Literature Review for the Non-pharmacological Treatment of Geriatric Depression

A thesis submitted to the Kent State University Honors College in partial fulfillment of the requirements for General Honors

by

Melissa Willis

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Thesis written by

Melissa Willis

Approved by

_____________________________________________________, Advisor, Lorene Martin

_____________________________________________________, Director of Nursing

Accepted by

_____________________________________________________, Dean, Honors College
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Undergraduate Thesis: Literature Review for the Nonpharmacological Treatment of Geriatric Depression

Melissa Willis

Kent State University, College of Nursing
Interventions for Geriatric Depression

Chapter 1: Introduction

The purpose of this paper is to review the literature on geriatric depression, particularly looking at the nonpharmacological treatments that can be used to treat this very common illness in the elderly population. The geriatric population is growing at an exponential rate. Researchers are expecting this trend to continue (Ortman et. al, 2014; Administration on Aging, 2015). The United States Census has estimated that the geriatric population is expected to increase more significantly from 2012 to 2050 (Administration on Aging, 2015; CDC, 2015; Ortman et al, 2014). Statistics from 2012 are that 43.1 million Americans were over 65 years of age (Ortman et al., 2014). Estimates are that by the year 2050, this number will increase to 83.7 million (Ortman et al., 2014). Within the next 30 plus years, the geriatric population is expected to double. An explanation for this trend is due to an increased life expectancy (Ortman et al., 2014). According to Ortman (2014), in 1972 a 65 year old could expect to live an average of 15.2 additional years however, in 2010, someone at 65 years of age can expect to live 19.1 additional years. This shows an increase in life expectancy of almost 4 years. This population is living longer and the projections expect this to continue (Ortman et al., 2014; Administration on Aging, 2015). Likewise other data supports this surge in life expectancy. The Administration on Aging in 2015 released “Aging Statistics”. In this study they estimated the elderly population (those over 65) was 44.7 million in 2013, which was 14.1% of the US population.
It is estimated that by 2060, there will be over 98 million people over the age of 65 which is over two times the amount in 2013 (Administration on Aging, 2015). By the year 2060 they expect the elderly population to be about 20% of the total population (Administration on Aging, 2015).

With this population living longer, healthcare workers and society can expect the need for healthcare to increase dramatically, especially for those over the age of 65 (Matthews, 2015; Rechel, Doyle, Grundy, & McKee, 2009). Not only will the demand increase, but health care in general will need to change to accommodate such a large population of those 65 years of age and older (Matthews, 2015). This idea is supported in other literature including an article supported and sponsored by the World Health Organization. The article states ways the health care system can accommodate for the aging population (Rechel et. al, 2009). The article discusses the need for more research in this population to promote wellness (Rechel et. al, 2009). By promoting wellness, they believe it will decrease the need for such an increase in health care especially directed to this population (Rechel et. al, 2009). With this in mind, healthcare research will need to have an increased focus on this population, in particular more focus is needed in terms of mental health and treatment of depression in the elderly.

With this aging population, a great number of these geriatric individuals will suffer from depression. According to several research articles, depression is the single most common psychiatric disorder among the elderly population (Anxiety and Depression Association, 2015; CDC, 2015; Dasgupta et. al, 2013). Moreover, depression in this population is often misdiagnosed and mistreated. It is estimated that only one-third of the patients with clinical depression are currently being treated (Anxiety and Depression
Association of America, 2015, Dasgupta et. al, 2013). This leaves many patients suffering with the symptoms of depression. Geriatric depression can affect patient’s social life, cognition, and can result in a greater dependence on others for care (CDC, 2015; Dasgupta et. al, 2013). Depression can impact quality of life and places the individual at a much higher risk for chronic health problems such as diabetes, hypertension and heart disease (CDC, 2015; Dasgupta et. al, 2013). The number of people with mental health disorders has reached over 450 million worldwide, and depression is the leading contributor to that number (Anxiety and Depression Association of America, 2015; CDC, 2015; Dasgupta et. al, 2013). It is expected that by 2050, one out of every three people over the age of 60 will have depression as compared to current averages of approximately one out of four (Dasgupta et. al, 2013). This illustrates that the overall number of elderly people with depression has been rapidly increasing and is projected to continue (Anxiety and Depression Association of America, 2015; CDC, 2015; Dasgupta et. al, 2013).

Geriatric depression is often treated with medications however, these treatments are shown to only be minimally effective (Birrer, 2010). In addition, there are many dangerous side effects and contraindications with these medications in the elderly population (Salzman, Schneider, & Alexopoulos, 2010). The study also found that after extensive research, the majority of the time the geriatric patients still have major depressive symptoms after pharmacological treatment (Agency for Health Care Research and Quality, 2010; Salzman et. al, 2010). This does not mean the medications do not work at all, they are just minimally effective when specifically discussing the geriatric population (Salzman et. al, 2010). With this knowledge, more research is necessary in nonpharmacological treatment of geriatric depression. Alternative interventions for these clients may be
exercise therapy, relaxation techniques, cognitive behavioral therapy, mindfulness, reminisce therapy, social relationships, memory recall, intergenerational interaction, and electroconvulsive therapy. These interventions may be useful in the treatment of geriatric depression however, research specifically for this population is lacking. More research is needed in this area as these individuals are greatly affected by depression and could greatly benefit from alternative treatment options.
Chapter 2: Geriatric Depression

Prevalence

Depression is the single most common mental illness among the elderly population (CDC, 2015; Dasgupta et. al, 2013; Wiese, 2011). Depression effects 14-20% of the patients over the age of 65 that live in the community, 12-45% of those who are in the hospital, and an estimated 40% of patients living in long term care facilities deal with clinical depression (Wiese, 2011). These numbers are expected to climb over time as this particular population increases (CDC, 2015; Wiese, 2011).

The New York University College of Nursing estimates that geriatric depression affects over five million of the 31 million Americans over the age of 65 (Greenberg, 2012). That is approximately one out of every six Americans over the age of 65 are suffering with depression. Unfortunately, that statistic is reflective of those actually diagnosed with depression (Greenberg, 2012). It is estimated that depression rates are higher than reported and affects at least 25% of those over the age of 65, or one in four (Greenberg, 2012). This again shows that depression is not only very prevalent, but it suggests that it is not always accurately diagnosed.

