheimer's, dementia, or other cognitive impairments. Medication therapy remained a constant because the individuals receiving psychotherapy were given the same type of antidepressant medication for depression pre- and post-therapy as recorded in the archival data.

The largest limitation of this research was the lack of a control group. Control groups allow for a comparison between those who have received psychotherapy interventions and those who have not, so not having a control group was a limitation. This limited the scope of the research to those patients who have received psychotherapy intervention, and it prevented the application of the research to all seniors with symptoms of depression. This lack of a control group went further with the lack of control over prescribed medications. I collected descriptive data on the medications taken by each patient to investigate the diversity of medications within each group, which helped decrease the effect of medication as a confounding variable.

Ethical Considerations

I adhered to the university's code of ethics while conducting this study. The university's review board approved all study protocols. CHE Senior Psychological Services, whose information was examined, was required to sign the informed consent. This ensured that the patients of the facilities had their right to privacy, especially as it concerned sensitive medical records. Sampling procedures were not engaged until consent of the facilities had been obtained.

Patient records were identified by the use of identification codes (numbers). This guaranteed the concealment of patient identities and ensured the confidentiality of the patients' information. All data was stored in locked cabinets and locked rooms. After the data has been stored for 5 years, the papers, where the rough work was carried out and which contain the information of patients, will be shredded before being discarded, and this will be done to avoid accidental access. Furthermore, the research results will only be presented in summarized forms.

Summary

Chapter 3 described the methodology process that was used for this one-group pretest-posttest research design that uses archival data from de-identified medical records. The sample data were made up of medical records of seniors in long-term care facilities who received psychotherapy intervention from College Health Enterprises (CHE). The inclusion criteria for participant selection into the study included medical records comprised of progress notes and pre- and post-mental status exams. The inclusion criteria for participant selection also included documented antidepressant medications (names and doses) of adults in long-term care facility who have met the DSM-IV-TR

criteria for depression and received only one type of psychotherapy intervention. Exclusion criteria were medical records of patients who did not have a history of Alzheimer's, dementia, or other cognitive impairments, schizoaffective disorder, manic episodes, organic affective syndrome, or antisocial personality disorder, and had not been diagnosed with anorexia nervosa or alcohol or drug dependence in 3 preceding months.

The archival data collected and discussed in Chapter 3 were analyzed using ANCOVA analysis. Chapter 4 provides a report of the findings obtained from this data analysis.

Chapter 4: Results

Introduction

Chapter 4 presents the results of this study. Tables are included to accompany the results. This chapter contains three main sections: (a) data collection, (b) results, and (c) summary. All analyses were performed using IBM SPSS v.22.0, and all inferential tests utilized a 97.5% level of significance, unless otherwise specified. This chapter concludes with a summary of the three sections used to report the study findings.

The purpose of this retrospective, quantitative study was to investigate the potential for incorporating psychiatric-based therapies for depression in the elderly in lieu of or in addition to pharmacological treatments in long-term care facilities. This study investigated which of the six psychotherapies used, (a) cognitive behavioral therapy, (b) supportive psychotherapy, (c) life review therapy, (d) reality oriented therapy, (e) mindfulness training, and (f) affect regulation therapy, was the most effective in decreasing depressive symptoms. I used the HRSD to examine medical records of patients before and after psychotherapy treatments to look for differences in the decreases in depressive symptoms between the six psychotherapies. The following research question and hypotheses were used to drive this study:

RQ1. What is the difference in post treatment depressive symptoms among six types of psychotherapy as measured by the HRSD?

$H1_0$: There is not a statistically significant difference in post treatment depressive symptoms as measured by the HRSD between any of the six types of psychotherapy: (a) CBT, (b) supportive psychotherapy, (c) life review therapy, (d) reality oriented therapy,

(e) mindfulness training, and (f) affect regulation therapy. The analysis of this study controls for pretreatment depressive symptoms as measured by the HRSD.

$H1_a$: There is a statistically significant difference in post treatment depressive symptoms as measured by the HRSD between at least one pair of the six types of psychotherapy: (a) CBT, (b) supportive psychotherapy, (c) life review therapy, (d) reality oriented therapy, (e) mindfulness training, and (f) affect regulation therapy. The analysis of this study controls for pretreatment depressive symptoms as measured by the HRSD.

Data Collection

The sample collected for this study was composed of $n = 90$ individual medical records, with 15 medical records selected from within each of the six psychotherapies used by College Health Enterprises (CHE). The data collection was performed over a 2-month period using patient records from CHE.

The sample was reflective of the population of focus within this study: adults in long-term care facilities who have a diagnosis of depression and who have undergone certain psychotherapy treatments. Participants with a history of schizoaffective disorder, manic episodes, organic affective syndrome, and antisocial personality disorder were excluded from the study. Additionally, patients who were diagnosed with Alzheimer's, dementia, other cognitive impairments, anorexia nervosa, or alcohol or drug dependence in 3 preceding months were also excluded from the sample. The sample remained inclusive of only individuals who were 55 years or older (*min* = 60 years). Ethnicity, gender, and marital status were not included as inclusion or exclusion criteria. Therefore, a variety of ethnicities, genders, and marital statuses were noted within the sampled data.

The $n = 90$ sampled records came from a total of $N = 175$ records available. There were no procedural discrepancies from the plan of data collection of Chapter 3.

Results

Descriptive Statistics

Archival data were used to sample the records of the study participants. Participants were equally chosen from among the six therapy groups of the study, with 15 participants obtained from each type of therapy. I scored pretreatment measurements of each of the patient records using HRSD criteria (see Appendix A). HRSD scores for each of the participants were also computed for each patient record post therapy intervention. A team of two research assistants also independently scored the patients according to the same HRSD criteria to confirm reliability of my scores.

The overall sample of $n = 90$ individuals was encompassed by a majority of female participants (66.7%). Approximately two-thirds (70.0%) of the sampled participants were either single or widowed (33.3% and 36.7%, respectively). Additionally, White participants encompassed over half of the sample (57.8%). Table 3 presents the frequencies and percentages of the nominal variables collected for the overall sample, and Tables 4 through 9 present the frequency counts and percentages of the nominal variables of the sample stratified by the six psychotherapy groups.

