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Contributing Factors of Depressive Symptoms among Rural Older Adults in South Dakota

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Abstract

The present study examined the relationships between physical health stressors (chronic conditions and functional disability) and coping resources (religiosity and social support) on depressive symptoms among rural older adults in the lens of a stress and coping model. This study used a cross-sectional survey design with convenience sampling of 261 community-dwelling rural older adults (aged 50 or older) in South Dakota. Hierarchical multiple regression tested three sets of predictors on depressive symptoms: (1) sociodemographic variables, (2) physical health stressors (chronic conditions and functional disability), and (3) coping resources (social support and religiosity).Most participants had no physical functioning problems for daily activities, while presenting over two types of chronic medical conditions. Depressive symptoms were positively associated with functional disability and negatively associated with religiosity and perceived social support. Additionally, lower income indicated higher levels of depressive symptoms. Findings highlight that practitioners should engage religiosity, family, friends, and community support, advocate for access to adequate healthcare, and pay attention to low income circumstances and needs when working with rural older adults. The findings also supported the stress and coping model as a useful framework for understanding depressive symptoms among rural older adults.

Keywords: Physical health stressors, religiosity, social support, rural older adults, depressive symptoms

Rural Americans comprise an estimated 20% of the U.S. population (U.S Census Bureau, 2010) and represent one of the largest subgroups with recognized challenges in receipt of mental health services. In the past several decades, mental health disparities among rural older adults have persisted with regard to rates, severity, and outcomes of mental illness (Smalley, Warren, & Rainer, 2012). Additionally, depression is one of the most common psychological problems among rural older Americans (Fortney, Herman, Xu, & Dong, 2010; Smalley et al., 2012). Prevalence of depression among rural populations is higher than urban populations (6.1% and 5.2% respectively) (Probst et al., 2006). Several risk factors are consistently associated with increased depressive symptoms in rural older adults. These include stigma, poverty and limited resources, chronic diseases, functional disability, lack of anonymity, lack of culturally acceptable treatment, and geographic isolation (Hauenstein et al., 2007; Jameson & Blank, 2007; Koenig, King, & Carson, 2012; Smalley et al., 2012). There is also a general recognition that certain demographic characteristics such as being female, being unmarried, living alone, and experiencing lower economic status are associated with increased vulnerabilities and depressive symptoms (Jang et al., 2008; Mui, 2001).

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On the other hand, researchers have consistently found social support and religiosity to be protective factors against depressive symptoms among older adults (Koenig et al., 2012; Pickard, Inoue, Chadiha, & Johnson, 2011; Roh et al., 2015; Tennant, 2002; Yoon & Lee, 2007). Religion and social support in particular, play an extremely prominent role for individuals residing in rural areas (Pickard et al., 2011). Older adults living in small communities are more likely to regularly attend church (Koenig et al., 2012; Taylor et al., 2000), and religious beliefs and social support available from church, family, and friends can promote an individual's well-being (Koenig et al., 2012). In light of the reported mental health disparities, research is needed to reduce disparities among older populations and improve their overall psychological well-being (Smalley et al., 2012). While studies on rural older adults' mental health is scarce, attention to disparities as experienced by rural older adults is virtually absent in the literature (Fortney et al., 2010; Smalley et al., 2012). Commentary on the insufficiency of the existing research has emphasized the risk factors associated with depression among rural older adults and the need to better understand protective factors rural elders may have, that could buffer them from mental health problems and promote their good mental health (Fortney et al., 2010; Koenig et al., 2012; Yoon & Lee, 2007). Moreover, the lack of information about depression in this group has hindered the development of effective, culturally sensitive protocols for detection, identification, and intervention, and may leave rural older adults at increased risk. To address this knowledge gap, this paper uses stress and coping theory to examine the role of risk and potential protective factors for depressive symptoms among rural older adults.

