NGNA Section

Examining functional and social determinants of depression in community-dwelling older adults: Implications for practice

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Abstract

Coping with declining health, physical illnesses and complex medical regimens, which are all too common among many older adults, requires significant lifestyle changes and causes increasing self-management demands. Depression occurs in community-dwelling older adults as both demands and losses increase, but this problem is drastically underestimated and under-recognized. Depressive symptoms are often attributed to physical illnesses and thus overlooked, resulting in lack of appropriate treatment and diminished quality of life. The purpose of this study is to assess prevalence of depressive symptoms in community-dwelling older adults with high levels of co-morbidity and to identify correlates of depression. In this sample of 533 homebound older adults screened (76.1% female, 71.8% white, mean age 78.5 years) who were screened using the Geriatric Depression Scale (SF), 35.9% scored greater than 5. Decreased satisfaction with family support (\(p << 0.001\)) and functional status (\(p < 0.001\)) and increased loneliness (\(p < 0.001\)) were significant independent predictors of depression status in this sample; thus, these factors should be considered when planning care.

Introduction and background

Depression is a serious problem facing older adults living in the community, a problem that is compounded by the fact that it is drastically under estimated and under recognized. The prevalence rate for major depressive disorder (MDD) is lower in older adults than in younger adults, suggesting that this older population is at significant less risk for developing the depression. There is a discrepancy in the literature regarding rates of depressive symptoms in the older population. While many studies report that depressive symptoms occur in 15%–16% of older adults, others report depressive symptoms ranging between 20% and 37% — a prevalence rate much higher than MDD.

Some studies report the prevalence of MDD in older adults without chronic conditions to be lower (1%), compared to those with one chronic condition (3.7%). Possibly the reason for lower rates of MDD when depressive symptoms are higher is that perhaps older adults may be more likely to attribute somatic complaints to physical illnesses when in fact depressive symptoms are present. One study of depression across the lifespan demonstrated a U-shaped pattern of depression. Symptoms of depression were higher in young adults, decreased in midlife and then increased again in late life along with the prevalence of chronic conditions. Rates reported for MDD fail to take several important factors into account. According to Connor et al., older adults may be less likely to report depression than younger adults because a stronger stigma is attached to this diagnosis with age. Though the widespread causation of depression has been attributed to an internal weakness causing a biologically induced hormonal imbalance, many older adults maintain pre-conceived notions of causation, thus are less likely to admit to emotional suffering. Consequently, those over the age of 65 who suffer from clinical depression are often undiagnosed and untreated.

A diagnosis of depression is even more likely to be overlooked in persons who have multiple chronic diseases.
normal part of aging, depression is often either associated with aging or is lost in the treatment plan associated with multiple chronic illnesses. Susceptibility to chronic conditions is more likely with age, such as Alzheimer’s disease, thyroid disease and diabetes mellitus which also can be causative triggers for depression. According to the Centers for Disease Control (CDC), 80 percent of older adults have at least one chronic illness and 50% have more than one chronic illness, placing this population at high risk for depression and untreated depression. For example, in one study of community-dwelling older adults with mild to moderate knee osteoarthritis (n = 71), poor perceptions of self-efficacy, increased pain, decreased mobility and more symptoms of depression (p < 0.01) were reported. Loss of ability to function independently, specifically to perform activities of daily living (ADLs), is a significant predictor of depression in community-dwelling older adults. Screening for perceptions of self-management of osteoarthritis (or other chronic conditions) as well as depression early in the disease process is key to optimal outcomes for preventing depressive symptoms. Depression is a strong determinant of disability and disability outcomes as well as transition from mild to moderate severe disability; thus it is important to recognize and treat.

Not only are the outcomes of depression manifested differently in older adults, but the potential for much more severe consequences in depressed older adults exist, such as self-neglect of self-management of chronic conditions and poor nutritional intake. Self-neglect by depressed older adults can lead to both hospitalization and institutionalization. Depression, therefore, has important implications for the practice of nursing.

Less frequently studied is the homebound population, particularly older adults coping with chronic conditions in areas with limited access to care and social supports. The rate of depression increases from 5 percent (or lower) to 13 percent in older adults receiving home health services. This population, often isolated from emotional support and assistance, is vulnerable and at significant risk for decreased quality of life and loss of independent living.

The purpose of this paper is to describe the rate of depression in a sample of homebound older adults living in an isolated rural area. We will discuss the relationship between depression and social-psychological variables and recommend approaches for better understanding and addressing these relationships.