Depression can lead to very serious and devastating outcomes such as suicide. There were 41,149 suicides reported in 2013 (CDC, 2014). Depression is the leading cause for suicide (CDC, 2014; University of California, 2016). Suicide is actually more prevalent in the elderly population than in other populations (American Foundation for
Suicide Prevention, 2016; CDC, 2015). According to the American Foundation for Suicide Prevention, the highest suicide rate among the age groups was 19.3 out of 100,000 in the 85 plus age group (American Foundation for Suicide Prevention, 2016). The age group including 65 to 84 years olds was 16.2 out of 100,000 (American Foundation of Suicide Prevention, 2016). It is estimated that on average 15-20 elderly individuals commit suicide in a given day, estimating that there are over 6,000 elder suicides every year (Worthington, 2014). Suicide is more common in the elderly, and research is connecting it with the high rates of depression (America Foundation for Suicide Prevention, 2016; CDC, 2015; Worthington, 2014).

**Symptoms**

Depression is a psychological illness and can be treated effectively (National Institute for Mental Health, 2014). Depression is characterized by feelings of sadness and anxiety that last for weeks at a time (CDC, 2015). Specific symptoms include: feelings of hopelessness, guilt, hopelessness or worthlessness, feeling of being easily irritated or restless, loss of interest in activities that you once enjoyed, fatigue, problems with memory or having a hard time concentrating (CDC, 2015; National Institute for Mental Health, 2014). A person that is depressed also may have a hard time sleeping, or may sleep all the time, they may lose their appetite or may overeat (National Institute for Mental Health, 2014). They may also have thoughts of suicide or attempted suicide (CDC, 2015; National Institute for Mental Health, 2014).

Approximately 80% of those over the age of 60 have at least one chronic health issues and 50% have two or more chronic health issues (CDC, 2015). Patients with chronic health conditions such as heart disease, diabetes, and rheumatoid arthritis are at
much higher risk to develop depression (CDC, 2015; Cutler, 2013). People with chronic illnesses often suffer from geriatric depression because they are less active, cannot participate in activities they did in the past, and they are not as healthy (CDC, 2012). Adding to this, this population is facing mortality and have experienced loss of loved ones (CDC, 2015). It is understandable why this population may be at risk for depression, however it is important to remember that depression is not a normal part of aging (CDC, 2015). Cutler (2013) found that depression is not only seen by psychiatrists or mental health professionals, but depression is most commonly diagnosed in primary care settings. He suggests that this could be a reason that depression is often misdiagnosed or not diagnosed at all (Cutler, 2013). If the primary care provider is not aware of the commonality of depression, the risk factors associated with it and assumes depression is a normal part of aging, patients may be misdiagnosed.

**Diagnosis**

Depression in people over the age of 65 is often misdiagnosed or undertreated and can cause a multitude of health issues as well as affecting the quality of life for the depressed individual (Allan, Valkanova & Ebmeier, 2014). In Allan et al (2014), it is suggested that a careful history is necessary when assessing a patient. Risk factors such as chronic illness, social isolation, recent loss and changes in physical abilities are risk factors for depression (Allan et al., 2014; CDC, 2012). Elders with these risk factors should be closely monitored and assessed on a regular basis for depression (Allan et al., 2014). Health care professionals may regard depression as a normal reaction to an illness or a loss (Allan et al., 2014; CDC, 2015; Cutler, 2013). It is important to keep in mind that it is not just the health care team that overlooks the symptoms of depression,
the elderly often view these symptoms as a normal reaction to the events going on in their lives (CDC, 2015).

There are many risk factors associated with depression that health care professionals should be more cognizant of (Allan et al., 2014; Wiese, 2011). Patients at a higher risk for depression include females, widowed or divorced individuals, those with a history of depression, polypharmacy, chronic illness, disabling illness, alcohol use, little social support, and caregivers fatigue (Wiese, 2011). Also, specific life events may also lead to depressive symptoms such as a recent loss or move, financial crisis, social isolation, separation, sleep issues, and chronic stress (Wiese, 2011). The highest risk factors include physical illness, chronic illness, disabling illness and recent loss (Allan et al., 2014). If the health care team remains alert for these risk factors, diagnosis may ensue in a more timely manner, thus allowing earlier intervention (Allan et al., 2014; Wiese, 2011).

Depression does not just affect the mood and mental wellbeing of a patient. A patient with depression can also have physical ramifications related to depression (CDC, 2012). This causes a greater need for physical care from family, friends or can require placement into a long term care facility (CDC, 2012; Wiese, 2011). Depression that goes untreated is especially hazardous to a patient’s physical health as well (Ghio, Gotelli, Cervetti, Respino, Natta, Marcenaro, & Belvederi Murri, 2015). Patients with depression can be at a higher risk for other medical conditions such as heart attack, obesity, stroke, physical disabilities and diabetes (Wiese, 2011). Depression also has been shown to also slow recovery after a surgery or severe physical illness (Lifeline, 2012; Wiese, 2011). In Ghio et al (2015), it was found that the longer a depressed patient went untreated or
undertreated, the more physical decline was noted in these patients. Patients with depression are at higher risk for addiction, self-injury, reckless behavior, poor job or school performance, relationship problems and physical health conditions (Lifeline, 2012). Likewise, patients with depression are at a much greater risk of suicide or attempted suicide (Lifeline, 2012; University of California, 2016; Wiese, 2011).

Therefore depression is very important to not only treat but treat quickly and effectively. If depression is misdiagnosed, untreated, or undertreated the patient can have physical decline in their health and well-being in addition to mental and emotional decline (Ghio et al., 2015; Wiese, 2011).