Theoretical Framework

The present study uses a stress and coping model (Lazarus & Folkman, 1984), which has been employed by various researchers to examine the relationship between personal and environmental stressors, coping resources, and a person's mental health (Kang, Basham, & Kim, 2013; Roh, 2010; Rozario & DeRienzis, 2008). Stress is defined as the internal and/ or external demands placed on an individual (Folkman & Lazarus, 1980), while coping is the cognitive and behavioral efforts to manage (master, reduce, or tolerate) specific stressors, such as social support systems, beliefs, and problem-solving skills (Lazarus & Folkman, 1984). Characteristics of rural environments, such as geographic isolation and limited options for health care, have been recognized as risk factors that may contribute to depression in rural older adults (Fortney, 2010). However, mechanisms of religiosity and social support implicate how rural older adults might positively cope with and adapt to rural environments. Based on the stress and coping model, this study aimed to examine the multidimensional aspects of physical health stressors, religiosity, and social support as predictors of depression among rural elders. We hypothesized that physical health stressors (chronic conditions and functional disability) and coping resources (religiosity and social support) would be good predictors of depressive symptoms for rural older adults.

Literature Review

Characteristics of Rural Older Adults

The Office of Management and Budget defines "rural" as a county with a population of less than 10,000 people. This definition allows us to examine the concept of rurality in a more refined way in this study (U.S. Census Bureau, 2010). Compared with other areas of the U.S., the Midwest has a high concentration of rural older adults (Jacobsen, Kent, Lee, & Mather, 2011; Johnson, 2005). By 2025 the number of individuals 65+ in South Dakota, where the present study took place, will double and older adults will comprise 24% of the state's population (South Dakota Department of Social Services [SDDSS], 2009). Compared with their urban counterparts, rural older Americans have lower retirement incomes and social security payments (Coburn, 2002). Rural older adults self-report more chronic conditions, experience more limitations in activities of daily living (ADLs), and experience a greater number of acute conditions than older adults residing in urban areas (Jennings-Harris & Mabry, 2006; Johnson, 2005). The oldest old, those over 85 years of age, are also disproportionately present in rural areas (Johnson, 2005). These individuals have the highest rates of disability and institutionalization (Jacobsen et al., 2011) and require more health care services and long-term care assistance due to chronic conditions (Hays et al., 2001; Jennings-Harris & Mabry, 2006; Johnson, 2005). Elders living in rural South Dakota are a potential high-risk group in terms of mental health outcomes given the low density population, insufficient transportation options and health care access, and limited available health care professionals (Dellinger, 2012; SDDSS, 2009; Johnson, 2005). According to the South Dakota Office of Rural Health (SDORH), 57 of the 66 counties in the state are medically underserved and 61 counties lack sufficient access to mental health professionals.

Few available providers, access problems and less health-related technologies, other health and social services are presumed to contribute to low utilization of mental health services among older adults in the state (SDDSS, 2009).

Physical Health Constrains and Depression among Rural Older Adults

Physical health concerns are a known stressor for older adults (Jang et al., 2008; Jennings-Harris & Mabry, 2006; Lincoln, Chatters, & Taylor, 2003). Chronic functional limitations, including difficulty ambulating and completing daily activities such as bathing and dressing, are particularly significant for older adults because they represent stressors that develop and persist over time (Jang et al., 2008; Jennings-Harris & Mabry, 2006). These strains also create opportunities for psychological distress and depressive symptoms, such as feelings of loss of independence, sadness, and changes in mood (Lincoln et al., 2003; Jennings-Harris & Mabry, 2006; Roh, Lee & Yoon, 2013). Declines in basic and instrumental functional abilities can also be triggered by severe depressive symptoms (Hays et al., 2001; Jang et al., 2008) and further affect overall life distress (Jang et al., 2008; Kang, Basham, & Kim, 2013). Diseases and functional disabilities associated with obesity, diabetes, heart disease, and compromised immune systems can be exacerbated by depressive symptoms (Brenes et al., 2008; McGuire, Kiecolt-Glaser, & Glaser, 2002; Vogelzangs et al., 2008). So while some older adults may experience depression because of a decline in physical health, other older adults may experience physical decline because of depression. The relationship between physical health strains and depression presents complexity for health care professionals assisting older adults with adequate treatment. Of particular concern are serious cases of depression concentrated in patients with high comorbidities (Kessler, Chiu, Demler, Merikangas, &Ealters, 2005) which often go under-recognized, untreated, and misdiagnosed (Akincigil et al., 2012; Kang et al., 2013; Mui, 2001; Robnett& Chop, 2015). Depression left untreated contributes to poor psychological well-being, morbidities, and even premature death (Fullerton et al., 2011; Kessler et al., 2005). Late life depression can also cause distress for the families of older adults (Mui, 2001) and depression also serves as a significant risk factor for suicide (Kang et al., 2013; Mui, 2001).