Methods

Participants and procedure

Participants in this study included 533 homebound, community-dwelling older adults living in rural areas in the southern U.S. After obtaining permission, representative members of a community coalition from local Area Agencies on Aging (AAA) referred homebound clients 60 years and over who were determined by these AAA case managers to benefit from health screenings in the home. Clients were selected on the basis of reported health conditions, including complex and/or unstable health problems, medical management problems, repeat hospital admissions, and/or one or more of the following: need for health teaching, social isolation, need for resources to manage health. Participants were interviewed at home by registered nurses prepared to conduct screenings. The following data collection instruments were used: psychosocial measures to assess depression, loneliness, social isolation, and family support; socio-demographic variables; history of chronic diseases; medication-taking practices; activities of daily living (ADLs); instrumental activities of daily living (IADLs); and mental status. Data for this study were collected as part of a larger study in which a series of health screenings were administered to homebound older adults. Written consent to participate was obtained from each participant after obtaining IRB approval.

Measures

Depression

The Geriatric Depression Scale (GDS) was administered to participants to screen for symptoms of clinical depression in this older adult population. The short form of the scale which is comprised of 15 items (GDS-SF) was used in this study, although a 30-item version (long form) is also available. This instrument is ideal for older adults because it does not focus on somatic symptoms. GDS-SF scores range from 0 (no depressive symptoms) to 15 (severe depressive symptoms). Internal consistency (alpha = 0.94) and test-retest score reliability (r = 0.85) have been reported for the GDS which is widely used in measuring geriatric depressive symptoms. The short version correlates strongly with the full version. Discriminant validity has been documented to be in the 0.8 range. A score greater than five on the short 15-item version of the GDS was used to indicate depression with participants in this study. Cronbach’s alpha in our sample measured 0.80 (n = 481) for the scale.

Functional status

A modified version of the Katz Index of Independence in Activities of Daily Living21,22 (ADLs) including 5 ADLs and two selected items from Lawton and Brody’s instrument23 measuring Instrumental Activities of Daily Living (IADLs) were used to measure functional status. Using a 5-point Likert scale ranging from never to all of the time, each participant was asked to identify the degree to which s/he was able to perform the specific activities during the previous two-week period. Responses were collapsed into the following ordinal categories: (1) functions independently, (2) requires minimal assistance in the home, (3) requires moderate assistance in the home, and (4) requires maximum assistance in the home. Lower scores indicate a higher degree of functional dependence. Internal consistency for the7-item functional status scale was 0.86 (n = 228).

Satisfaction with family support

The Family Support Satisfaction Scale (FSSS) was developed to assess satisfaction with family support received by older adults with chronic conditions and is reported elsewhere. Typically, family members are the primary source of support for older adults who often live alone while coping with multiple chronic diseases and deteriorating health conditions. The instrument consists of 13 statements and uses a dichotomous scale to which participants were asked to respond with agreement or disagreement. Statements were constructed to address participant satisfaction with affective social support provided by family members, including expression of value, esteem, understanding, acceptance, and encouragement24,25 as well as perceptions of social integration and assistance provided by family for coping with chronic health conditions. Scores range from 0 (low support) to 13 (high support) on the FSSS. Internal consistency for the FSSS in our sample was 0.88 (n = 518).

Loneliness and social integration

Loneliness, perceptions of someone to call for help and perceptions of available support from family and friends when needed to manage health problems were measured to determined perceptions of social integration. Participants were asked to respond to the following Likert statements using a 5-point scale ranging from one (never) to five (all of the time): (1) I am lonely, (2) I have someone whom I can call on when I need help, (3) I have all the support I need from family and friends to manage my health problems. Whether or not participants lived alone was also determined.
Analyses

Descriptive statistics were computed for sample variables. Demographic data analyzed included age, gender, race, education, and living situation (alone/not alone), type of health care financial plan, chronic diseases and conditions, number of medications, and frequency and type of health care received. Summary scores on the GDS were computed. We conducted linear regression analysis with depression as the dependent variable and functional status (ADLs/IADLs), living alone, gender and loneliness and satisfaction with family support (FSSS) respectively to test the predictor ability of functional limitations and the psychosocial measures in older adults with chronic health problems.

