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# Chronic Conditions in Elders in Assisted Living Facilities: Associations with Daily Functioning, Self-Assessed Health, and Depressive Symptoms

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## Abstract

### Background

The increasing life expectancy of older adults has prompted an increase in chronic conditions that may interfere with their daily living and impact physical and mental health.

### Objectives

This study examined associations between commonly reported chronic conditions, daily functioning, self-assessed health, and depressive symptoms of elders.

### Methods/Design

A secondary analysis of existing data from 314 elderly residents of 29 facilities was conducted.

### Results

The most frequently reported conditions were arthritis (64%), hypertension (47%), and heart problems (35%). Elders who reported having all three of these most frequently reported conditions differed significantly from those who reported none or one of the three conditions ( $p < .001$ ) on their perception of interference with daily functioning and self-assessed health. Although differences on depressive symptoms were found between groups defined by number and combinations of conditions, specific trends in the data were not detected. Elder's rating of interference of their chronic conditions on daily functioning was moderately associated with their self-assessed health ( $r = -.50, p < .001$ ) and depressive symptoms ( $r = .41, p < .001$ ).

### Conclusion

While chronic conditions may be unavoidable, assessing their comorbidity in elders is important for developing interventions to preserve their daily functioning and promote their optimal health.

The population of older adults in the U.S. is rising rapidly as a consequence of increasing life expectancy and the aging of the baby boomers (Karel, Gatz, & Smyer, 2012; Rice & Fineman, 2004). The elderly population is expected to reach 72 million by the year 2030 (Administration on Aging [AOA], 2011). The prevalence of chronic illnesses increases with age (National Center for Chronic Disease Prevention and Health Promotion, 2011), currently 80% of older adults have at least one chronic condition, and 50% have two or more (National Center for Chronic Disease Prevention and Health Promotion, 2011). The average 75 year old has three chronic conditions and consumes an average of five different prescription drugs (MIAH, CDC, & GSA, 2004).

Chronic diseases are defined as illnesses that last longer than 3 months; they are incurable, though not necessarily life threatening/nor self-limiting; however, they place a strain on elders, their families, and their communities (Bishop, 2005; Centers for Disease Control and Prevention, 2009; World Health Organization, 2012). Older adults are at high risk for developing chronic diseases. Among the most common identified chronic diseases are: diabetes mellitus, arthritis, and congestive heart failure (United States Department of Health and Human Services [HHS], Healthy People 2020, 2011).

Chronic diseases such as heart disease and diabetes can cause years of suffering and they are the leading causes of death and disability in the United States (Centers for Disease Control and Prevention,

2012). Disability interferes with daily functioning and decreases elders' function, independence, and quality of life (Whittemore & Dixon, 2008). Currently, because of chronic disease and disability more than 7% of non-institutionalized persons 65 years of age and above are unable to perform one or more activities of daily living such as dressing, bathing, using the toilet, and getting in and out of bed or chairs, and the figure increases to more than 18% for those over 85 years old (Centers for Disease Control and Prevention, 2011). Recent research has indicated that those who live with multiple chronic conditions are at the highest risk of disability, poor self-rated health and poor quality of life (McDaid et al., 2013). In fact, self-assessed health has received much attention in gerontological research (Damian, Ruigomez, Pastor, & Martin-Morena, 1999; McDonald, Zauszniewski, Bekhet, DeHelian, & Morris, 2011) and it typically reflects an individual's overall sense of physical well-being (McDonald et al., 2011; Pinquart, 2001). Self-assessed health has been viewed as a valid indicator of health status and it has been correlated with objective health, functional decline, mortality, and the use of health services (Bekhet & Zauszniewski, 2012; Liang et al., 2005; McDonald et al., 2011; Pinquart, 2001).

In addition to physical suffering, negative psychological consequences of chronic illness have been documented for elders (Yang & George, 2005). Fear of being dependent on caregivers may precipitate depressive symptoms in susceptible individuals (Clarke & Currie, 2009; Gignac, Cott, & Badley, 2000) and further, the risk of depressive symptoms increases with the number of chronic diseases (Clarke & Currie, 2009). At the same time, it has been documented that late-life depression increases the likelihood of becoming disabled and can decrease the chance for recovery or even worsen chronic diseases (Cronin-Stubbs et al., 2000; Moussavi et al., 2007). It is a vicious circle: impaired physical health—results in depression, which in turn leads to poorer health. Late life depression is common in long term care facilities, and it has been found to be associated with decreased functioning, disability, increased health care costs, and poorer quality of life (Unutzer & Bruce, 2002). Older people with even minor levels of depressive symptoms have been found to experience significantly poorer quality of life (Chachamovich, Fleck, Laidlaw, & Power, 2008). Furthermore, previous research has found that depression is one of the largest contributing factors to poor self-assessed health among middle aged and elderly men and women (Molarius & Janson, 2002).