Religiosity and Depression among Rural Older Adults

Religiosity has been identified as a protective factor against the incidence and persistence of depressive symptoms (Koenig, King, & Carson, 2012). Formal religious participation is conducive to better health (Koenig, 2012) and compared with urban elders, higher levels of religiosity are observed in rural older adults (Johnson, 1996; Mitchell & Weatherly, 2000). Religiosity has been identified as a multidimensional construct extending beyond church attendance and includes prayer, beliefs and values, and faith (Arcury, Quandt, McDonald & Bell, 2000; Mitchell & Weatherly, 2000; Roh, Lee, & Yoon, 2013; Taylor et al., 2012) and contributes to significant decreases in depression and distress (Bonner, Koven, & Patrick, 2003; Stanley et al., 2011). Poor health, combined with an inability to participate in religious activities, can lead to negative mental health outcomes (Mitchell & Weatherly, 2000). Musick (2000) found that substance abuse among rural older adults, in concert with low religious activity, was associated with more depressive symptoms. Koenig (2012) evaluated the religiosity literature dating back to the 1800s, and faith, religion, and prayer were used by rural older adults, along with medical treatment, to manage health (Arcury et al., 2000; Lee, 2011; Mitchell & Weatherly, 2000; Taylor et al., 2012). Taylor and associates (2012) identified religious participation and coping to be protective factors for mental health, with the impact especially pronounced for those attending religious services at least once per week. Yoon and Lee (2007) also found that religiousness is inversely related to depression among rural older adults.

Social Support and Depression among Rural Older Adults

Social support is a multidimensional construct which includes active and instrumental assistance, emotional support, religious support, and network support (Kahn, 1979; Patrick et al., 2001; Roh et al., 2013). Factors contributing to depression include little social contact, fewer friends, living alone, increased number of stressful life situations, and dissatisfaction with existing support (Mui, 2001; Roh et al., 2013). As a dynamic and reciprocal system of relationships (Cornwell, Laumann, & Schumm, 2008; Kahn, 1979), social support is a lifelong coping mechanism, with family and friends as prominent contributors (Giles, Glonek, Luszcz, & Andrews, 2005; Yoon & Lee, 2007). Distance and transportation issues (Johnson, 1996), functional limitations (Jennings-Harris & Mabry, 2006), and outmigration of young people (Johnson, 2005) are factors that put rural older adults at risk for social isolation and reduced social support. However, studies have shown that rural elders subjectively rate their social support higher than their urban counterparts, suggesting frequency is less important than quality and perception (Evans, 2009).

Perceived social support has been found to be a predictor of mental health among rural older persons (Johnson, 2005; Roh et al., 2015). Social support has also been identified as a protective factor against decreased performance in instrumental activities of daily living (IADLs), suggesting that social support may encourage older persons to remain physically active and comply with mental health treatment (Dorgo, Robinson, & Bader, 2009; Hays et al., 2001). A higher perceived stigma of mental health treatment has been associated with greater withdrawal of social support networks (Jamison & Blank, 2007). Other research has shown social support to have a positive effect on recovery from illness (Lincoln et al., 2003) and to help mitigate psychological distress and lower levels of anxiety and depression (Roh et al., 2013). In sum, the present study on the effect of physical health stressors and coping resources on depressive symptoms among rural older adults is an important area of research for several reasons. Rural older adults are understudied population and are at high risk for mental health concerns. This group is also at a disadvantage for access to mental health services. Lastly, religiosity and social support, found to be relevant in the lives of many rural elders, are protective factors for depressive symptoms in older people.