Results

Characteristics of the sample

The sample in this study of 533 homebound older adults, was 76.1% (n = 406) female and 71.8% (n = 383) white. The mean age was 78.5 years (SD = 8.8; range = 60–100), and 48% were 80 or older. The mean level of education (measured by reports of last grade of school completed) was 7.9 years (SD = 3.6; range: 0–20 years), with 55.4% completing eight grades or less. Forty-three percent received Supplemental Security Income (SSI). Only 18.5% received some form of retirement income in addition to Social Security, and 32.4% relied on family for financial assistance. Medicaid was the primary source of health care financing for the majority of participants (56.8%).

A total of 186 participants (35.9%) scored above the threshold for depression on the GDS-SF (>5), and covariate-adjusted odds ratios were examined to interpret the nature of any significant predictive effects. The most commonly cited chronic diseases were hypertension (66.7%), arthritis (66.7%), heart disease (48.1%), diabetes mellitus (28.8%) and respiratory disease (24.2%). The mean number of chronic conditions reported per individual was 3.33 (SD = 1.87; range = 1–14). Of total participants, 91.4% reported two or more chronic health conditions and 8.2% had no health care provider. Although 61.5% of this homebound, community-dwelling sample lived alone, data indicated that only 42% reported maintained functional independence (Table 1), measured by Activities of Daily Living (ADLs-Katz Instrument) and select Instrumental Activities of Daily Living (IADLs), while 77.5% reported loneliness, and only 46.9% of participants reported having someone to call for help.

Associations among study variables

To assess underlying associations among study variables, bivariate correlations were examined. Results are displayed in Table 2. Five independent variables correlated with depression. Family support (FSSS) was inversely associated with depression, indicating that individuals who reported family members to be less supportive were more likely to be depressed. Loneliness was strongly associated with depression. As loneliness increased, depression increased; yet, living status (living alone vs not living alone) was not significant. The association between functional status and depression was strongly positive, indicating that as dependence on others increased, depression increased. The relationship between loneliness and perceptions of family support (FSSS) is significant (r = −0.33, p < 0.001), as is the relationship between family support and depression (r = −0.34, p < 0.001). Previous studies confirm the association between loneliness and depression in older women. Neither the number of chronic conditions nor the number of medications was significantly related to depression. Chi square analysis of the relationships between gender and living alone with depression was not significant.

Predictors of depression

The results of the linear regression analysis are presented in Table 3. Loneliness (p < 0.001), family support (p < 0.001), functional status (p < 0.001) were all found to be significant independent predictors of depression status in this sample of homebound rural older adults. Reports of chronic conditions, including arthritis, heart and cardiovascular conditions, hypertension, diabetes mellitus and chronic respiratory disease did not contribute to the significance of the model after adjusting for loneliness, family support, and functional status. Furthermore, neither client gender nor race was a significant predictor of depression status.

A logistic regression model was run to evaluate the variables thought to be important predictors of those with depressive symptoms over the normal threshold (GDS-SF > 5), thus treating the dependent variable as dichotomous. Continuous predictors, including family support, loneliness, and functional limitations were transformed to z-scores, and these standardized continuous measures were entered into the logistic regression model along with dummy-coded vectors for gender and chronic medical conditions (diabetes, arthritis, respiratory disease, hypertension, heart and other cardiovascular diseases).

The covariate-adjusted odds ratios suggest that loneliness was the strongest predictor of depression in the model. For every increase of a standard deviation in loneliness, the odds of depression were found to more than double. As satisfaction with family support increased by a standard deviation, the odds of depression were found to be reduced by approximately two-thirds (OR = 0.69). Of the reported chronic illnesses, only diabetes was found to be related to the rate of significant depression (OR = 1.69).

Table 1

<table>
<thead>
<tr>
<th>Level of functional independence</th>
<th>Response rate</th>
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<tbody>
<tr>
<td>(1) Requires maximum assistance in the home</td>
<td>7.5% (n = 40)</td>
</tr>
<tr>
<td>(2) Requires moderate assistance in the home</td>
<td>17.0% (n = 91)</td>
</tr>
<tr>
<td>(3) Requires minimal assistance in the home</td>
<td>32.5% (n = 174)</td>
</tr>
<tr>
<td>(4) Functions independently</td>
<td>42.0% (n = 228)</td>
</tr>
</tbody>
</table>

Table 2

Bivariate correlations among study variables.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
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<tbody>
<tr>
<td>1. Depression (GDS)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Functional status</td>
<td></td>
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<tr>
<td>3. Loneliness</td>
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<tr>
<td>4. Perceived family support (FSSS)</td>
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<tr>
<td>5. Gender</td>
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Table 3

Linear regression model of depression.