Multiple factors, including difficulties with mobility, cognition, self-care and decision making, interfere with elders' ability to remain independent (Lindquist & Colub, 2004). To deal with these difficulties, elders need caregiving services (Talley & Crews, 2007), but they may be impossible to obtain for some elders. An alternative option for seniors who are unable to care for themselves or to have somebody to care for them is placement in an assisted living facility (Fields, Koenig, & Dabelko-Schoeny, 2012; Lindquist & Colub, 2004).

In fact, assisted living facilities are the fastest growing among types of senior housing, at an annual growth rate of 15–20% (Chao, Hagsavas, Mollica, & Dwyer, 2003). In the U.S., there are currently 30,000 to 40,000 assisted living facilities that house approximately 1 million elderly residents (Abrahamson, Bradley, Morgan, & Fulton, 2012; Neville & Teri, 2011; Sloane et al., 2011). Assisted living facilities are home-like residential programs that have been found useful in maximizing the dignity, privacy, and independence of residents (Stachel, Bornschlegel, & Balter, 2012; Wood & Stephens, 2003). They provide social activities, 24 hour supervision, and some health related services (AARP Public Policy Institute, 2004; Neville & Teri, 2011). Such facilities provide care for persons with disabilities and functional limitations and have beneficial effects on their physical and mental well-being (Fields et al., 2012). It has been pointed out that assisted living facilities, in general, have not been studied sufficiently

in terms of their role in the broader long-term care marketplace (Grabowski, Stevenson, & Cornell, 2012; Kahn, 2012). Further, research has found that the growth rate of assisted living facilities led to a 1.4% decline in private-pay nursing home occupancy (Grabowski et al., 2012). For all these reasons, there is a compelling need to focus research on enhancing our understanding of the care needed for older adults in assisted living facilities in order to tailor interventions to best meet their needs.

Indeed, there is a strong, well-known direct relationship between physical health and mental health. More specifically, physical and mental health go hand in hand and their prominent association has been supported by research that shows that persons with chronic physical illnesses often suffer simultaneously from a mental health problem (Jeong et al., 2014). In fact, people living with chronic physical health problems experience depression and anxiety twice as frequently as the general population (Canadian Mental Health Association, 2008). On the other hand, people living with a serious mental illness are at higher risk of experiencing a wide range of chronic physical conditions (Canadian Mental Health Association, 2008). For example, persons with mental illnesses, including depression, often have physical problems, such as joint pain, back pain, gastrointestinal problems, and appetite changes that could interfere with the treatment and detection of depression (Jeong et al., 2014; Trivedi, 2004). Co-existing physical and mental health problems can have serious effects on quality of life and other health outcomes (Canadian Mental Health Association, 2008). Therefore, understanding the mind–body connection is vital for the development of strategies and tailored interventions to support those who are living with mental illnesses and chronic physical health problems (Canadian Mental Health Association, 2008).

Several studies have looked at effects of chronic conditions on elders' daily functioning, and studies have also examined self-rated health and its correlates with chronic conditions (Lindquist & Colub, 2004; National Center for Chronic Disease Prevention and Health Promotion, 2011; Whittemore & Dixon, 2008). Yet, the effects of chronic conditions, individually and in combination, on perceived interference with daily functioning, self-assessed health, and depressive symptoms have not been examined in elders. Therefore the study reported here looked at these relationships in elders residing in assisted living facilities. In fact, it is important to know the relationship between the most frequently reported conditions and which of them, alone or in combination with other conditions, interfere the most with daily functioning and affect self-assessed health and depressive symptoms in order to tailor interventions to help older adults to accept their chronic conditions and to better manage their health and depressive symptoms.

This study addressed the following research questions: (1) What are the most commonly reported chronic conditions in elders in assisted living facilities? (2) Is the number or combination of the most commonly reported chronic conditions associated with poorer daily functioning, poorer self-assessed health, and more depressive symptoms? and (3) Is there an association among perceived interference with daily functioning, self-assessed health, and depressive symptoms?

## Methods

### Design

Data for this secondary analysis were obtained from baseline data obtained in a clinical trial of 314 older adults in assisted living facilities that examined the effects of providing small group activities (resourcefulness training, acceptance training, reminiscence, and diversional activities) on the elder's

perception of health and functional status (McDonald et al., 2011; Zauszniewski, Eggenschwiler, Preechawong, Roberts, & Morris, 2006a, 2006b). Baseline data from the parent study, which were not confounded by the effects of the group activities, were used for this secondary analysis to determine the potential role played by the elder's chronic conditions in their self-assessed health, perceived functioning and self-report of depressive symptoms.