Methods

Sample and Data Collection

Data collection took place between January and May, 2013 following approval from the Institutional Review Board at the University of South Dakota. A convenience sample of 261 rural older adults was recruited through a variety of sources including local churches, restaurants, social service centers, senior housing facilities, senior centers, and food pantries. Being drawn from non-metropolitan populations with fewer than 50,000 residents (US Census Bureau, 2010), the sample in this study classifies as "rural". Participants were required to be 50+ and to have sufficient cognitive ability to understand and complete the survey. Before administering the survey, interviewers described the study purposes, procedures, scope of questions that would be asked (e.g., religiosity, social support, depression), confidentiality precautions, as well as the benefits and risks of the study. While questionnaires were designed to be self-administered, college students trained as interviewers were available to assist anyone who needed help; three participants needed such assistance. All participants gave informed written consent prior to the interview. The self-administered survey took about 30 minutes to complete and respondents were paid $10 for their participation.

Measures

Depressive symptoms. The Geriatric Depression Scale–Short Form (GDS-SF; Sheikh & Yesavage, 1986) was used to assess depressive symptoms. Using a yes/no format, respondents rated 15 items (e.g., "Do you feel your life is empty? and "Are you in good spirits mostly?"). Scores on the GDS-SF ranged from 0 (no depressive symptoms) to 15 (severe depressive symptoms). A score of 4 and above indicates probable depression (Greenberg, 2012; Sheikh & Yesavage, 1986). In the current study, internal consistency of the GDS-SF was .91.

Physical Health Stressors

Chronic conditions. Using a yes/ no format, participants were asked to report existing medical conditions using a nine-item list of chronic diseases and conditions commonly found among older populations (e.g., arthritis, stroke, heart problems, diabetes, cancer). A summated score was used for the analysis.

Functional disability. Functional status was assessed with a composite measure of the physical activities of daily living (ADLs; Fillenbaum, 1988), instrumental activities of daily living (IADLs; Fillenbaum, 1988), the Physical Performance Scale (Nagi, 1976), and the Functional Health Scale (Rosow& Breslau, 1966). The 20 items covered a wide range of activities including eating, dressing, traveling, managing money, carrying a bag of groceries, and the ability to reach above the head with one's arms. Participants were asked whether they could perform each activity, and responses were coded as 0 (without help), 1 (with some help) or 2 (unable to do). The total scores range from 0 (no disability) to 40 (severe disability). Internal consistency was .91 in the current study.

Coping Resources

Religiosity. Religiosity was measured using the Duke University Religion Index (DUREL; Koenig & Büssing, 2010; Koenig, Meador, & Parkerson, 1997). The DUREL is a five-item measure of religiosity and includes three dimensions: organizational religiosity (1 item), non-organizational religiosity (1 item), and intrinsic religiosity (three items). Organizational religiosity and non-organizational religiosity are scored on a six-point Likert-type scale while the three intrinsic religiosity items use a five-point Likert-type scale. The total score is calculated by summing the scores of all items that ranged from 5 to 27; higher scores indicate higher levels of religiosity. The internal consistency was .83 in the current study.

Social support. The Multidimensional Scale of Perceived Social Support (MSPSS) was used to measure perceived social support from family, friends, and significant others (Zimet, Davlem, Zimet, & Farley, 1988). This instrument consists of 12 items and a four-point response format ranging from 1 (strongly disagree) to 4 (strongly agree). The internal consistency was .93 in this study. Higher scores reflect higher levels of perceived social support.

Sociodemographic Characteristics

Demographic information included age (in years), gender (0 = male; 1 = female), marital status (1 = married; 0 = otherwise), educational attainment (0 = < high school; 1 = ≥ high school), self-rated physical health (0= poor; 1= fair, good, and excellent), and income (0 = under $20,000; 1 = over $20,000).

Data Analysis

Descriptive statistics and correlations were calculated to understand the sample's demographic characteristics and to examine associations among the key variables. To examine the research hypothesis, we used a hierarchical multivariate regression. Depressive symptoms, the dependent variable, was regressed on predictors in 3 steps: step 1 - demographics, step 2 – physical health stressors (chronic medical conditions, functional disability), and step 3 - coping resources (social support and religiosity). There were no multicollinearity issues identified among independent variables since the tolerance scores for all independent variables were greater than .69 (Mertler & Vannatta, 2009). SPSS version 21 was used to conduct the analyses.