Sampled psychotherapy participants' scores (among participants in all six groups) on the HRSD had a mean of 33.91 and a standard deviation of 5.03 ($Mdn = 34.50$). Alternatively, the post intervention HRSD scores of all $N = 90$ sampled participants had a mean of 24.96 and a standard deviation of 9.38 ($Mdn = 27.00$). Ages of participants were distributed with a mean of 72.92, a standard deviation of 9.48, and a median of 70.00.

Table 10 provides the measures of central tendency for the pretreatment and post treatment HRSD scores of sampled participants for both the overall sample and the sample stratified by the six psychotherapy groups.

Table 3

Frequency Counts and Percentages of Demographic Variables for All Chosen Individuals (N = 90)

Variable	Frequency	Percentage (%)
Gender		
Male	30	33.3
Female	60	66.7
Ethnicity		
Black/African American	21	23.3
Hispanic	17	18.9
White	52	57.8
Marital status		
Divorced	14	15.6
Married	13	14.4
Single	30	33.3
Widowed	33	36.7

Table 4

Frequency Counts and Percentages of Demographic Variables for Chosen Individuals Who Received Cognitive Behavioral Therapy (N = 15)

Variable	Frequency	Percentage (%)
Gender		
Male	6	40.0
Female	9	60.0
Ethnicity		
Black/African American	4	26.7
Hispanic	4	26.7
White	7	46.7
Marital status		
Divorced	2	13.3
Married	3	20.0
Single	4	26.7
Widowed	6	40.0

Table 5

Frequency Counts and Percentages of Demographic Variables for Chosen Individuals Who Received Supportive Psychotherapy (N = 15)

Variable	Frequency	Percentage (%)
Gender		
Male	4	26.7
Female	11	73.3
Ethnicity		
Black/African American	4	26.7
Hispanic	2	13.3
White	9	60.0
Marital status		
Divorced	3	20.0
Married	2	13.3
Single	5	33.3
Widowed	5	33.3

Table 6

Frequency Counts and Percentages of Demographic Variables for Chosen Individuals Who Received Life Review Therapy (N = 15)

Variable	Frequency	Percentage (%)
Gender		
Male	3	20.0
Female	12	80.0
Ethnicity		
Black/African American	3	20.0
Hispanic	4	26.7
White	8	53.3
Marital status		
Divorced	4	26.7
Married	1	6.7
Single	4	26.7
Widowed	6	40.0

Table 7

Frequency Counts and Percentages of Demographic Variables for Chosen Individuals Who Received Reality Oriented Therapy (N = 15)

Variable	Frequency	Percentage (%)
Gender		
Male	5	33.3
Female	10	66.7
Ethnicity		
Black/African American	4	26.7
Hispanic	1	6.7
White	10	66.7
Marital status		
Divorced	3	20.0
Married	3	20.0
Single	4	26.7
Widowed	5	33.3

Table 8

Frequency Counts and Percentages of Demographic Variables for Chosen Individuals Who Received Mindfulness Training (N = 15)

Variable	Frequency	Percentage (%)
Gender		
Male	7	46.7
Female	8	53.3
Ethnicity		
Black/African American	2	13.3
Hispanic	3	20.0
White	10	66.7
Marital status		
Divorced	1	6.7
Married	0	0.0
Single	10	66.7
Widowed	4	26.7

Table 9

Frequency Counts and Percentages of Demographic Variables for Chosen Individuals Who Received Affect Regulation Therapy (N = 15)

Variable	Frequency	Percentage (%)
Gender		
Male	5	33.3
Female	10	66.7
Ethnicity		
Black/African American	4	26.7
Hispanic	3	20.0
White	8	53.3
Marital status		
Divorced	1	6.7
Married	4	26.7
Single	3	20.0
Widowed	7	46.7

Table 10

Measures of Central Tendency for the Pretreatment and Post treatment HRSD Scores of Sampled Participants Both Overall and Stratified by Psychotherapy Group

Variable	*N*	*M*	*SD*	*Mdn*	Sample range
Pretreatment HRSD (overall sample)	90	33.91	5.03	34.50	22-45
Cognitive behavioral therapy	15	35.40	5.03	36.00	27-43
Supportive psychotherapy	15	31.87	5.94	32.00	23-43
Life review therapy	15	34.67	5.18	35.00	23-45
Reality oriented therapy	15	32.13	3.54	33.00	25-37
Mindfulness training	15	33.53	4.72	35.00	22-40
Affect regulation	15	35.87	4.88	36.00	27-42
Post treatment HRSD (overall sample)	90	24.96	9.38	27.00	7-43
Cognitive behavioral therapy	15	11.60	3.36	11.00	7-19
Supportive psychotherapy	15	18.20	5.35	18.00	11-31
Life review therapy	15	24.33	5.35	25.00	13-33
Reality oriented therapy	15	27.87	4.56	29.00	19-36
Mindfulness training	15	33.20	5.00	34.00	23-42
Affect regulation	15	34.53	4.91	35.00	25-43

Note. HRSD = Hamilton rating scale for depression; *N* = sample size; *M* = mean; *SD* = standard deviation; *Mdn* = median.

Reliability of Data Collection

Teamed with a CHE clinician, I scored pretreatment measurements of each of the patient records using HRSD criteria (see Appendix A). HRSD scores for each participant were also computed for each patient record post treatment. A team of two research assistants (CHE clinicians) also independently scored the patients according to the same HRSD criteria to confirm reliability of the scores. Intraclass correlation for absolute agreement analysis was performed to compare the measurement data of the two teams for the pretreatment and post treatment times. The intraclass correlation coefficient (ICC) for absolute agreement between the two sets of scores (obtained using different raters) was .985 for pretreatment HRSD scores and .995 for post treatment HRSD scores. This study made use of the ICC for absolute agreement to measure the agreement between raters

(Puri & Treasaden, 2009). According to Osborne (2008), an ICC for absolute agreement close to one is an indication of excellent interrater reliability. Thus, the HRSD classification of the patient records could be assumed reliable for this study.