## Sample

The sample for the clinical trial was composed of older adults who resided in 29 randomly selected assisted living facilities in Northeast Ohio. To be included, elders had to have the ability to read, understand, and speak in English; receiving services or assistance with self-care, including ambulation, movement, or toileting or instrumental activities of daily living, preparing meals, shopping, and housework; and be cognitively intact as determined by a score of 7 out of 10 on the Short Portable Mental Status Questionnaire (SPMSQ) (Pfeiffer, 1975).

The sample was composed of 250 women and 64 men; 291 Caucasians, 22 African Americans, and 1 American Indian participated in the baseline interviews that provided the data for this analysis. Their ages ranged from 64 to 98 years, with a mean of about 83 years. The total sample of 314 elders was considered sufficient for examining the relationships among chronic conditions, self-assessed health, daily functioning, and depressive symptoms, and for examining the differential effects of combinations of self-reported chronic conditions on self-assessed health, daily functioning, and depressive symptoms, across eight groups, with an alpha of .05, power .80, and small to medium effect sizes for the required correlations and analysis of variance (ANOVA),  $r > .10$  and  $< .30$ ,  $f > .15$  and  $< .25$ , respectively (Cohen, 1992). Because the analysis required three ANOVAs, i.e., one for each outcome of interest (self-assessed health, daily functioning, and depressive symptoms), we considered F-values significant at the  $p < .05$  level as suggestive of trends and those significant at  $p < .02$  as definitive (Sedgwick, 2012).

## Instruments

Chronic conditions were recorded using a 26-item checklist that was developed by Fillenbaum (1988) as the measure for the physical health component of the Older Adults Resources and Services (OARS) Multidimensional Functional Assessment Questionnaire (MFAQ). Respondents are asked whether each of the 26 conditions is present. This measure was also used to capture the degree to which the condition interferes with their daily functioning or their functional status. Functional status is defined as one's ability to perform daily activities. The questionnaire asks whether the presence of a chronic condition interferes *with their daily activities*. So, if they said yes, it was considered to indicate a limitation in their functional status/daily functioning. Test–retest reliability after 6 weeks on both presence and interference was found to be acceptable ( $r = .50$ ,  $p < .001$ ) in this study sample.

Self-assessed health was measured by three items which asked participants to rate their physical health, as excellent = 4, good = 3, fair = 2, or poor = 1; to rate their health in comparison to their peers, as worse = 1, the same = 2, or better = 3; and to rate the extent to which their health interfered with daily functioning, as not at all = 1, some interference = 2, or extremely bothersome = 3. Individual scores were first standardized and then summed for an overall total score; higher scores indicated better self-assessed health (Cockerham, Sharp, & Wilcox, 1983; Kaplan & Comacho, 1983). Subjective measures of perceived health have been widely used in studies of older adults (Cockerham et al., 1983), and many studies have found that self-rated health is a reliable and valid substitute for objective measures (Kaplan & Comacho, 1983; Shields & Shooshtari, 2001).

Because of the overlap between depressive symptoms and the symptoms of chronic physical conditions, a shortened 10-item abbreviation of the CES-D was developed by Andresen, Malmgren, Carter, and Patrick (1994) and this has been widely used with older adult populations (Zauszniewski & Bekhet, 2009; Zauszniewski & Graham, 2009; Zhang et al., 2012). The 10-item CES-D assesses three dimensions: depressed affect (blues, depressed, fear, lonely), somatic retardation (bothered, sleep, get going, attention), and positive affect (happy, hopeful). These 10 items were extracted from the larger scale and analyzed separately to examine relationships between the types and numbers of chronic conditions and the three item indicators of self-assessed health. Cronbach's alpha for the 10-item CES-D in this sample was .76.

## Data Collection Procedures

Approval from the institutional review board was obtained prior to recruiting older adults for the parent study. Following informed consent, elders recruited for the clinical trial were individually interviewed by trained data collectors in a private setting at a mutually agreed upon time. During the interview, information about demographic characteristics (age, gender, and race), chronic conditions, perceived daily functioning, self-assessed health, and depressive symptoms was obtained.

## Plan for Data Analysis

Descriptive statistics were used to examine the demographics, the main study variables, and the most frequently reported chronic conditions among older adults in assisted living facilities. The analysis consisted of Pearson correlations to examine the associations between chronic conditions, self-assessed health, daily functioning, and depressive symptoms in older adults in assisted living facilities. To examine the impact of the three most frequently reported chronic conditions, including whether elders reported none, one, two, or all three of the conditions on interference with daily functioning, self-assessed health, and depression, we created eight subgroups: (1) a group with those who had none of the three most common conditions; (2) three groups that reported having only one of the conditions (arthritis, hypertension, or heart problems); (3) three groups that reported two of the three conditions (arthritis and hypertension, arthritis and heart problems, or hypertension and heart problems); and (4) a group that reported having all three conditions (arthritis, hypertension, and heart problems). To examine the impact of both the number of the conditions and the various combinations of conditions on the elder's perception of interference with daily functioning, self-assessed health, and depression, one-way analysis of variance was used to examine these differences across the above mentioned eight different subgroups.