Results

Characteristics of the Participants

Table 1 presents the demographic characteristics of the participants (*N* = 261). The rural older adults in this study ranged in age from 50 to 102 (*M* = 73.73). More than half of the sample (65%) was female and 45.1% were married. Most (82.7 %) had at least a high school degree or GED. Approximately 43% of the participants made less than $20,000 annually. The majority of participants (98.4%) rated their physical health as fair, good, and excellent.

Table 1: Demographic Characteristics of Rural Older Adults (*N*=261)

	Range or Category	% or *Mean(M)*
Age	50-102	73.73 (*M*)
Gender	Female	65
	Male	35
Marital Status	Married	44.8
	Otherwise Divorced	12.6
	Widowed	31.8
	Never Married	8.8
Education	Less than HS Diploma/GED	17.3
	More than HS Diploma/GED	82.7
Annual household income	Less than $20,000	42.6
	More than $20,001	57. 4
	Poor	1.6
Self-rated physical health	Fair/good/ excellent	98.4

Description of the Main Variables

As depicted in Table 2, the average scores for depressive symptoms were 2.29 (*SD* = 2.52), indicating no depressive symptoms on average. Based on their scores, most participants (86.3 %) did not have depressive problems, but 10.8 % had mild depressive symptoms and 2.9 % had severe depression. Although many respondents (59.4%) had more than two types of chronic medical conditions (e.g., high blood pressure, arthritis, and high cholesterol), 74.8% had no problems performing daily physical activities.

Participants reported moderate religiosity, with a mean of 21.63 (*SD* = 4.63) and a range from 6 to 27. The mean score for social support (39.62, *SD* = 6.55) was higher than the mean reported for a general sample of older adults in rural areas (Yoon & Lee, 2007). Depressive symptoms correlated in a positive direction with functional disability, and in a negative direction with social support and religiosity. The correlation with chronic medical conditions was not significant.

Table 2: Range, Mean, and Standard Deviation of Main Variables and Correlation with Depressive Symptoms (*N*=261)

	Range	*M*	*SD*	*r*
Depressive Symptoms	0-14	2.29	2.52	
Functional Disability	0-36	3.17	5.58	.332**
Chronic Medical Conditions	0-10	2.26	1.65	.057
Social Support	14-48	39.62	6.55	-.299**
Religiosity	6-27	21.63	4.63	-.258**

** $p < .01$

Prediction of Depressive Symptoms

Table 3 summarizes the hierarchical regression results on the role of functional disability, chronic medical conditions, social support, and religiosity in explaining depressive symptoms among rural older adults. In step one, demographic variables explained 9.2% of the variance in depressive symptoms. In step two, functional disability and chronic medical conditions added 10.7% to the explained variance. In the final step, social support and religiosity added another 10.2% to the explanation, for a total explained variance of 26.0%. In the full model, functional disability, religiosity, and social support were significant predictors of depressive symptoms, along with the covariates income. When controlling for the other variables, social support (β = -.234, $p \leq .01$) and religiosity (β = -.230, $p \leq .01$) predicted fewer depressive symptoms, while higher functional disability predicted more depressive symptoms (β = .354, $p \leq .001$). Lower income predicted higher scores on depressive symptoms (β = -.192, $p \leq .05$). Age, gender, education, marital status, and self-rated health were not significant predictors of depressive symptoms.

Table 3: Hierarchical Multiple Regressions on Depressive Symptoms among Rural Older Adults: Standardized Regression Coefficients and Standard Errors (*N*=261)

Predictor	Step 1-Controls		Step 2-Stressor		Step 3-Coping	
	ß	SE	ß	SE	ß	SE
Demographics						
Age	.021	.015	-.041	.015	.006	.014
Gender (male)	-.126	.364	-.163	.346	-077.	.336
Education	-.039	.531	.045	.517	.088	.495
Income	-.192	.408*	-.184	.387*	-.164	.365*
not married	-.059	.386	-.041	.366	.017	1.06
Self-rated health	-.145	1.179*	-.135	1.116	-.095	1.056
Physical Health Stressors						
Functional Disability			.350***	.033	.354***	.031
Chronic Medical Conditions			.007	.097	.006	.091
Coping Resources						
Social Support					-.234**	.035
Religiosity					-.230**	.026
F	2.990**		5.435***		7.472***	
R^2 *Change*	.092		.107		.102	
R^2	.092		.198		.300	
Adjusted R^2	.061		.162		.260	