Internal consistency reliability for the measurement of the pretreatment and post treatment use of the HRSD was examined. Cronbach's coefficient alpha was used to measure the internal consistency reliability of the HRSD for measuring post treatment depression levels. The Cronbach's alpha coefficient for the HRSD when measuring the post treatment was .908. This value is above the level indicating acceptable internal consistency reliability, .7, demonstrating more than acceptable internal consistency reliability for the HRSD in this sample (Pallant, 2010). The Cronbach's alpha coefficient for the measure of pretreatment HRSD was calculated to be .625. Although, the Cronbach's alpha coefficient is below the recommended .7, Kline (as cited in Field, 2005, p. 675) stated that lower Cronbach's alpha coefficients could be expected for measures within the social science field. The HRSD was accepted as a reliable measure for the sample of this study despite having a Cronbach's coefficient alpha value below .7 due to its use within the social sciences and the history of reliability of the HRSD (as discussed in Chapter 3).

Assumptions

ANCOVA was used to address the research question and hypotheses of this study. Assumptions for using an ACOVA include absence of outliers, normality of the covariate and dependent variable, measurement of the covariate, reliability of the covariate, homogeneity of variances, homogeneity of regression slopes, and linearity. Checking for

multicollinearity was not necessary in this study due to the use of one covariate within the model.

All data were present for all $n = 90$ records within the study. Examination of the boxplot of the post treatment HRSD scores did not indicate outliers, demonstrating that the absence of an outlier's assumption was met.

The Kolmogorov-Smirnov test of normality (K-S) was used to examine the normality of both the pretreatment and post treatment HRSD scores. The K-S test indicated that both the pretreatment HRSD scores ($p = .10$) and the post treatment HRSD scores ($p = .026$) were normally distributed when compared to a significance level of $p = .01$. The significance level of $p = .01$ was chosen due to the conservative nature of tests of normality, including the K-S test (Pallant, 2007). The normal Q-Q plots were visually examined and indicated normality of the pretreatment and post treatment HRSD scores. A comparison of the means, medians, and 5% trimmed means of the pre- and post-intervention HRSD scores indicated that all three numbers were close in value for both the pretreatment and post treatment HRSD scores. Each of these tests indicated that the assumption of normality was met.

The reliability of the covariate assumption was checked using Cronbach's alpha. The Cronbach's alpha coefficient for the measure of pretreatment HRSD was calculated to be .625, as previously mentioned. Although the Cronbach's alpha coefficient is below the recommended .7, Kline (as cited in Field, 2005, p. 675) stated that lower Cronbach's alpha coefficients could be expected for measures within the social science field. Kline's approval of the acceptably lower Cronbach's alpha coefficient values in social sciences,

and the HRSD being a tried and true instrument were indications that the reliability of the covariate assumption was met within the current study.

The homogeneity of variances assumption was checked using Levene's test of equality of error variances. A violation of this assumption is indicated by a significance value, *p*, which is less than .05 (Pallant, 2013). Results were less than the $p = .05$ level ($p = .042$), implying a violation of the homogeneity of variances assumption. According to Tabachnick and Fidell (2007), a more stringent alpha level can be used to correct a violation of homogeneity. Tabachnick and Fidell (2007) suggested an alpha level of .025 for a moderate violation such as this one. Therefore, omnibus testing was performed using the untransformed data and a 97.5% level of significance. The homogeneity of variances assumption is considered met due to the use this more stringent alpha level ($p = .025$) in testing.

The homogeneity of regression slopes assumption was investigated by assessing the significance of the interaction between the independent variable (psychotherapy) and the covariate (pretreatment HRSD). If the *p*-value for the interaction calculated to be less than or equal to .01, then the interaction would be statistically significant, indicating heterogeneity of regression slopes and a violation of the assumption (Pallant, 2007). The *p*-value for the interaction within this study was $p = .007$, implying a violation of the homogeneity of regression slopes assumption. However, Sullivan and D'Agostino (2010) discovered through computer simulations that the traditional approach to an ANCOVA is robust when group sample sizes are equal. Each of the groups have an equal sample of size $n = 15$ in this study. Therefore, in accordance with the findings of Sullivan and

D'Agostino (2002), this study was robust to violations to the homogeneity of regression slopes assumption, and the assumption was considered met.

The linearity assumption was examined using visual inspection of the scatterplots between the covariate (pretreatment HRSD) and the dependent variable (post treatment HRSD) and was stratified by the six psychotherapy treatment groups. A linear relationship was noted within each of the six subgroups, implying the linearity assumption was met.

Inferential Analysis

ANCOVA was performed to test the null hypothesis of Research Question 1. The ANCOVA was performed using the dependent variable of post treatment HRSD score. The covariate of the pretreatment HRSD score was used to control for group differences. Psychotherapy was used as the independent variable and included six levels: (a) cognitive behavioral therapy, (b) supportive psychotherapy, (c) life review therapy, (d) reality oriented therapy, (e) mindfulness training, and (f) affect regulation therapy. Omnibus testing of the overall model effects were performed using a 97.5% level of significance to correct for the violation of the homogeneity of variance assumption. Table 11 presents a summary of the overall ANCOVA model.

A statistically significant main effect for the psychotherapy group was found after controlling for pretreatment HRSD, $F(5, 83) = 96.64$, $p < .0005$, $\eta_p^2 = .853$. The significance of the main effect of psychotherapy indicated that there was a statistically significant difference in post treatment depressive symptoms as measured by the HRSD between at least one pair of the six types of psychotherapy, and this was after controlling for pretreatment HRSD scores.

The covariate of pretreatment HRSD was also statistically significant for the dependent variable of post treatment HRSD, $F(1, 83) = 75.75$, $p < .0005$, $\eta_p^2 = .477$. The partial eta squared of .477 indicated that pretreatment HRSD, while controlling for the independent variable of psychotherapy group, explained 47.7% of the variance in the dependent variable outcome of post treatment HRSD score.

Table 11

ANCOVA Table for the Dependent Variable of Post-treatment HRSD Scores (N = 90)

Source	Sum of squares	*df*	Mean square	*F*	*p*	η_p^2
Corrected model	6813.92	6	1135.65	92.97	<.0005	.870
Intercept	7.97	1	7.97	0.65	.421	.008
Pretreatment HRSD	925.29	1	925.29	75.75	<.0005	.477
Therapy	5902.57	5	1180.52	96.64	<.0005	.853
Error	1013.91	83	12.22	---	---	---
Total	63878.00	90	---	---	---	---
Corrected total	7827.82	89	---	---	---	---

Note. HRSD = Hamilton rating scale for depression; *df* = degrees of freedom; *F* = test statistic; *p* = p-value; η_p^2 = partial eta squared.

