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Predicting Depression in Older Adults: Community vs. Nursing Home

Hannah Vitello
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Introduction

This study seeks to compare the differences in predicting depression in older adults in two different settings: nursing home and community. Little research has been conducted comparing the two older adult populations on the factors that predict depression. This research will provide healthcare workers and family members of older adults new insights into what may contribute to depression among this vulnerable population. With this knowledge, treatments and interventions can be designed to help alleviate depression and other mental health problems in all older adults, regardless of where they are living. The next section discusses background information of services available for older adults in order to provide context for the basis of this study.

**Long-Term Services and Supports (LTSS)**

Long-term services and supports (LTSS) include both institutional and home based care that older adults can use to meet their personal care needs. Most long-term care is not medical care, but rather assistance with basic personal tasks of everyday life. One option for receiving LTSS is at nursing homes (i.e., skilled nursing facilities). These facilities assume total care for the individual. Another option for LTSS is receiving LTSS through community-based services and supports. Community-based services are services focused at home and are meant to keep the individual in the home as long as possible. Overall, about 4.9 million older adults rely on formal LTSS either institutional or home and community based every year (Center for Medicare and Medicaid Services (CMS), 2016). This number is only projected to grow in the future. This study will attempt to determine if demographic, health, and social factors predict mental health in nursing home residents differently than older adults living in the community.
Nursing Homes

Currently, there are more than 1.4 million nursing home residents in the United States that occupy over 15,500 nursing homes (Center for Disease Control (CDC), 2016). With the population aging, it is projected that there will be increasingly more older adults living in nursing homes (Harrington, Chapman, Miller, Miller, & Newcomer, 2005). Up until the 1800s, the concept of nursing homes was unknown. Before this time, it was understood that family would care for the elderly, but for the poor the only choice was to live in an almshouse (Harrington et al. 2005). Almshouses were places for all who did not have a home, and they were usually filled with patients with mental illness, children, and older adults. These houses had a bad reputation associated with disgrace, poverty, and humiliation (Harrington et al. 2005).

By the beginning of the twentieth century, specialized facilities were built for children and those with mental illness, but none for older adults. It was not until 1954 that Congress passed new laws that allowed public institutions for those in need to develop. In shutting the almshouse doors, policymakers gave birth to the modern nursing-home industry. Further, the passage of Medicare and Medicaid in 1965 provided significant impetus to the private-industry growth of nursing homes (Harrington et al. 2005).

By 2000, nursing homes had become a $100-billion-dollar industry, paid largely by Medicaid, Medicare, and resident out-of-pocket resources. Although only 2% of all older individuals between 65 and 74 reside in such institutions, the proportion increases to 25% when considering those aged 84+. Overall, today nearly 6% of older adults are living in nursing homes (CDC, 2016).
Care in the Community

Another option for providing LTSS to older adults is through home and community based services (HCBS). HCBS refers to any service or assistance that allows older adults to remain in their homes, including adult day centers, senior center services, and home health aides. Medicaid funds many HCBS for low-income older adults so that they have access to care that they otherwise could not afford. HCBS through Medicaid first became available in 1983 when Congress added section 1915(c) to the Social Security Act, giving states the option to receive a waiver of Medicaid rules governing institutional care (CMS, 2016). According to Medicaid, home and community based care is aimed at being person driven, inclusive, effective, sustainable, and coordinated (Medicaid, 2015).

One important point to make regarding LTSS in the community is that most home and community based care is provided through an informal care network. An informal network is classified as a spouse, family member, friend, or anyone who is not hired to provide care to an individual. The care that an informal caregiver provides can range drastically, from helping a person get up or dressed, to almost completely caring for their every need. Today, it is estimated that over 90% of all care given to older adults is provided by informal caregiver networks (Linton, Lach, Matteson, McConnell, 2007). Currently there are more than 61 million informal caregivers providing services to members of the community (Smith, Williamson, Miller, & Schulz, 2011). This seemingly invisible network supports many older adults through their lives. Informal caregiver networks are seen to be a huge industry, estimated at giving over $400 Billion dollars in care (Linton et al. 2007). Recently, states and legislators have made a push to increase the availability of home and community based services with special attention to the support of the informal caregiver network (Smith et al. 2011).
Activities of Daily Living- Medicaid Functional Eligibility Criteria