**Geriatric Depression Scale**

The Geriatric Depression Scale (GDS) is a useful tool in diagnosis, as well as evaluating treatments and interventions for depression. Much of the current research on geriatric depression will use the GDS as a tool to evaluate the progress of a patient’s depression. This scale is a set of yes or no response questions asking the reader about how they were feeling in the past week (Greenberg, 2012; Medscape, 2016; Stanford University, 2013). This scale can be presented in two different ways; the long form, the 30 question version, or the short form, which is a 15 question version (Stanford University, 2013). Both have been tested and used extensively with the geriatric population and continue to be used (Greenberg, 2012; Medscape, 2016). The short form is used more often because it is easier to use with patients that may have slight cognitive impairments such as dementia, physical illness or patients easily fatigued (Greenberg, 2012). With this 15 item short form of this scale, a score of 0-4 is considered normal, 5-8 is considered mild depression, 9-11 is considered moderate depression, and 12-15 is
considered to indicate severe depression (Greenberg, 2012). In the long form, a score of 0-9 is normal, 10-19 is considered mild depression, and 20-30 is considered severe depression (Stanford University, 2013). An example of the long and short form of the GDS is inserted in Appendix A.

This depression scale can be used on healthy elderly patients, those with mild to moderate cognitive impairments, and with medically ill geriatric patients (Greenberg, 2012; Medscape 2016). It can also be used in community, long-term care, and private settings. It has been found to be very effective, with a 92% sensitivity and 89% specificity when evaluated with diagnostic tools (Greenberg, 2012) and has shown to be both valid and reliable through clinical practice as well as through research (Greenberg, 2012). This scale does not replace the diagnostics of mental health professional’s diagnoses, it is to be used as a baseline measurement and a progression measurement (Greenberg, 2012; Medscape 2016).

**Stigma Associated with Depression**

Mental illness continues to have a negative stigma associated with it in society (Conner, Copeland, Grote, Koeske, Rosen, Reynolds, & Brown, 2010; Mental Health Commission, 2010). Stigma related to mental illness can be defined as a mark that sets a person apart (Mental Health Commission, 2010). Stigma, or the feelings people have about someone with depression, which may lead to discrimination, or treating others differently due to their illness (Beyond Blue, 2015). Three out of four people with mental illness such as depression admit to feelings that are associated with a negative stigma related to their illness (Mental Health Commission, 2012). These can be feelings of shame, blaming oneself or others, hopelessness, and distress related to the mental
illness (Beyond Blue, 2013; Mental Health Commission, 2010). Some of these negative feelings include others stating “you should be able to snap out of your depression”, or a patient stating “I should be able to snap out of this” (Beyond Blue, 2015). These feelings can cause people to be reluctant to seek out mental health care or even accept the help they need (Connor et al., 2010, Mental Health Commission, 2010).

Stigma is one reason that patients do not seek health care for depression, or other mental illnesses (Connor et al., 2010). There was a study conducted and published in the American Journal of Geriatric Psychiatry that looked at the public stigma as well as the internal stigma related to mental illness, specifically in the older adult population related to depression (Connor et al., 2010). This study was conducted using 248 older adults with depression. White and African American individuals were included in this study to rule out race as a contributing factor (Connor et al., 2010). The researchers created telephone surveys for these individuals related to their “treatment-seeking” attitudes as well as their behaviors. The results showed that the depressed older adults felt a fairly high level of stigma associated with their illness, which made them unlikely to seek treatment for their depression (Connor et al., 2010). The stigma existed regardless of race, however the results seemed to show that the African American individuals were slightly more likely to have a higher internal stigma related to their illness (Connor et al., 2010). African American individuals in the study also were less likely to seek treatment, however the results for both groups showed a low likelihood of seeking mental health treatment (Connor et al., 2010). This was one of the few studies that looked at race.

Stigma is a reason that depression is not effectively diagnosed and treated (Connor et al., 2010). If the health care community can help to reduce the negative stigma
associated with mental illness, through education to patients and the public, this may result in decreasing negative attitudes and feelings. If the public became aware of how common depression is and how much it impacts quality of life, they may be more willing to seek treatment, which is imperative, especially in the geriatric population.

Cost

The cost of depression is often overlooked. Mangan (2015) found that in 2010 the cost related to major depressive disorder in the United States was $210.5 billion (Mangan, 2015). This cost was a 21% increase in cost than the estimated amount of $173.3 billion in 2005 (Mangan, 2015). So from an economics standpoint, depression costs are on the rise as the illness becomes a bigger issue. These numbers are supported in other literature as well. The CDC estimated that the annual cost for depression in 2005 was close to $180 million and increased to over $200 million spent in 2010 (CDC, 2013).

Studies show that health care costs are significantly higher for those patients diagnosed and/or treated with geriatric depression (Labbe, 2010). The University of Washington conducted a study to estimate health care costs for elderly patients with geriatric depression compared to those without depression (Labbe, 2010). The researchers took about 2000 patients diagnosed with depression, 1000 that screened positive for depression but were not formally diagnosed or that were taking an antidepressant medication, and 11,000 that were not diagnosed with depression (Labbe, 2010). Other than the differences in depression, they had similar health care issues including diabetes and congestive heart failure (Labbe, 2010). The results of the study were as follows: the average health care cost annually for those diagnosed depression was $22,960; without depression, their healthcare cost was $11,956 annually; patients that were not officially
diagnosed with depression but screened positive, or were on an antidepressant, their annual health care cost was $14,396 (Labbe, 2010). Those that were diagnosed with depression paid more money than those without depression in every health care. This study reported that patients with chronic illness and depression paid a significantly higher amount for health care than the patients that did not have depression (Labbe, 2010). However, only 1% of the health care costs are going to mental health services. Patients are not seeking out or receiving the mental health care that is needed (Labbe, 2010). The reason for this is unknown, but a theory mentioned in this study was that there is an increased cost for copayments for mental health services which are significantly higher than medical copayments. Medicare patients can be paying 50% of mental health services whereas on average they only pay 20% of medical services (Labbe, 2010). This was the only study found specific to individual’s health care costs in relation to depression, but overall economic costs for individuals as well as the country as a whole are on the rise due to depression.