Post Hoc Analysis

Post hoc analysis was performed to compare the estimated marginal means, adjusted for the value of the covariate or preintervention HRSD score, for each of the six psychotherapy treatment groups. A Bonferroni adjusted p-value was used to control for inflated Type I error due to repeated post hoc testing between the mean values pairs (Field, 2005). Table 12 presents the adjusted estimated marginal means and standard errors of the six psychotherapy groups of (a) cognitive behavioral therapy, (b) supportive psychotherapy, (c) life review therapy, (d) reality oriented therapy, (e) mindfulness training, and (f) affect regulation therapy. Table 13 presents the pairwise comparisons between these estimated marginal means.

Patients who underwent cognitive behavioral therapy (M = 10.60, SE = 0.91) had a significantly lower adjusted mean post treatment HRSD score than the other five therapy groups of (a) supportive psychotherapy (M = 19.58, SE = 0.92), (b) life review therapy (M = 23.83, SE = 0.90), (c) reality oriented therapy (M = 29.06, SE = 0.91), (d) mindfulness training (M = 33.45, SE = 0.90), and (e) affect regulation therapy (M = 33.22, SE = 0.92). The adjusted mean of the post treatment HRSD scores for patients who attended supportive psychotherapy was significantly lower than (a) life review therapy, (b) reality oriented therapy, (c) mindfulness training, and (d) affect regulation therapy. Patients who participated in life review therapy had a significantly lower adjusted mean post treatment HRSD score than (a) affect regulation therapy, (b) mindfulness training, and (c) reality oriented therapy. Finally, the mean post treatment HRSD score of participants receiving reality oriented therapy was significantly lower than the mean post treatment HRSD scores of both (a) affect regulation therapy and (b) mindfulness training.

RQ1. What is the difference in post-treatment depressive symptoms among six types of psychotherapy as measured by the HRSD?

$H1_0$: There is not a statistically significant difference in post treatment depressive symptoms as measured by the HRSD between any of the six types of psychotherapy: (a) CBT, (b) supportive psychotherapy, (c) life review therapy, (d) reality oriented therapy, (e) mindfulness training, and (f) affect regulation therapy. The analysis of this study controls for pretreatment depressive symptoms as measured by the HRSD.

$H1_a$: There is a statistically significant difference in post treatment depressive symptoms as measured by the HRSD between at least one pair of the six types of psychotherapy: (a) CBT, (b) supportive psychotherapy, (c) life review therapy, (d) reality

oriented therapy, (e) mindfulness training, and (f) affect regulation therapy. The analysis of this study controls for pretreatment depressive symptoms as measured by the HRSD.

Conclusion as relates to Null Hypothesis 1. Significant mean differences in the post treatment depressive symptoms as measured by the HRSD were found between 14 of the 15 possible pairings of the six types of psychotherapy used by CHE. Therefore, reject Null Hypothesis 1. There is sufficient evidence to indicate that there is a statistically significant difference in post treatment depressive symptoms as measured by the HRSD between at least one pair of the six types of psychotherapy, (a) CBT, (b) supportive psychotherapy, (c) life review therapy, (d) reality oriented therapy, (e) mindfulness training, and (f) affect regulation therapy, after controlling for the covariate of pretreatment HRSD scores.

Table 12

Estimated Marginal Means of Post treatment HRSD Scores Adjusted for the Covariate of Pretreatment HRSD Scores

Therapy group	Mean	*SE*	95% CI Lower bound	Upper bound
Cognitive behavioral	10.60	0.91	8.79	12.41
Supportive psychotherapy	19.58	0.92	17.75	21.40
Life review	23.83	0.90	22.03	25.62
Reality oriented	29.06	0.91	27.25	30.88
Mindfulness training	33.45	0.90	31.66	35.25
Affect regulation	33.22	0.92	31.40	35.04

Note. HRSD = Hamilton rating scale for depression; SE = standard error of estimated marginal mean; CI = confidence interval.

Table 13

ANCOVA Post Hoc Comparisons of Post treatment HRSD Scores via Bonferroni Adjusted Marginal Means

Therapy (I)	Therapy (J)	Mean difference (I – J)	*SE*	*p*	95% CI	
					LB	UB
Cognitive behavioral	Supportive psychotherapy	-8.98	1.31	< .0005	-12.92	-5.03
	Life review	-13.23	1.28	< .0005	-17.09	-9.37
	Reality oriented	-18.47	1.30	< .0005	-22.40	-14.53
	Mindfulness training	-22.86	1.28	< .0005	-26.74	-18.97
	Affect regulation	-22.62	1.28	<.0005	-26.48	-18.76
Supportive psychotherapy	Life review	-4.25	1.29	.023	-8.16	-0.34
	Reality oriented	-9.49	1.28	<.0005	-13.35	-5.63
	Mindfulness training	-13.88	1.28	< .0005	-17.76	-10.00
	Affect regulation	-13.64	1.31	< .0005	-17.61	-9.67
Life review	Reality oriented	-5.24	1.29	.002	-9.14	-1.34
	Mindfulness training	-9.63	1.28	<.0005	-13.50	-5.76
	Affect regulation	-9.39	1.28	< .0005	-13.26	-5.53
Reality oriented	Mindfulness training	-4.39	1.28	.014	-8.26	-0.52
	Affect regulation	-4.16	1.31	.032	-8.11	-0.20
Mindfulness training	Affect regulation	0.24	1.29	1.00	-3.66	4.13

Note. HRSD = Hamilton rating scale for depression; *SE* = standard error of mean difference; *p* = *p*-value; CI = confidence interval; LB = lower bound; UB = upper bound.

Summary

Chapter 4 began with descriptive statistics to describe the sample collected for this study. A check of the reliability of the data collection methods was performed to ensure that the data collected provided a consistent and reliable measure for the depression levels of the patients included in the study. Testing the assumptions required when using ANCOVA, and this provided validation for the use of the planned analysis with the sampled data.