All older adults living in a nursing home have physical and functional limitations that qualify them for long-term care. Therefore, in my study it was important to ensure that older adults living in the community also had similar physical and functional health limitations. I decided to utilize Activities of Daily living (ADLs) to help in identifying physical health limitations. These activities include bathing, dressing, using the toilet, transferring (from a bed to a chair for example), caring for incontinence, and eating (CMS, 2016). When applying for Medicaid to cover the cost of long-term services and supports, a nurse or social worker will visit the home and conduct an ADL assessment to determine if the older adult meets the Medicaid functional eligibility criteria (CMS, 2016). Medicaid will not cover any costs if the functional eligibility criteria are not met, even if the person is within the income threshold (CMS, 2016). ADL Medicaid functional eligibility criteria vary by state, but most states range from two to three ADL limitations to be eligible for long-term services and supports from Medicaid in either nursing home or community settings (CMS, 2016). For example, in a state that required two ADL limitations, a person would qualify if he/she needed help with both bathing and dressing, but would not qualify if he/she only needed help with bathing. In this study, I ensured that all residents living in the community who were included in the study sample had at least two ADL limitations. This was done to get a more accurate comparison between those living in the community and those living in a nursing home because it made certain that everyone had been determined to have physical health limitations that would have required some type of long-term services and supports.
Depression in Older Adults

Although research shows that the prevalence of major depression is generally lower among older adults than younger adults, understanding factors of depression in older adults is a very important part of public health (Chapman & Perry, 2008). Symptoms of depression in older adults can be easily overlooked, leaving many people untreated. Since rates of major depression have risen greatly over the past decade, research suggests that future generations of older adults will have higher numbers of people who have experienced depression (Chapman & Perry, 2008). Depression can cause many issues with the physical health of older adults, making it harder for them to fight chronic disease and other health problems. Also, depressive disorders are strong predictors of suicide. Unfortunately, many older adults and their physicians are misguided in believing that struggling with depression is just a part of the aging process, leaving many people undiagnosed or untreated (Chapman & Perry, 2008). There are also other reasons why it is important to address depression in older adults. There is a negative stigma surrounding mental health problems. Further, older adults may find it much harder to get the mental health treatment that they need, as mental health facilities are often not part of a hospital and may require a separate office visit. Finding the factors that influence depression among older adults will help to predict, diagnose, and prevent depression in both the community and in nursing homes.

Demographic Risk Factors for Depression in Older Adults

Some studies suggest that there are demographic factors that put older adults at risk for depression. They often note that older women are more likely to become depressed, since there is a greater chance of them to be widowed and not remarry compared to older men (Cole & Dendukuri, 2003). Becoming a widow is seen to be a significant factor of depression in older adults (Djernes, 2006). The research also shows that having low income predicts greater levels
of depression in older adults (Djernes, 2006). Not being able to afford the appropriate medical care or housing costs can lead to helplessness and fear of reliance on someone else. When it comes to race, African-American older adults with low income tend to report levels of depression that are higher compared to white respondents (Chapman & Perry 2008). There has been little research done on depression in Latino older adults compared to the other two groups (African American and White). Latinos make up about 17% percent of the United States population, which is a significant demographic that will be transitioning into a nursing home or looking for other long-term services and supports (US Census Bureau, year?). The Hispanic older population (65+) was 3.6 million in 2014 and is projected to grow to 21.5 million by 2060. In 2014, Hispanics made up 8% of the older population. By 2060, the percentage of the older population that is Hispanic is projected to be 22% (Administration for Community Living, 2014). Therefore, this study will be filling a gap in research among older adult demographics in the United States by including a Hispanic variable. This study also includes gender, marital status, poverty status, and race as demographic predictors in the study.