Chapter III: Pharmacological Treatment
The main treatment method for geriatric depression patients in the United States are pharmacological management (CDC, 2015; Karch, 2013). These medications from three basic classifications: tricyclic antidepressants, monoamine oxidase inhibitors, and selective serotonin reuptake inhibitors. These medications have shown to be useful for depression, however there are adverse effects associated with them, as well as medication interactions that can be dangerous or ineffective in the geriatric population (Wiese, 2011).

**Tricyclics**

Tricyclic antidepressant medications were one of the first medications used for depression (Adams, Miller, & Zylstra, 2010; Mayo Clinic, 2013b). This class include the amines, secondary amines and tetracyclics (Karch, 2013). These medications inhibit the reuptake neurotransmitters which allows them to build up at the synaptic cleft, and this increases the stimulations of the receptors which is believed to decrease depressive symptoms (Karch, 2013). Adverse effects of these medications include sedation, changes in sleep patterns, fatigue, hallucinations, visual changes, difficulty in concentrating, weakness, tremors, dry mouth, nausea, vomiting, constipation, increased salivations, cramps, diarrhea, urinary retentions, loss of libido, orthostatic hypotension, hypertension, MI, angina, changes in weight, flushing, chills, headache and vertigo (Adams et al., 2010; Karch, 2013; Mayo Clinic, 2013b). These medications can be very dangerous due to these adverse effects as well as interactions with other medications (Mayo Clinic, 2013b).

**Monoamine Oxidase Inhibitors: MAOI’s**

Another less commonly used class of medication that helps with depression is monoamine oxidase inhibitors (MAOI’s). These medications block the breakdown of the amines like norepinephrine and dopamine, allowing for more of these substances to be at
the synaptic cleft, and increasing stimulation of the receptors (Karch, 2013; Mayo Clinic, 2013a). This is the most dangerous of medications used to treat depression and is introduced after safer medications have not been effective (Karch, 2013, Mayo Clinic, 2013a). This class of medication includes medications like isocarboxazid, phenelzine, and tranylcypromine (Karch, 2013). These medications are contraindicated in patients with cardiovascular disease, headaches, renal or hepatic impairment, seizure disorders, psychological conditions that can cause a manic phase, and hyperthyroidism (Adams et al., 2010; Karch, 2013; Mayo Clinic, 2013a).

The adverse effects associated with this class of medications are more serious and potentially more fatal than other antidepressants (Karch, 2013). These medications can cause insomnia, mania, dizziness, confusion, nervousness, agitation, blurred vision, liver toxicity, nausea, vomiting, diarrhea, constipation, incontinence, dysuria, abdominal pain, arrhythmias, palpitations, angina, hypertension, hypertensive crisis, occipital headaches, neck stiffness, tachycardia, chest pain, photophobia, and intracranial bleeding (Karch, 2013; Mayo Clinic, 2013a). MAOI’s can have fatal drug interactions to other antidepressants, and should be used cautiously in diabetics using oral medications or insulin as it could cause hypoglycemia (Karch, 2013; Mayo Clinic, 2013a). Another serious complications with this medication include serious food interactions. This is related to tyramine, it is normally broken down, but is not when this medication is being taken (Karch, 2013). So a patient that is taking this medication must avoid foods containing tyramine to prevent hypertension and hypertensive crisis (Karch, 2013).

**Selective Serotonin Reuptake Inhibitors: SSRIs**
The newest and most common class of antidepressant medications are the selective serotonin reuptake inhibitors (SSRIs). These medications are often the first line treatment of depression and are the most common medications used (Adams et al. 2010; Karch, 2013). SSRIs include citalopram, fluoxetine, sertraline, paroxetine, escitalopram, and vilazodone. These medications decrease depression by specifically blocking the reuptake of serotonin, without affecting norepinephrine (FDA, 2013; Karch, 2013). This allows for more serotonin to be more readily available at the site. This class is safer than the other classes of medications used to treat depression (Adams et al., 2010; Karch, 2013).

SSRIs also have contraindications and adverse effects associated with them. Contraindications include patient with hepatic and renal failure, suicidal patients, and pregnant or breast feeding patients (FDA, 2013; Karch, 2013). The adverse effects include headache, drowsiness, sleep changes, anxiety, tremors, agitation, seizures, nausea, vomiting, diarrhea, dry mouth, painful menstruation, urgency, impotence, sexual disturbances, cough, upper respiratory infections, sweating, rash, fever, and suicidal ideations (FDA, 2013; Karch, 2013). The suicidal ideations are specifically concerning with this medication but is shown to be more of a concern in pediatric patients, specifically the teenage population (Karch, 2013).

It can take up to four to six weeks for the patient to begin feeling the effects of the SSRI’s (Adams et al., 2010; Karch, 2013). This is important patient teaching, because often patients will stop taking the medication in a week or two when they are not noticing the effects. Educating the patient that the medication may take up to a month will help them be more likely to stick with the medication regimen.
Other antidepressants

There are other medications that are often used to treat depression that do not fit into the three classes mentioned above. Examples of these medications include wellbutrin, cymbalta, remeron, effexor and trazadone (Karch, 2013). Most of these medications work in similar ways as the SSRI’s, but at different receptor sites. They can be useful in the treatment of depression, but they also have side effects that are similar to the SSRI medications (Adams et al., 2010; Karch, 2013).

Effectiveness Pharmacological Treatment

Although pharmacologic treatment for depression is effective for many (Karch, 2013), only moderate success has been noted from the geriatric population (Wiese, 2011). Another concern in addition to the lack of effectiveness is increased risk of side effects, drug to drug interactions and other pharmacokinetic concerns in the geriatric population (Yesavage, Brink, Rose, Lum, Huang, Adey, & Leirer, 2012). Some of these classes of medications have side effects or contraindications associated with renal impairment, liver impairment, and cardiovascular disease (Karch, 2013). With renal impairment and liver impairment, the body cannot filter and excrete the medications as quickly or as effectively, leaving the patients at risk for more damage to those organs as well as toxicity, or build-up of the medication (Karch, 2013). These disease processes are common in the elderly, leaving these patients at risk if they take the medications (Karch, 2013). Also, the side effects listed from these medications can steer patients away from taking them (Yesavage et al., 2012). If a health care professional educates the patient on side effects, as her or she should, a patient may learn that this medication could cause low blood pressure, suicidal
thoughts, nausea, vomiting, diarrhea, heart palpitations and so on, they will be less likely to even give the medication a chance and they refuse to take it (Yesavage et al., 2012).