<table>
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<tr>
<th></th>
<th>B</th>
<th>SE</th>
<th>Standardized β (Beta)</th>
<th>T</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>0.202</td>
<td>0.295</td>
<td>0.027</td>
<td>0.684</td>
<td>n.s.</td>
</tr>
<tr>
<td>Loneliness</td>
<td>1.053</td>
<td>0.129</td>
<td>0.344</td>
<td>8.174*</td>
<td>p &lt; 0.001</td>
</tr>
<tr>
<td>Family support (FSSS)</td>
<td>−0.219</td>
<td>0.038</td>
<td>−0.240</td>
<td>−5.713*</td>
<td>p &lt; 0.001</td>
</tr>
<tr>
<td>Functional status</td>
<td>0.812</td>
<td>0.135</td>
<td>0.239</td>
<td>6.018*</td>
<td>p &lt; 0.001</td>
</tr>
</tbody>
</table>

Overall model R² = 0.295 (p < 0.001).
Discussion

Previous studies examining depression in older adults have shown that a score greater than five on the GDS-SF is useful in screening for depression. Using this parameter, the prevalence of depressive symptoms was significantly high in homebound older adults screened in this study. Results indicate that satisfaction with family support, functional dependence for activities of daily living, and feeling of loneliness are useful predictors of depression in this sample of community-dwelling, homebound older adults. Living alone, ethnicity and gender differences were all three non-significantly related to depression. Lower levels of perceived family support and functional dependence, as well as feeling of loneliness were associated with higher levels of depressive symptoms. Living alone was not a significant predictor of depression. Importantly, the number of chronic diseases and the presence of chronic conditions, with the exception of diabetes, were not significantly related to depression.

The association among social determinants of health variables, including family support, someone to call for help and perceived help from family and friends was strong, indicating multicollinearity among the variables. The FSSS was designed to comprehensively assess perceptions of satisfaction with social support received by older adults coping with chronic illnesses; therefore, the variables “someone to call for help” and “perceived help from family and friends” are presumed to be inclusive concepts of that scale. For that reason, they were not included in the predictor model. The FSSS demonstrated internal consistency (r = 0.88) when assessing perceptions of family support and was associated with depression (r = –0.34, p < 0.001).

Only 42.6% of participants were able to perform select activities of daily living independently in this study. Given the rates of chronic illness and complex medical regimens among participants, this is not surprising; however, neither number of chronic diseases nor number of medications taken per day was significantly related to depression. It appears that the resulting functional limitations of those conditions are directly related to depression (r = 0.26, p < 0.001), rather than the conditions themselves. This supports findings of previous studies.

Understanding the relationship between support, function and depression has important implications for the practice of nursing with an aging population. The need to improve access to psychotherapy for older adults with depression, particularly, low-income homebound older adults has been identified. Primary prevention of depression remains an understudied area; however, evidence to date indicates that individual cognitive behavioral therapy is effective in treating depression in older adults. Telehealth is one vehicle by which therapy may be successfully delivered to homebound older adults, although barriers of stigma remain for engaging older adults in therapeutic relationships.

Treatting depression may require an interdisciplinary and community-based approach. Recent interventions using mental management and trained social workers, along with existing aging network services are showing positive results in addressing depression among older adults, including those who are homebound. One such intervention is Healthy IDEAS — Identifying Depression, Empowering Activities for Seniors — a community-based program aiming to address barriers to mental health through case management and engagement in activities of interest. Another intervention, Beat the Blues, is a community-integrated home based depression intervention for older African-Americans that uses existing strategies of service delivery. B. the Blues trains social workers to treat depression through case management, referral and linkage, depression education, stress reduction techniques, and behavioral activation.

In conclusion, depressive symptoms in older adults, particularly those who are homebound and coping with complex co-morbidities, exist at rates that are significantly high while under-recognized, thus limiting access to needed treatment. It is important for nurses, working in collaboration with other health care professionals and aging service providers, to screen for depression and initiate appropriate treatment as soon as possible. Providing preventive and secondary treatment for older adults with decreased independence in activities of daily living, particularly those who are not satisfied with family support provided for them in coping with chronic illnesses and/or those who are lonely, should be a priority. Early interventions may delay or diminish depressive symptoms and improve overall quality of life for those older adults living in the community and most at risk.

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