**Health Conditions Associated with Depression in Older Adults**

A number of studies have identified health conditions associated with depression in older adults. First, an older adult that has a history of depression has a high likely of poor mental health in their later life (Djernes, 2006). Even with no prior history, depression is very common in older adults living in nursing homes, and mostly is associated with poor functioning in activities of daily living (Drageset, Eide, & Ranhoff, 2011). Many activities of daily living limitations could be related to chronic diseases, such as diabetes that can have a physical effect on walking or transferring. Activities of daily living limitations could also be the cause of pain in older adults (Drageset et al. 2011). Sitting or lying for long periods of time could increase the
risk of bedsores and muscle problems. Pain associated with chronic disease has also been associated with higher rates of depression in the older adults community (Nygaard, Naik, & Ruths, 2000). Pain often decreases mobility and aids to a feeling of loneliness and hopelessness in older adults (Nygaard et al. 2000). This study will include the number of chronic diseases, number of ADLs, and pain as independent variables.

Social Factors Related to Depression in Older Adults

Numerous studies suggest that various aspects of social support are also related to depression in older adults. One study by Rodriguez-Blazquez (2012) found that health status and social interactions were related to well being and depressive symptoms. Another study among nursing home residents done by Smalbrugge (2006) found that depression symptoms were associated with significantly worse psychosocial well-being, which was directly related to social isolation and less contact from family, children, and grandchildren. For some nursing home residents, moving into a long-term care facility means they will have less day-to-day contact with those in their social network, including grandchildren (Moorse, 2011). Social support from family and friends may alleviate the experience of suffering and, in turn, may affect mental and physical health in a positive way. Older adults cite that intergenerational contact from a grandchild or other young person causes them joy (Fogarty, 2007). Social support involves qualitative aspects of human relationships, such as a significant other, children, or grandchildren as well as activities with family and friends, volunteering, or attending programs at a local senior center or church (Selbaek et al., 2007). Older adults in the community with little or no social support may have a hard time and can experience loneliness, depression and social isolation. When living in the community, access to social situations may be very difficult, especially if the older adult no longer drives. Driving may not be such a big issue in the nursing home because
every necessity is provided and there is not as high of a need to be self-reliant. In the community, however, being able to drive is very important for day-to-day functions such as grocery shopping and picking up medications. By not driving in the community, older adults and their mental health may suffer from relying on others or from social isolation. Not being able to participate in activities such as volunteer organizations and being socially isolated is seen as a high predictor of depression in older adults (Djernes, 2006). In this study I will include the following variables related to social support: driving status, volunteer status and number of grandchildren.

**HRS Data**

For this study I will be using the 2010 University of Michigan Health and Retirement Study (HRS) Data. The HRS is a longitudinal panel study that surveys a representative sample of approximately 20,000 Americans over the age of 50 every two years. The HRS explores the changes in labor force participation and the health transitions that individuals undergo toward the end of their work lives and into retirement and old age (University of Michigan, 2015). This study was established to provide a national resource for data on the changing health and economic circumstances associated with aging at both individual and population levels (Sonnega et al., 2014). The HRS has a multidisciplinary approach focused on four topics. These are income and wealth, health and cognition, work and retirement, and family connections. Since 2006, data collection has expanded to include biomarkers and genetics as well as much greater depth in psychology and social context. This blend of economic, health and psychosocial information provides unprecedented potential to study increasingly complex questions about aging and retirement (Sonnega et al., 2014). In 2002, the HRS began to include nursing home residents in their survey study (University of Michigan, 2014). Before 2002, when a respondent transitioned into a nursing home, they were no longer eligible for the biannual study.
Research Question

The overarching research question for this project is: do demographic, health, and social factors predict mental health in nursing home residents differently than older adults living in the community? This research design will include three steps. First, this study will examine descriptive statistics and bivariate analyses. Second, I will test a regression model using the demographic, health, and social predictors for the sample of nursing home residents. Then the same regression model will be tested with a sample of community residents. For the community respondents, the study has limited the sample to older adults with two or more activities of daily living limitations (ADLs). Finally, this study will compare results within the two datasets, to draw conclusions about differences in what predicts depressive symptoms for those living in a nursing home versus those who live the community.