The antidepressant therapy used in older adults is shown to not work as well as it does for different age groups. However, an article released by the British Columbia Medical Journal, explains that medications can be useful in the elderly. But what is not completely understood by health care professionals is that a higher dose is sometimes required for the elderly population (Wiese, 2011). Antidepressant medications are sometimes hard to use in the elderly because the side effects seem to be more severe with them, especially in patients with diabetes, heart disease, hepatic disease or renal disease, and these illnesses are very common with this population (Wiese, 2011). Medications such as SSRI s or SNRI s have shown to be fairly safe in the treatment of depression in the elderly due to the lower risk of side effects (Wiese, 2011). According to research, pharmacologic treatment is still an option for first line therapy, given the risks associated, other options of treatment should be considered (Wiese, 2011). A shift in focus seems to be on other treatment options not related to pharmacology.

In an article found in the Journal of Clinical Psychiatry it is stated that one-third of geriatric patients with depression are resistant to pharmacological treatment (Yesavage et al., 2012). This journal article reported an experimental study conducted on 53 elderly patients diagnosed with major depressive disorder that were not responding to the common drug therapy of the SSRI, paroxetine. The researchers split the group into 2 smaller groups, giving one group the paroxetine with a SNRI and they gave the other group venlafaxine XR, a SNRI. Sixty percent of the patients responded to the augmentation, or both medications, and 42% of the patients receiving the venlafaxine XR responded (Yesavage
et al., 2012). The overall results showed that both methods were successful, however the medication, venlafaxine XR, was tolerated better than the augmentation. Although further research is warranted on venlafaxine, it looks to be an appropriate option for those not responding to SSRIs (Yesavage et al., 2012).

In a study from *The American Journal of Psychiatry*, researchers took a large group of patients over the age of 75 with major depressive disorder and created an experimental study (Roose, Sackeim, Krishnan, Pollock, Alexopoulos, & Lavretsky, 2015). Researchers split the large group into 2 smaller groups. One group, the experimental group, received citalopram and the other group, the control group, received a placebo pill (Roose et. al., 2015). The treatment went on for 8 weeks. The overall results were compared using the Hamilton Depression Scale and the Geriatric Depression Scale. The results were surprising; the depression scales showed very slight improvement in symptoms, less than a 5% decrease in symptoms, but showed no differences between the group receiving the medication and the group receiving the placebo (Roose et al., 2015). This study, yet again, supports the lack of effectiveness of pharmacologic treatment for depression in the geriatric population. The medications commonly used for geriatric depression are not showing the results researchers would expect.
Chapter IV: Non-Pharmacological Treatment

There are several different interventions for depression that are non-pharmacological. Some examples of nonpharmacological interventions include mindfulness meditation, relaxation techniques, exercise, cognitive behavioral therapy, electroconvulsive therapy, reminisce therapy, intergenerational interaction, and social relationships. More research and trials with nonpharmacological treatments show promise for geriatric patients dealing with depression.

Exercise Therapy

Exercise therapy has been identified as a viable intervention for geriatric depression. According to an article from *The Journal of Affective Disorders*, exercise has an antidepressant effect in about half of the people that use it as an intervention to treat depression (Schuch, Dunn, Kanitz, Delevatti, & Fleck, 2016). This article specifically describes the effects of exercise in patients with depression. The researchers found that biological factors including a protein in the brain known as brain-derived neurotrophic factor along with the patient’s body mass index (BMI) all have an impact on depressive symptoms in the elderly (Schuch et al., 2016). The study concluded that exercise can be useful in the treatment of depression and they think more research is needed in this area.

An article published by the Mayo Clinic (2015) supported the study by Schuch stating that exercise eases the symptoms of both depression and anxiety. Research shows
that those with depression and/or anxiety can see psychological and physical benefits of exercise, however why this works is still unclear (Mayo Clinic, 2015a). Regular exercise can ease symptoms of depression by releasing “feel-good” brain chemicals such as neurotransmitters, endorphins, and endocannabinoids. Exercise can also reduce immune system chemicals that worsen depression, and it increases body temperature which has an overall calming effect (Mayo Clinic, 2015a). Other psychological and emotional benefits of exercise that can also help with depression include an increase in confidence and an improved body image allowing for distraction from every day stressors. Exercise can also promote more social interaction and provide improved coping capabilities (Mayo Clinic, 2015a). The Mayo Clinic article suggests the amount of exercise needed for a therapeutic effect is 30 minutes three to five times a week (Mayo Clinic, 2015a). The researchers also state that it can be done in shorter intervals like 10-15 minutes at a time for those who cannot physically exercise for long periods of time (Mayo Clinic, 2015a). This is great for the geriatric population that is the population of concern. They may not be able to exercise for long periods of time so it is good to know that long intervals are not necessary. Regular exercise programs like yoga, weight lifting, Pilates, spinning and so on are helpful (Mayo Clinic, 2015a). However, these exercises are not the only options. Simple exercise or any physical activity is also beneficial (Mayo Clinic, 2015a). This includes activities like regular walking, jogging, gardening, and housework also produce a positive outcome (Mayo Clinic, 2015a). Geriatric Individuals may not be able to do high intensity workouts, but walking and even chair exercises can be helpful in treating depression (Mayo Clinic, 2015a). While exercise can help with depression, so can relaxation techniques.
Relaxation Techniques

Relaxation techniques, very simple nonpharmacological interventions, have shown to be useful in the treatment of depression. (Rodriguez, 2015). Three relaxation techniques that can assist in treating depression are Jacobson’s progressive muscle relaxation, autogenic training, and yoga (Institute for Quality and Efficiency in Healthcare, 2012). These techniques can be useful in the treatment with depression alone or in combination with medications or other treatments.