After the assumptions were checked, hypothesis testing was performed using a one-way ANCOVA. A statistically significant main effect of psychotherapy was found, supporting the rejection of the null hypothesis in favor of the alternative hypothesis that there is a statistically significant difference in post treatment depressive symptoms as measured by the HRSD between at least one pair of the six types of psychotherapy, after controlling for pretreatment HRSD. The covariate (pretreatment HRSD) was also statistically significant, indicating a statistically significant relationship between pretreatment HRSD and post treatment HRSD when controlling for psychotherapy group.

Chapter 5 presents a discussion on the results presented in Chapter 4 and includes the implications of these findings as they relate to the literature and CHE. Potential further research stemming from this study is also discussed.

Chapter 5: Recommendations

Introduction

Chapter 4 provided a review of the methodologies for this study. It described the study's participants, setting, instrumentation, procedures, design, and data analysis. Chapter 5 addresses the main findings and their implications when compared with the literature review, limitations of the study, implications (practical and methodological), conclusions, and recommendations for future research.

The purpose of this study was to investigate depression and the effectiveness of psychotherapies among older adults living in nursing homes. The study examined the potential for incorporating psychiatric-based therapies for depression in the elderly in lieu of or in addition to pharmacological interventions in long-term care facilities. There are increasing numbers of American families confronted with difficult decisions concerning elderly parents and family members. This research study was conducted to contribute to the knowledge of successful treatments for depression among the elderly in nursing homes and to promote positive social change.

This study examined the six psychotherapies that are most effective in decreasing depressive symptoms. These are (a) cognitive behavioral therapy, (b) supportive psychotherapy, (c) life review therapy, (d) reality oriented therapy, (e) mindfulness training, and (f) affect regulation therapy. This study focused on six types of therapies by comparing the effectiveness and the difference in post treatment depressive symptoms. The sample collected for this study was composed of $n = 90$ individual medical records, with 15 medical records selected from within each of the six psychotherapies used by

College Health Enterprises (CHE). The data collection was performed over a 2-month period using patient records from CHE.

I used the HRSD to examine medical records of patients before and after psychotherapy treatments to look for differences in the decreases in depressive symptoms between the six psychotherapies. The HRSD is one of the measurements widely used in the literature (Ghosal et al., 2012; Kertzman et al., 2002). Also, the HRSD measurement controlled for pretreatment depressive symptoms. In terms of statistical power, high statistical significance was found to have effect for psychotherapy groups. Also a significant difference was found in post treatment depressive symptoms, and these symptoms were measured by the HRSD between at least one pair of the six types of psychotherapy, after controlling for pretreatment HRSD scores.

A quantitative, quasi-experimental, pretest-posttest, nonequivalent group research design was chosen to examine the relationships between the dependent variable (post treatment depression levels shown by the patient) and independent variable (therapy intervention group), while controlling for a single covariate (pretreatment depression levels shown by patient).

I used SPSS software to calculate descriptive statistics, frequencies, and analysis results. An ANCOVA was performed to test the null hypothesis that there was no statistically significant difference in depressive symptoms as measured by the HRSD between any of the six types of psychotherapies.

The diathesis stress model provided the theoretical framework for this research by establishing the hypotheses and variables for the research analysis. The following research question and hypotheses were used to drive this study:

RQ1. What is the difference in post treatment depressive symptoms among six types of psychotherapy as measured by the HRSD?

$H1_0$: There is not a statistically significant difference in post treatment depressive symptoms as measured by the HRSD between any of the six types of psychotherapy: (a) CBT, (b) supportive psychotherapy, (c) life review therapy, (d) reality oriented therapy, (e) mindfulness training, and (f) affect regulation therapy. The analysis of this study controls for pretreatment depressive symptoms as measured by the HRSD.

$H1_a$: There is a statistically significant difference in post treatment depressive symptoms as measured by the HRSD between at least one pair of the six types of psychotherapy: (a) CBT, (b) supportive psychotherapy, (c) life review therapy, (d) reality oriented therapy, (e) mindfulness training, and (f) affect regulation therapy. The analysis of this study controls for pretreatment depressive symptoms as measured by the HRSD.

A statistically significant main effect of psychotherapy was found, supporting the rejection of the null hypothesis in favor of the alternative hypothesis that there is a statistically significant difference in post treatment depressive symptoms as measured by the HRSD between at least one pair of the six types of psychotherapy, after controlling for pretreatment HRSD. The covariate, pretreatment HRSD, was also statistically significant, indicating a relationship between pretreatment HRSD and post treatment HRSD, when controlling for psychotherapy group.

Interpretation

This study took a theoretical and empirical approach in examining the difference in psychotherapies of older adults who are in nursing homes and who have been diagnosed with depression. The findings in this study indicated the benefits of

psychotherapy for patients and differences among the six therapies. For the past three decades, studies have examined the effectiveness of psychotherapies in the treatment of depression (Gerritsen et al., 2011). However, the support from this paper suggested that there are clearly differences in post treatment depressive symptoms among the psychotherapies. Indeed, the results from cognitive behavioral therapy indicated that this was the most effective treatment for patients diagnosed with depression. These findings suggest that psychotherapy for depressed individuals varies, and this should be considered in the treatment of patients.

The findings do collide with the results of a study by Bragesjö et al. (2004), which indicated through metaregression analysis that there was no dissimilarity between the different psychotherapies in the treatment of psychological depression. This may be due to the diversification of the studies that were included in their meta-analysis. These factors included different pharmacotherapy, the presence of medical illness, and administration of various medications that may interfere with the response to medication. In contrast, patients in this study had a preference for psychological treatment, and the medication therapy remained constant. The individuals receiving psychotherapy were given the same type of antidepressant medication pre- and post-therapy, which may partially explain the results in the present study.

The findings in this study also did not agree with the meta-analyses of Shean's (2012) study of similar effects of various therapies treating depression. The results indicated that the majority of the effects of psychological treatment resulted from common nonparticular factors and not specific techniques. The present study identified

numerous factors—insomnia, depressed mood, psychic anxiety, suicide, somatic anxiety, and agitation—that give a reliable outcome of depression factors (Ghosal et al., 2012).

The findings in this study showed that cognitive behavioral therapy was superior to the other five psychotherapies in post treatment adults diagnosed with depression in long-term care facilities. Moreover, supportive psychotherapy showed lower effectiveness than cognitive behavioral therapy but better results than the other remaining therapies. Patients who participated in life review therapy and reality oriented therapy had better effects when reducing depression than those who participated in mindfulness training and affect regulation therapy.