Hypotheses

There are two hypotheses for this study. First, based on previous research, I expect for all of the independent variables selected to predict depression in both the nursing home and the community residents. This study includes thirteen variables that fit within three categories (e.g. demographics, health, and social). These are age, gender, race, ethnicity, marital status, and poverty status in the demographic category. Pain status, number of chronic diseases, cognitive function, and number of ADLs are in the health category. Number of grandchildren, driving status, and volunteer status are included in the social category. I expect that being older, being a female, being divorced or widowed, being a minority (African American or Latino), and being in poverty will predict higher rates of depression. I also expect that being in pain, having more chronic conditions, having more ADLs, and having poorer cognitive health will predict higher
rates of depression for all older adults. Finally, I predict that older adults who do not drive, do not volunteer, and have fewer grandchildren will have higher rates of depression.

The second hypothesis is that there will be differences in some of the predictors between nursing home and community residents. For one, I expect to identify that ADLs are a greater predictor of depression for older adults living in the community. In the community, living at home with ADLs may be much harder to cope with, as community residents may not have someone to help them every day. It is expected that the pain independent variable will be similar to the ADL, being a greater predictor in the community. In nursing homes, there is greater access to pain medication and nurses to ease pain. In the community however, if an older adult is struggling with pain, they may not get the same treatment as someone in a nursing home because of lack of daily professional medical support. Being able to drive should also be a greater predictor in the community. When living in a nursing home, it is much more common to give up driving than when an older adult remains in the community. In most communities, it is very hard to get around unless you have a car to drive, so being reliant on others, or being homebound in the community may predict more depression.

Independent and Dependent Variables

This study will use thirteen independent variables and one dependent variable. A great deal of data cleaning and re-coding was conducted on these variables to include in this study. The dependent variable is the depression. To assess for depression, this study utilizes a well-known measure called the Center for Epidemiologic Studies Depression Scale (CESD). The CESD score is the sum of five “negative” indicators minus two “positive” indicators. The negative indicators measure whether the respondent experienced the following sentiments all or most of the time: depression, everything is an effort, sleep is restless, felt alone, felt sad, and
could not get going. The positive indicators measure whether the respondent felt happy and enjoyed life, all or most of the time (Bugliari, et al. 2011). This is a self-reported measure, and it is a 1-8 scale. A score of 1 on the CESD means that the respondent has excellent mental health, and a response of 8 would indicate very poor mental health.

For demographics, there are five independent variables. These are gender, race, ethnicity, age, marital status, and poverty status. All are categorical variables except for age. The gender variable includes males and females, with male as the reference category. The race variable includes African Americans and Whites, with Whites as the reference variable. The ethnicity variable includes Hispanic and non-Hispanics, with non-Hispanics as the reference variable. The age variable is the respondent’s age during the 2010 data collection period. The marital status variable includes 4 categories: married (reference variable), divorced/separated, widowed, and never married. Finally, for poverty status, the variable includes indicates whether or not the respondent lives below the poverty line, with not being in poverty being the reference variable. Poverty is calculated by asking if income meets a certain income threshold. If above the threshold, respondents are deemed not in poverty, and if respondents are below the threshold, they are considered to be in poverty.

In the health variables category, there are four independent variables. These are struggling with pain, number of chronic conditions, number of ADLs, and cognitive health status. The pain variable indicates whether or not the respondent struggles with pain. The number of chronic conditions variable is a total of the number of chronic conditions (0-8) the respondent reports to have. These conditions include diabetes, cancer, obesity, arthritis, heart disease, tobacco use, asthma, and Chronic Obstructive Pulmonary Disease (COPD). The number of activities of daily living variable indicates the number of ADL limitations for each respondent
ADLs include bathing, dressing, feeding, transferring, and toileting. The cognitive health variable is a 0-35 word recall scale. If the respondent can recall all 35 words, they are considered to have excellent cognitive health. Lower scores on the scale indicate more cognitive health issues.

In the social variable category, there are three independent variables. These include: driving status, volunteer status, and number of grandchildren. The driving variable is a yes or no response of whether or not the respondent drives a car, with not driving being the reference variable. The volunteer status variable is also a yes or no response of whether or not the respondent volunteers on a regular basis (at least one time a month), and not volunteering is the reference variable. Finally, the number of grandchildren variable indicates how many grandchildren each respondent has.
References