Jacobson’s progressive muscle relaxation. It is deep muscle relaxation that starts with the patient relaxing the specific muscle area, then tensing them for a few seconds, and relaxing them again (Institute for Quality and Efficiency in Healthcare, 2012). This is continued through all parts of the body until every muscle is relaxed. The goal is for the entire body to reach intense relaxation and make the patient aware of muscle groups that are tenser than others (Institute for Quality and Efficiency in Healthcare, 2012).

Another type of relaxation is autogenic relaxation, or positioning your body in a comfortable position allowing the entire body to relax (Institute for Quality and Efficiency in Healthcare, 2012). Once the body is relaxed, the patient then repeats different positive phrases. This is thought to then make the body feel that way (Institute for Quality and Efficiency in Healthcare, 2012). The goal is to achieve feelings of heaviness, coolness, warmth, and calmness to feel extremely relaxed allowing a reduction of stress and negative feelings (Institute for Quality and Efficiency in Healthcare, 2012).

Yet another relaxation technique useful in treating depression is yoga which is also a form of exercise. This relaxation technique includes different techniques such as breathing, meditation, muscle tension and relaxation, and holding physical poses.
The goal of yoga is increased awareness of body position, control and allowing for less stress and depressed feelings (Institute for Quality and Efficiency in Healthcare, 2012).

Results from 15 different studies of over 800 individuals comparing relaxation techniques with no treatment (Institute for Quality and Efficiency in Healthcare, 2012). The studies found that these relaxation techniques were effective in treatment of mild to moderate depression (Institute for Quality and Efficiency in Healthcare, 2012). The researchers did not speculate about the long term benefits, therefore more research is needed in this area (Institute for Quality and Efficiency in Healthcare, 2012). Relaxation techniques could be a useful treatment in depression (Institute for Quality and Efficiency in Healthcare, 2012; Rodriguez, 2015). However, psychologists in this study believe that psychological treatment such as cognitive behavioral therapy may be more beneficial than relaxation techniques alone (Institute for Quality and Efficiency in Healthcare, 2012).

**Cognitive Behavioral Therapy (CBT)**

Cognitive behavioral therapy (CBT) is a type of psychotherapy used in the treatment of mental illness, especially depression (Anxiety and Depression Association of America, 2016; National Alliance of Mental Illness, 2014). Cognitive behavioral therapy is used to investigate a person’s thoughts, behaviors, and feelings. In this form of treatment, the therapist works with the patient to identify unhealthy mental habits or thought patterns that they may have led to anxiety or depression (Anxiety and Depression Association of America, 2016; National Alliance of Mental Illness, 2014). The ultimate goal of CBT is to identify low self-esteem and negative thoughts so that the therapist can
help the patient restructure the negative thoughts and feelings into something more positive (National Alliance of Mental Health, 2014). The therapist will encourage the patient to talk about past experiences to allow for more realistic thoughts. For example a patient may say “I can never do anything right.” The therapist will get the patient to realize and verbalize “I’ve done it before, I can do it again” (National Alliance of Mental Health, 2014). Cognitive behavioral therapy also requires the patient to continue this work outside of therapy. Cognitive behavioral therapy requires consistent work and commitment to make it successful in the treatment and management of depression (National Alliance of Mental Health, 2014).

Cognitive behavioral therapy is shown to be useful in many different mental illnesses including depression, anxiety disorders, bipolar disorder, eating disorders and more (National Alliance of Mental Health, 2014). This type of psychotherapy is strongly supported by scientific data supporting its effects in the treatment of mental illness, especially with patients diagnosed with depression (Anxiety and Depression Association of America, 2016; National Alliance of Mental Health, 2014). Cognitive behavioral therapy is an excellent treatment option for depression, when another aspect, Mindfulness, is added to this therapy, treatment may be even more successful.

**Mindfulness Therapy**

Mindfulness based cognitive therapy (MBCT) is another intervention for depression, specifically patients with recurring, chronic depression (Mental Health Foundation, 2014). This specific therapy combines Mindfulness with cognitive therapy. Mindfulness therapy includes meditation, breathing, exercises and stretching which are additions to normal cognitive based therapy (Mental Health Foundation, 2014). The goal
of this therapy is to interrupt the negative thought patterns and reoccurring depressive symptoms (Mental Health Foundation, 2014). MBCT is a therapy that is recommended by the National Institute for Health for treatment of depression especially when the depression reoccurs. Studies show it will reduce the patient’s risk for relapse by 43% (Mental Health Foundation, 2014).

Mindfulness therapy teaches the patients to pay attention to the present more than the future or the past. This allows for the patient to release the negative thoughts and the depressed mood from dwelling on the past or the future (Mental Health Foundation, 2014). It is thought that depression relapses when a patient dwells on things that have happened in the past or things that may happen in the future (Mental Health Foundation, 2014). Mindfulness therapy also is shown to aid the patient have more awareness of their own body and feelings, allowing them to notice chances and when depression may be relapsing in their life (Mental Health Foundation, 2014).

**Reminisce Therapy**

Reminisce therapy is another intervention for depression. This intervention involves discussion with the patient or a group of patients to reminisce about events in their personal past (Chen, Hui-jie, & Juan, 2012; Wu, 2011). The therapist or nurse leading the discussion tries to discuss happy memories and good times in the patient’s past (Wu, 2011). In the study outlined in this journal article from *The Journal of Clinical Nursing*, the researchers wanted to determine whether reminisce therapy was useful in managing depressive symptoms, self-esteem, and life satisfaction (Wu, 2011). Researchers followed 74 older adult veterans living in a long term care facility with depressive symptoms, low life satisfaction, history of use of mental health services, and
low self-esteem (Wu, 2011). This study was conducted over a 12 week time frame and utilized a pre-test/post-test format (Wu, 2011). The measurement tool was The Life Satisfaction Index, a self-esteem scale, and the Geriatric Depression Scale short form (Wu, 2011). Results of the 74 older individuals showed significant decrease in depressive symptoms, increase in self-esteem and life satisfaction following reminisce therapy (Wu, 2011). The researchers concluded that more positive feelings came from this therapy and group reminisce therapy can be a useful nursing intervention for these types of patients (Wu, 2011). The author suggests that vulnerable populations such as veterans and the geriatric population could be helped with this therapy, even without clinical diagnosis of depression or other mental illnesses (Wu, 2011).