This study agreed with Cloosterman et al.'s (2013) investigation of different types of psychological adult depression treatments. Cognitive behavioral therapy had a more overpowering effect than other psychotherapies. However, the extensive psychological treatments of the groupings in their study were not clear in the researchers' conclusions. This study additionally did not investigate heterogeneity, did not analyze subgroups, and given that majority of the studies in the group had been published, the comparisons included were in very small numbers (Cuijpers et al., 2012). However, in the case of the actual study, the treatments were equally distributed among the patients and were made and measured with the same factors and measure.

Additionally, the findings in this study confirmed the findings of Van Hees et al. (2013) as they found statistical differences among cognitive behavioral therapy and other psychotherapies. Nevertheless, in their comparative study, the therapies were not designed to be the control in comparison, whereas in this study, there was control for pretreatment HRSD scores that confirmed their assumption.

There have been recent systematic reviews, as well as meta-analyses, that have looked into differential efficacy of depression psychotherapies. Ambresin et al. (2012) stated, for example, that early meta-analysis on depression cognitive therapy indicated that outcomes are very positive. The results of a study by Cuijpers et al. (2012) indicated that cognitive therapy had greater efficacy than other therapies, but the study included broad categories, did not include the analysis of subgroups, and had comparisons in small numbers. In comparison with the actual study results, the analysis included specific categories with subgroups and adequate comparisons of the treatments.

This study was in disagreement with the analysis of Cuijpers et al. (2012) in terms of the differences in treatments but in agreement with the finding that cognitive behavioral therapy is one of the most reliable therapies to treat patients with depression. However, the results of the Cuijpers et al. study may be argued to be inconsistent.

In terms of supportive psychotherapy, the study determined a good improvement in post treatment HRSD scores, and the results suggested that supportive therapy should be considered as one of the main psychotherapies to treat patients with late-life depression. This study agreed with the Huang et al. (2015) meta-analysis of the efficacy of psychotherapy in late-life depression and the effect of the type of control group on the magnitude of psychotherapy effects. Huang et al. suggested that the magnitude of the effect varies widely with the type of control group. Supportive therapy appeared to be the best control for the nonspecific elements of psychotherapy and can be associated with considerable change itself.

However, Huang et al. (2015) did not compare for cognitive behavioral therapy, which the present study did include. Supportive psychotherapy in this study's results

indicated a significant difference among other groups. Supportive psychotherapy was shown to have better results among the patients than life review therapy, reality oriented therapy, mindfulness training, and affect regulation therapy, but cognitive behavioral therapy appeared to have a better impact than supportive psychotherapy. However, in the results in this study, cognitive behavioral therapy and supportive psychotherapy had a higher difference in terms of post treatment HRSD scores. Consequently, it is recommended that these two psychotherapies be used to treat older adults in long-term care facilities.

Life review therapy and reality oriented therapy, based on the results of this study, tended to have very little statistical difference among themselves but were shown to have a greater effect on depression than mindfulness training and affect regulation. Life review therapy among cognitive behavioral therapy and interpersonal therapy is highly recommended in the literature for treating depression in the United States, especially for geriatric adults (Gawrysiak et al., 2013), but it is not recommended in the United Kingdom (Cuijpers et al., 2012).

The results of this study indicated that cognitive behavioral therapy and supportive psychotherapy have therapeutic effects for geriatric adults living in the United States. In this study, it would have been desirable for the geriatric adults to be investigated with reminiscence psychotherapy because it is a modality that is designed particularly for geriatrics with depression (Korte et al., 2012). Korte et al. (2012) also supported theoretically and empirically that for this homogeneous group, the changes were needed for effective treatment.

Nevertheless, the studies done when comparing reality oriented therapy with other psychotherapies have been criticized for being insensitive to the patients' needs (Watson & Bedard, 2006). Watson and Bedard (2006) made a comparison with cognitive behavioral therapy, and they would disagree with the results in this study because they found a poor outcome among the groups that were treated with cognitive behavioral therapy. However, very few authors have conducted studies on reality oriented therapy. Bernan and Vega (2008) suggested that the cognitive behavioral therapy method, by constant relearning of the environment, may benefit those with problems of self-esteem and mood, yet this study's results indicated that in long-term care facilities, it does have some effect (though statistically low).

On the other hand, this research provided no evidence in significance between mindfulness training and affect regulation therapy. The results indicated low post treatment HRSD scores and almost no change in depression. Control studies of Goldberg et al. (2013) and Christopher and Maris (2010) showed progress in patients treated with mindfulness training, but there is no comparison with other psychotherapy treatment. Moreover, Ford et al. (2013) showed the benefits of affect regulation therapy in their study without comparing it to other treatments. The literature lacks studies that control or compare these two last psychotherapy treatments, and this makes it difficult to compare them with this study. Nevertheless, based on the findings in this study, mindfulness training and affect regulation therapy are not suggested as psychotherapy treatments for geriatric adults living in long-term nursing homes.

In general, the participants' medical records that met the criteria for inclusion were separated into six groups depending on the type of treatments they had received,

including (a) cognitive behavioral therapy, (b) supportive psychotherapy, (c) life review therapy, (d) reality oriented therapy, (e) mindfulness training, and (f) affect regulation therapy. In terms of the findings in this study, it is highly recommended to treat older adults in long-term care facilities, who are diagnosed with depression, with cognitive behavioral therapy and supportive psychotherapy. Based on previous literature, this study supports research indicating that these two psychotherapies should be included in the treatment of patients with MDD. However, it contradicts some research findings concerning life review therapy and reality oriented therapy. This study does not suggest implementing mindfulness training and affect regulation therapy for older adults living in nursing homes facing depression because the results indicated no significance and almost no change in post treatment effect based on HRSD scores.

Precipitating factors that are associated with stressors and the occurrence of acute life events can lead to a higher risk that can precipitate the onset of the illness (Nicholson & Neufeld, 1992; Wang, 2006). Precipitating factors include the loss of a loved one, separation from a loved one, medical conditions, and financial crisis (Nicholson & Neufeld, 1992; Wang, 2006). The stress vulnerability approach accurately explains wellness and illness in older people (Nicholson & Neufeld, 1992). The model incorporates evidence obtained from the biological, social, and psychological domains in respect to illness. In the event of depression, an individual may be facing an interaction of several risk factors resulting from the domains stated above. The rate of the development of mental disorders is high in the geriatric population, as members of this population tend to be inactive in life due to age. Therefore, they face distressing situations such as isolation, malnutrition, and economic problems and so could have subsequent depression.