* $p < .05$, ** $p < .01$, *** $p < .001$

Discussion

Researchers often utilize stress and coping models to examine stressors in the social environment that contribute to distress and depression, identify resources used to ameliorate stressful situations, and distinguish coping strategies used to deal with stress (Jennings-Harris & Mabry, 2006). The present study hypothesized that physical health stressors (chronic conditions and functional disability) and coping resources (religiosity and social support) would be good predictors of depressive symptoms for rural older adults. Hypothesis was supported. The best predictors of depressive symptoms in rural elders were income, functional disability, religiosity, and social support. Specifically, older rural adults who reported greater levels of religiosity and social support tended to experience lower levels of depressive symptoms. Also, higher functional disability was positively associated with depressive symptoms. As predicted, religiosity was a significant protective factor of depressive symptoms and study results show our sample to have higher levels of religiosity, reinforcing the use of religiosity as a coping mechanism to manage life stressors (Lazarus &Folkman, 1984; Taylor et al., 2012). Findings support other research purporting the importance of religiousness as more pronounced among older persons (Mitchell & Weatherly, 2000), as a self-care strategy for rural older adults (Arcury et al., 2000), and as minimizing the potential for depression (Roh et al., 2014). Religiosity as a protective factor to depressive symptoms suggests that participation in meaningful religious activities can be a coping resource for rural elders. Religiosity appears to be a type of emotion-focused coping where, in situations that cannot be changed, individuals rely on their religion to reappraise of life stressors (Harvey, 2009; Lazarus & Folkman, 1984). Additional research is needed to explore other factors of religiosity in older adults, such as education, income, and comparisons between urban and rural older adults. For example, this study revealed a positive association between religiosity and education, despite other studies suggesting an inverse relationship (Vahia et al., 2011). Future studies on the multidimensional construct of religiosity should examine causal pathways (e.g. stress prevention and support mobilization) and mechanisms (Taylor et al., 2012). Findings from this study support the notion that health care professionals should include religiosity as a discussion topic when working with rural older adults.

Social support was also identified as a predictor of depression in rural older South Dakotans. Although participants in this study did not report on their occupations, it is possible that many had ties to agricultural communities. These types of areas tend to provide richer sources of social support involving mutual aid, healthier lifestyles including activities such walking, hunting, and gardening, better living environments, and dietary habits incorporating more vegetables (Peres et al., 2012). Future studies should further examine these aspects of agricultural communities. While evidence is mixed on the relationship between social support and marital status (Hays et al., 2001; Patrick et al., 2001), the current study demonstrated a positive relationship between social support and being married. Social support is recognized as diminishing the negative effects of stress, and research has suggested the most powerful measure of social support involves a confiding relationship, indicative of marital status (Jennings-Harris & Mabry, 2006). Overall, the current study advances the literature on social support as a multidimensional and dynamic construct, as posited by Kahn (1979) decades ago. It further supports that rural older adults actively utilize both emotion- (religiosity) and problem-focused (social support) coping strategies to respond to stressors (Lazarus & Folkman, 1984).

As expected, a substantial percentage of older adults reported lower income, and the majority of study participants were female and widowed, consistent with national data on older Americans. A significantly high percentage of participants self-reported fair, good, and excellent physical health, lower levels of functional disabilities, and lower levels of depressive symptoms. Previous studies have shown that positive self-rated health moderates the relationship of functional disability and depressive symptoms (Jahn & Cukrowicz, 2012; Jang, Park, Kim, Kwag, Roh, & Chiriboga, 2012), with age progression as a key consideration for depression and poorer health self-ratings (French, Sargent-Cox, & Luszcz, 2012). The high self-rated health in this study might be due to the recruitment locations utilized for data collection. Local churches, restaurants, social service centers, senior centers, and food pantries suggest manageable functional mobility exists among the participants and available transportation and support systems are utilized to remain active in the community. Income was inversely related to depression in the current study, supporting other research findings that higher income individuals are less vulnerable to depressive symptoms (Jang et al., 2008). Income levels in the current study were differentiated by the lesser or greater of $20,000. The higher income levels of study participants may be due to lower housing costs associated with rural living, fiscal conservatism, and wisely using retirement income and social security benefits (Jacobsen et al., 2011).