Another study supports this intervention. The article discussed a study done on a group of elderly Chinese patients and they had favorable results (Chen et al., 2012). The article talks about the need for more research in this as well as other nonpharmacological treatments for depression as medications are not providing the elderly with favorable results (Chen et al., 2012). Reminisce therapy is a treatment option for depression, and social relationships are also seen as an effective treatment option.

**Social Relationships**

Social Relationships can be an effective intervention for the treatment of depression. Historically, social relationship interventions were not considered and effective treatment method for depression. However, research is beginning to disprove this. Authors discuss the possibility that past studies have focused on the wrong elements of the social relationships (Davidson, Dowrick, & Gunn, 2016). Researchers found that social relationships and depression are associated but it is seen more as a preventative
intervention (Davidson et al., 2016). The longitudinal study tested about 500 adults for depression along with their quality and quantity of social relationships then, two years later retested them (Davidson et al., 2016). Researchers found a strong connection in relationships and depression. The people who had low quality of few social relationships and interactions were at a much greater risk for depression (Davidson et al., 2016). The study discussed social relationships and social interaction to be used in treatment of patient with high risk of depression (Davidson et al., 2016). This could be useful as a preventative measure as it shows a strong relationship to depression. Another form of social relationship treatment that could be effective in the treatment of depression is intergenerational interactions and relationships.

**Intergenerational Interaction**

Another form of social relationship is intergenerational interaction is yet another possibility for treatment of depression in the elderly population and can also help decrease the stigma about the elderly population. Intergenerational interaction is easily defined as the planned interaction of different age groups including communication, sharing of feelings or ideas, and activities (ASG, 2012). In a study from the *Journal of Educational Gerontology*, the researcher took a sample of 101 older adults with mild to moderate depression and a large group of students from a local college in Spain and had them interact with one another in various activities and conversation (Hernandez & Gonzalez, 2008). The students and the adults were split into two groups, a control group and a study group (Hernandez & Gonzalez, 2008). The study group of the older adults met with the study group of the students once a week while the control group did not interact with the older adults (Hernandez & Gonzalez, 2008). There was testing for both
parties before and after interactions including the Geriatric Depression Scale and questionnaire tests on stigma and stereotypes on the elderly and the younger generation (Hernandez & Gonzalez, 2008). Overall, the results showed the study group had improved opinions or had a decreased occurrence of stigmas and stereotypes, but more importantly it showed a decreased in depressive symptoms in the elderly group as well as the college students (Hernandez & Gonzalez, 2008). Hernandez and Gonzalez (2008) suggested this intervention could be useful to improve depression in the elderly, as well as other populations (Hernandez & Gonzalez, 2008).

**Electroconvulsive Therapy**

Electroconvulsive therapy (ECT) is a procedure done under anesthesia and small electrical currents are passed through the brain. This causes a small and brief seizure which changes the brain chemistry that can then reverse symptoms of some mental illnesses (Mayo Clinic, 2015b). It is often useful and effective for the mentally ill that do not respond to other treatments (Mayo Clinic, 2015b). This therapy is also used for psychotic depression in the elderly and it has shown to be a safe and effective treatment for severe depression that is not improving with medications (Wiese, 2011). Additionally this type of treatment is noted to be effective in patients that are suicidal and a quick reversal of symptoms are necessary (Wiese, 2011). The recovery rate of overcoming depression is 80% and takes effect much faster than medications, usually within just a couple of days or even hours (Wiese, 2011). Whereas medications can take four to six weeks to take effect (Karch, 2013). The ECT is shown to be safe and has less side effects associated with it than antidepressant medications (Wiese, 2011). This therapy is a real possibility for geriatric patients with depression, especially if medication has been ineffective.
Chapter V: Conclusion

The geriatric population is a group that is growing significantly. Researchers estimate that by 2050 there will be 83.7 million individuals over the age of 65, almost double the population in 2010 (Ortman et al., 2014). The population is increasing due to increased life expectancies for these individuals. In 2010, the life expectancy was about four years more than it was in the 1970s and 1980s (Ortman et al., 2014). With this population growing, there is increased concern in the health care field adapting to fill the needs of this population. The health care field needs to adapt to care for these individuals.

One common illness among this population is depression. It is estimated that five million of the 31 million over 65 years of age have or have had depression (Greenburg, 2012). That is approximately 16% of the population (Greenburg, 2012). That number also represents only those diagnosed, therefore speculations are that a much higher percentage of this population lives with depression and its symptoms (Greenburg, 2012).

Symptoms of depression include sadness, hopelessness, pessimism, guilt, irritation, restlessness, loss of interest, fatigue, and changes in sleeping and eating habits (CDC, 2015). These symptoms are very hard to deal with and once diagnosis is made, treatment is very important to these patient’s wellbeing. When a patient is undertreated or untreated, the patient is at higher risk for chronic illnesses, slowed recovery time when they become ill, disabling illness, suicide, relationship problems, and decreased interest
in life (Lifeline, 2012; University of California, 2016). Therefore, adequate identifications and treatment is very important to these patients.

Treatment is traditionally medication focused. Although those seem to be very successful for many patients, research shows that medications are moderately effective for the geriatric population (Wiese, 2011). Medication classes used in the treatment of depression are selective serotonin reuptake inhibitors, monoamine oxidase inhibitors, tricyclics, and selective norepinephrine reuptake inhibitors. While these are effective for some populations, they are not as effective for the geriatric population (Roose et al., 2015; Wiese, 2011). Sometimes higher doses are needed for these geriatric patients, and sometimes their medical conditions and medications are too much to add another medication into the mix (Karch, 2013; Yesavage et al., 2012). Therefore greater focus should be on nonpharmacological treatment methods. This literature review explored nonpharmacological options for treatment in geriatric patients. Interventions that are shown to be useful and effective in treating depression included exercise therapy, relaxation techniques, cognitive behavioral therapy, mindfulness therapy, reminisce therapy, social relationships, intergenerational interaction and electroconvulsive therapy.