This study has some reservations concerning the factors triggering depression. Other factors should also be included for different populations. The findings in this study indicated the benefits of psychotherapy for patients and the superiority of cognitive behavioral therapy to the other five psychotherapies in the post treatment adults diagnosed with depression in long-term care facilities. This research is dissimilar to other research because it used data from six different types of treatments that the patients had received.

Reservations/Limitations

Another limitation was that medication therapy remained a constant as the individuals receiving psychotherapy were given the same type of antidepressant medication pre- and post-therapy as recorded in the archival data. Different results might have been found if the patients had been treated with only psychotherapy, without pharmacological therapy.

Methodical limitations included substance use symptom absence and other clinical treatments received by long-term care residents. The lack of posttest attrition and the absence of a follow-up period were also methodological limitations. The study did not examine longer-term effects and could not determine whether a long-term follow-up on the six treatments would indicate a positive effect. Also, it was not determined whether psychotherapy is effective for residents in long-term care facilities beyond the geographical parameters of this study.

Recommendations

Future Research

Depression among long-term care facilities is 3 to 4 times higher in relation to elderly who reside in the community. Different factors of depression arise in people who do not live in long-term care facilities. Future research should be developed to test psychological interventions to treat depression in different populations that do not reside in long-term care facilities; and this could be done to provide support to the current findings. The treatments in this study are more suited for geriatrics because the problems they undergo predisposes them to the depression symptoms of the DSM-IV-TR: (a) depressed mood, (b) reduced pleasure in daily activities, (c) significant sleep disturbances, (d) marked weight disturbances, (e) marked fatigue, (f) loss of energy, (g) psychomotor agitation, (h) feelings of excessive or inadequate guilt or worthlessness, (i) decreased memory and focus, and (j) recurrent thoughts of suicide or attempt; the most common one is the role transition, for instance into retirement. Also, to maintain the effects of the treatments, a longer course of therapy might be necessary. Future research will investigate under what treatment conditions each therapy is most effective, focusing on which dosage and duration of treatments are optimal. A longer treatment of therapy might be necessary to maintain the effects of the treatments. Future research could examine under what treatment conditions each therapeutic intervention is largely effective, concentrating on which dosage and length of treatment are most advantageous.

In terms of methodology, potential research could include a wider range of measurement types, such as objective measures of outcomes, observer- and instructor-rated measures of alliance, and qualitative data on the process.

Continued research could be utilized using larger samples, designed to better comprehend the effects of different treatment modalities utilizing these psychotherapies. Treatment outcomes that research possible combinations of psychotherapy with medication and maintenance of treatment benefits over time could be researched. It should be emphasized that there is a lack of studies involving the psychotherapies used in this study in older adults with depression and cognitive deficits, and the number of studies reviewed is limited, so the conclusions are tentative.

Implications

There are superior alternatives available to the prevailing stand-alone pharmacological interventions that are used to treat depression in the adult population in nursing home facilities. To identify these alternatives, this quantitative study demonstrated the effectiveness of psychotherapy for adults with depression who are in senior care facilities. Psychotherapy can be an effective alternative and/or complementary approach to medication only when treating depression in the geriatric population in senior care facilities. This study's theoretical and empirical evidence indicated that psychotherapy in older adults in long-term care facilities changes in post treatment, and this was revealed as a decrease in depression. It is suggested that by showing the efficacy of psychotherapy and supporting it with research, studies may increase a positive social change in the treatment of adults with depression in nursing homes.

Depression in older adults is an impartial problem, increases comorbidity, and contributes to earlier mortality (Mezuk & Gallo, 2013). Even with considerable attention concerning the fact that depression is increasingly prevalent in the geriatric long-term care population, limited research exists concerning its risk factors and incidence (Nazemi

& Skoog 2013). Up to the present time, pharmacological interventions have been the treatments of choice for individuals in long-term care facilities, but there is an increasing amount of evidence that indicates psychotherapy may represent a viable stand-alone or adjunct treatment alternative.

Psychopharmacological treatment of depression among the elderly in senior care facilities alone, however, is an inadequate treatment (Gerritsen et al., 2011). Research explains that psychotherapy can be an appreciated treatment for depression in the geriatric population (Davison et al., 2007; Katon et al., 2010; Mezuk & Gallo, 2013; Van Hees et al., 2013). This study answers the potential for positive social change for using psychotherapy for treating depression in the elderly in geriatric nursing care facilities.

The addition of psychotherapy as a treatment modality in long-term care facilities has individual, family, organizational, and societal impact for positive social change. Residents in long-term care facilities require equal and similar mental health and medical treatments as do the seniors living independently in the community. Activist groups for seniors living in adult care facilities have advocated for increased services for individuals living in nursing homes and other adult care facilities (Davison et al., 2007; Katon et al., 2010; Mezuk & Gallo, 2013; Ellermann & Evers, 2013).

Moreover, this study compared six types of psychotherapies in the treatment of patients who have been diagnosed with depression and are living in long-term care facilities in order to answer the following research question: What is the difference in post treatment depressive symptoms among six types of psychotherapy as measured by the HRSD? The findings in this study also give implications for social change to increase the quality of life among the elderly living in geriatric care facilities. Cognitive

behavioral therapy is considered the most appropriate psychotherapy to treat the depressed patients in senior care facilities. Supportive psychotherapy should be considered as well because it showed very good progress after treatment for this group of patients.

On the other hand, past research has not placed an importance on studies when varied psychological treatment types are directly compared to each other within a similar trial. This study gave a methodical implication by introducing six types of psychotherapies given to the patients and compared them in the same study. Also, in previous studies, participants were randomly given one or two types of treatment, allowing for the calculation of effect sizes after the test demonstrated the differences with these two treatment types. Whereas in this study, a systematic sampling was applied, and a randomization of 90 de-identified medical records were divided into six groups, with each group treated by one therapy.