Limitations

The current study has several limitations. First, the regional, nonprobability sample from South Dakota limits the extent to which findings can be generalized to older rural adults elsewhere. Second, the cross-sectional design of the study is not appropriate for exploring causal relationships between the variables. A longitudinal design that utilizes a random sample would better elucidate how religiosity and social support influence levels of depressive symptoms among rural older adults. Third, selection biases might have affected the findings. Participants who chose to participate in the study might have been more willing to discuss depressive symptoms, and thus they might have fewer emotional or psychological problems than others. The level of depression among those who are homebound or institutionalized might be different than those who are actively involved in senior centers, social service centers, and community activities. Fourth, the analyses did not consider differences that might exist in religious involvement across particular faith traditions or denominations in the level of religious participation.

Implications

Despite the limitations, findings from the present study can inform health care practitioners working in rural areas. Given the evidence concerning the influence of religiosity and social support on depressive symptoms, social work practitioners should include routine assessment of spiritual practices and supportive systems when working with rural older adults. Social work practitioners can comprehensively assess the use of religiosity and social support by their patients and give particular attention to those of low income status who may be increasingly vulnerable to socioeconomic factors affecting access to health care services. A longitudinal approach to assessment further establishes evidence of resilience, which is critical to dealing with chronic functional disabilities and acute recovery processes. Utilizing such assessments within the stress and coping model, interventions can be tailored to the specific needs of rural older adults to strengthen and develop the use of religiosity, friends, families, and community support as self-care resources and mechanisms to cope. For example, social workers can personalize assistance to improve socialization practices (e.g. arrange for community support for transportation to church activities) or strengthen self-efficacy (e.g. introduce new treatment modalities or assist in the education of assistive technologies such as the use of remote sensor technologies). At the same time, social work practitioners must consider the larger context in which rural older adults live. Recommending participation in socially supportive activities that are financially prohibitive would be considered frivolous and may result in an adverse emotional response for some older adults.

Multifaceted approaches are needed to address depressive symptoms among rural older adults. A tailored approach requires culturally competent practitioners and culturally sensitive interventions. Working collaboratively and across disciplines, practitioners can help rural elders draw on religiosity and social support that may exist, to help them cope with mental health challenges and complex issues of functional health decline. Practitioners need to consider how they can work with faith communities as a potential avenue for education on mental health. Older adults could also be asked if they wish to have a religious leader or adviser included in their health care. Pastoral individuals in the faith community are important contributors to the support system, despite not being explicitly mentioned by older adults (Johnson, 1996). Successful rural models of mental health depend on the collaboration between providers, older adults, and the broader social support system to work together to design interventions and approaches that are relevant to culture and rural life. Such approaches must also consider the education and training needs of rural mental health providers, the use of pastoral and lay religious members to maintain and improve religious activities and extend outreach, and the establishment (or enhancement) of broad networks to enhance services and programs. This study suggests that health care practitioners can learn from rural older adults about the importance of religiosity and social support systems in enhancing quality of life and rural communities in general.

Conclusion

Research of rural older adults lends valuable insight into the contributing factors of depressive symptoms. This study included rural older South Dakotans and revealed that depressive symptoms were positively associated with functional disability, while a negative relationship existed between depressive symptoms and both religiosity and social support. Results suggest that social workers and health care practitioners can be encouraged to incorporate religiosity and social support into discussions with patients in order to identify interventions that can be tailored to rural older adult needs in addressing functional disabilities and mental health. Strengthening the use of religiosity and social support as self-care resources within a stress and coping model may be a primary component within the many tools practitioners can utilize in the future to care for rural older adults.

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