**Implications of review of literature**

Following this review of literature, specific interventions were found to be particularly useful and easy to use were social relationships, intergenerational interaction and reminisce therapy. This could be a very useful combination therapy as it would be very inexpensive to use and very simple to implement. This intervention does not need to be implemented by a therapist, it can be implemented by any member of the health care team and can be continued by the patient, his or her friends and family, and would not
cost much at all. Specifically this could be used in long term care facilities by bringing in different social groups to visit with residents and suggesting that they just converse and share stories. This could be a combination therapy, there could be some intergenerational interaction, reminisce therapy, and social relationships would form. Research shows that these interventions can be useful, and it seems to be a viable option for treatment.

Also something that was thought of during this literature review was using these specific interventions as preventative measures. This is something that this population could benefit from. Depression is so common within the population that preventative measures could be taught to them and help decrease the prevalence of geriatric depression. Specific interventions that could be used as preventative measures are social relationships, intergenerational interaction, reminisce therapy, and exercise therapy. Those interventions are all fairly simple and inexpensive to implement and would be viable options for patients to use to prevent depression. Especially patients that are at a higher risk for depression. These individuals include those with chronic or a disabling illness, those who live in long term care facilities, and those who have experienced loss.

**Suggestions for further research**

With this literature review, it was found that there was a lack of research on this particular population in the United States. With this being the case, more research would be useful in a couple different areas. First of all, there needs to be more research in pharmacological therapy for depression specific to the geriatric population. The little research available shows that these medications are not as effective as hoped, but maybe with more research there would be a discovery of a certain medication or class of
medication that would be useful. Also, maybe a combination pharmacological therapy would be useful and work for this population.

Another area that further research may be warranted is with the nonpharmacological therapy. There was quite a bit of research out there for the younger populations, but more is needed in geriatric population specifically. Also, these interventions need researched both as treatment options and as preventative measures.

Research would also be in geriatric depression itself. It would be interesting to look into why depression is so common and why it is on the rise. Also, research related to the way geriatric patient present with depression. It is thought that they do not display symptoms like the younger populations. This would be useful to practitioners to help them more effectively diagnosis depression.

**Lessons Learned**

Research in this area was found to be slightly limited during this literature review. There was more research available from other countries such as Canada and Japan, which is where the majority of the research has taken place. It was difficult to find current research from the United States. That was the most surprising thing throughout this literature review.

Another thing learned was simply a great deal about the geriatric population and depression. Word of mouth was that depression is very common in the elderly, but it was not realized specifically how common it is. It was also learned that suicide rates are actually higher in the geriatric age group than other age groups. Which was very shocking.
Overall, this literature review quickly showed the importance of this population’s wellbeing. As this population grows, the health care field needs to learn to adapt, change and allow for better care specific to this population. These patients are living longer lives, they deserve to live them to the fullest. Which means they deserve the best health care professionals can possibly provide. This project has taught nurses and future nurses to keep up on research in general as well as specific to this population. Most likely the majority of my patients will be geriatric patients, and nurses need to be sure to be educated to take care of them adequately.
References


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Appendix A

The Geriatric Depression Scale: Long Form

MOOD ASSESSMENT SCALE (Long form)

1. Are you basically satisfied with your life?
2. Have you dropped many of your activities and interests?
3. Do you feel that your life is empty?
4. Do you often get bored?
5. Are you hopeful about the future?
6. Are you bothered by thoughts you can’t get out of your head?
7. Are you in good spirits most of the time?
8. Are you afraid that something bad is going to happen to you?
9. Do you feel happy most of the time?
10. Do you often feel helpless?
11. Do you often get restless and fidgety?
12. Do you prefer to stay at home, rather than going out and doing new things?
13. Do you frequently worry about the future?
14. Do you feel you have more problems with memory than most?
15 Do you think it is wonderful to be alive now?
16 Do you often feel downhearted and blue?
17 Do you feel pretty worthless the way you are now?
18 Do you worry a lot about the past?
19 Do you find life very exciting?
20 Is it hard for you to get started on new projects?
21 Do you feel full of energy?

22 Do you feel that your situation is hopeless?

23 Do you think that most people are better off than you are?

24 Do you frequently get upset over little things?

25 Do you frequently feel like crying?

26 Do you have trouble concentrating?

27 Do you enjoy getting up in the morning?

28 Do you prefer to avoid social gatherings?

29 Is it easy for you to make decisions?

30 Is your mind as clear as it used to be?

This is the original scoring for the scale: One point for each of these answers.

Cutoff: normal-0-9; mild depressives-10-19; severe depressives-20-30.

1. no 6. yes 11. yes 16. yes 21. no 26. yes
2. yes 7. no 12. yes 17. yes 22. yes 27. no
3. yes 8. yes 13. yes 18. yes 23. yes 28. yes
4. yes 9. no 14. yes 19. no 24. yes 29. no
5. no 10. yes 15. no 20. yes 25. yes 30. No

(Stanford University, 2013)
The Geriatric Depression Scale: Short Form

MOOD SCALE (short form)

Choose the best answer for how you have felt over the past week:

1. Are you basically satisfied with your life? YES / NO
2. Have you dropped many of your activities and interests? YES / NO
3. Do you feel that your life is empty? YES / NO
4. Do you often get bored? YES / NO
5. Are you in good spirits most of the time? YES / NO
6. Are you afraid that something bad is going to happen to you? YES / NO
7. Do you feel happy most of the time? YES / NO
8. Do you often feel helpless? YES / NO
9. Do you prefer to stay at home, rather than going out and doing new things? YES / NO
10. Do you feel you have more problems with memory than most? YES / NO
11. Do you think it is wonderful to be alive now? YES / NO
12. Do you feel pretty worthless the way you are now? YES / NO
13. Do you feel full of energy? YES / NO
14. Do you feel that your situation is hopeless? YES / NO
15. Do you think that most people are better off than you are? YES / NO

Answers in **bold** indicate depression. Although differing sensitivities and specificities have been obtained across studies, for clinical purposes a score > 5 points is suggestive of depression and should warrant a follow-up interview. Scores > 10 are almost always depression. *(Stanford University, 2013)*