The majority of other meta-analyses in the past focused on the general efficacy of specific treatment types in comparison with control conditions; these studies compared the special types of treatments with the general efficacy of other treatment types. The results of the meta-analyses described may have been affected by different factors in each of the studies, such as the length and type of treatment, initial severity of the symptom, and the kind of control group used (Young, 2013). In this study, all the control groups were affected by the same factors, and they received the same constant medication and length of treatment.

The medical records included broad pre- and post-therapy psychological information that allowed the clinicians to complete the pre- and post-treatment HRSD

scoring. A complete mental status exam before the psychotherapy upon intake and a thorough discharge summary after psychotherapy provided the necessary information to complete the HRSD. The six types of psychotherapy treatments were equally distributed among potential participants without any integration of treatments. The documentation from College Health Enterprises included a psychotherapy type selection box for each intake, therapy session, and discharge summary to ensure that therapy treatment was the same throughout the course of treatment. The individual's current medications were also included in the documentation.

Moreover, restrictions associated with pharmacological interventions for elderly long-term care facility residents have become the focus of an increasing amount of research in recent years (Aziz et al., 2009). However, recent literature has suggested further research and examination of psychotherapies in the elderly. This study's research findings gave insight on psychotherapies among older adults in nursing homes. In terms of theoretical implications, this research investigated the response toward the diathesis stress model, adapting Blatt's depression vulnerability personality model. This mode is also known as the cognitive diathesis stress model, which asserts that when people with tendencies for negative cognitions are confronted with stressful events in life, they appraise the stressors and their effects negatively, subsequently contributing to the beginning and sustenance of depressive symptoms. The results of the studies that investigated these models have not been similar.

Zlotnick and Vourkelis (2006) suggested that the lack of support for the cognitive stress models are caused by varied types of cognitions and how they are linked to each other. This study supported the view that traits will strongly moderate depression in

response to the varied psychotherapy treatments, which supports the study of Van Hees et al. (2013).

Conclusion and Recommendations

Recently, the number of older adults that register in long-term care facilities has increased to 12.8%, and more rapid increases are projected for the future (Jungers, 2010). The need to treat for future residential and healthcare improvements increases with growing frailty, age, and ever-changing insurance coverage restrictions in long-term care, impacting the aging population. People living in nursing homes have an increased occurrence of depression, which results from changed life conditions. Depression in the geriatric population is a common occurrence, but it is often undertreated and underdiagnosed. Depression affecting the geriatric population can have presenting symptoms that deviate from traditional diagnostic criteria, which could be a basis on why geriatric depression is under diagnosed. Studies have shown an increased interest in psychiatric alternatives to treating depressive disorders among the elderly. Therefore, this study focused on the difference in post treatment depressive symptoms among six types of psychotherapy as measured by the HRSD. The six therapy techniques include (a) CBT, (b) supportive psychotherapy, (c) life review therapy, (d) reality oriented therapy, (e) mindfulness training, and (f) affect regulation therapy. The analysis of this study controlled for pretreatment depressive symptoms as measured by the HRSD.

The population data that were included in this research consisted of medical records of adults in long-term care facilities, adults who have a diagnosis of depression and who have undergone certain psychotherapy interventions. The participant de-identified archival data were obtained from College Health Enterprises (CHE) participant

medical records and subjected to further analysis for the purposes of meeting the criteria for inclusion into the study.

The findings in this study showed statistical significance among the six different types of psychotherapies; the six psychotherapies were distributed among 90 patients who were separated in six groups. This study highly recommends that elderly in long-term care facilities be treated with cognitive behavioral therapy and supportive psychotherapy when suffering from late life depression. Based on previous literature, this evidence-based practice and best practice models of care indicate that psychotherapy could be a viable treatment for depression in older adults, which this study supports. However this study contradicted some research concerning life review therapy and reality oriented therapy for the elderly in nursing homes. The practical implication based on the evidence in this study is that a change should be adopted in these last two treatments for elderly residing in long-term care facilities. This study does not suggest implementing mindfulness training or affect regulation therapy for older people living in nursing homes. The results indicated no significance and almost no change in post treatment effect based from HRSD scores.

The integration of psychotherapy interventions represents a significant impact for positive social change for elderly living in long-term care facilities. The addition of psychotherapy services at these facilities can enhance the organizations' and societies' treatment of residents in geriatric care facilities. Pharmacological treatments are the most common for the elderly living in long-term nursing homes. Yet, the practice of evidence-based medicine has been increasingly adopted in geriatric psychiatry and in long-term care facilities. There is recent evidence in the growing body of research that supports

nonpharmacological approaches, such as cognitive-behavioral and supportive therapies, and that these approaches are also effective for elderly patients.

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Appendix A: Data Extraction Protocols

Item 1 on the HRBC will be scored according to criteria from item 1 of the DSM IV.

Item 2 on the HRBC will be scored according to criteria from item 7 of the DSM IV.

Item 3 on the HRBC will be scored according to criteria from item 9 of the DSM IV.

Item 4 on the HRBC will be scored according to criteria from item 4 of the DSM IV.

Item 5 on the HRBC will be scored according to criteria from item 4 of the DSM IV.

Item 6 on the HRBC will be scored according to criteria from item 4 of the DSM IV.

Item 7 on the HRBC will be scored according to criteria from item 2 of the DSM IV.

Item 8 on the HRBC will be scored according to criteria from item 5 of the DSM IV.

Item 9 on the HRBC will be scored according to criteria from item 5 of the DSM IV.

Item 10 on the HRBC will be scored according to criteria from item 3 and 6 of the DSM IV.

Item 11 on the HRBC will be scored according to criteria from item 3 and 6 of the DSM IV.

Item 12 on the HRBC will be scored according to criteria from item 3 of the DSM IV.

Item 13 on the HRBC will be scored according to criteria from item 1 of the DSM IV.

Item 14 on the HRBC will be scored according to criteria from item 1 of the DSM IV.

Item 15 on the HRBC will be scored according to criteria from item 1 of the DSM IV.

Item 16 on the HRBC will be scored according to criteria from item 3 of the DSM IV.

Item 17 on the HRBC will be scored according to criteria from item 1 of the DSM IV.

Items 18-21 on the HRBC will be scored according to criteria from item 1 and 8 of the DSM IV.