## Results

The most frequently reported conditions in this sample of elders were arthritis (64%), high blood pressure (47%), and heart problems (35%). However, 14% of the elders in this sample denied having any of those three conditions. More than one third (39%) of the elders report having only one of the three conditions with 23% reporting arthritis, 10% hypertension, and 6% heart problems. One third of the elders (33%) said they had two of the three most commonly reported conditions; 18% reported having both arthritis and hypertension; 10% had arthritis and heart problems; and 5% had hypertension and heart problems. Finally, 13% of the 314 elders reported having all three of the most commonly reported chronic conditions.

To examine the impact of the three chronic conditions, including whether elders reported none, one, two, or all three of the conditions on interference with daily functioning, we created the eight subgroups described above. Using these eight groups allowed us to simultaneously examine the impact of both the number of the conditions and the various combinations of conditions on the elder's perception of interference with daily functioning. However, the Levene's test revealed that the variance in interference with daily functioning differed significantly across the eight groups [ $F(7,306) = 8.01, p < .001$ ], possibly in relation to unequal group sizes. Therefore, using the Welch adjustment for testing the equality of means across the groups, we found the eight groups to be significantly different on interference with daily functioning [ $F(7, 102.34) = 12.72, p < .001$ ]. Using the Bonferroni post-hoc test, the examination of mean scores across the eight groups (Table 1) revealed that elders who reported having all three of the most frequently reported conditions (i.e. arthritis, heart problems, and hypertension) differed significantly on their perception of interference with daily functioning from those who reported none or one of the three conditions ( $p < .001$ ). In addition, the post-hoc test indicated significant differences across the groups when the elders reported arthritis whether alone ( $p = .04$ ) or in combination heart problem ( $p = .002$ ) or hypertension ( $p = .001$ ).

Table 1. Chronic Conditions, Interference With Daily Functioning, Self-Assessed Health, and Depressive Symptoms of Elders ( $N = 314$ ).

Chronic condition(s)	<i>n</i> (%)	Daily functioning <sup>a</sup> <i>M</i> (sd)	Self-assessed health <sup>b</sup> <i>M</i> (sd)	Depressive symptoms <sup>c</sup> <i>M</i> (sd)
None	44 (14%)	0.61 (0.90)	7.73 (2.12)	2.98 (3.39)
Arthritis	71 (23%)	1.79 (1.87)	7.71 (2.03)	4.07 (3.69)
Hypertension	32 (10%)	0.91 (1.28)	8.08 (1.91)	4.31 (4.41)
Heart problems	20 (6%)	1.15 (1.09)	6.74 (2.33)	5.50 (5.17)
Arthritis, hypertension	56 (18%)	2.21 (2.40)	7.09 (2.08)	5.45 (4.73)
Arthritis, heart problems	32 (10%)	2.41 (1.64)	6.61 (2.13)	5.50 (4.36)
Hypertension, heart problems	17 (5%)	1.35 (1.22)	7.10 (1.91)	3.24 (2.36)
Arthritis, hypertension, heart problems	42 (13%)	4.00 (2.93)	6.11 (2.32)	5.26 (5.35)

a Higher scores = greater interference with daily functioning.

b Lower scores = poorer self-assessed health.

c Higher scores = greater frequency of depressive symptoms.

A similar eight group analysis was conducted to examine the impact of the three chronic conditions, alone and in combination, on self-assessed health. The eight groups were found to be significantly different on self-assessed health [ $F(7, 306) = 3.92, p < .001$ ]. Post hoc examination of mean scores across the eight groups (Table 1) revealed trends that showed that elders who have a greater number of chronic conditions also reported poorer self-assessed health. That is, using the Bonferroni post-hoc test,

we found that older adults who reported having all three of the most frequently reported chronic conditions (i.e., arthritis, heart problems, and hypertension) differed significantly from those who reported none of the three conditions ( $p < .01$ ) or one of the three conditions ( $p < .003$ ).

A third eight group analysis was performed to examine the impact of the three chronic conditions, alone and in combination, on depressive symptoms. However, the Levene's test revealed that the variance in depressive symptoms differed significantly across the eight groups [ $F(7, 306) = 3.18, p < .003$ ], possibly in relation to unequal group sizes. Therefore, using the Welch adjustment for testing the equality of means across the groups, we found the eight groups to be significantly different on depressive symptoms [ $F(7, 101.90) = 12.72, p < .02$ ]. Although examination of the means through eyeballing suggests that having even one of the three chronic conditions is associated with greater frequency of depressive symptoms and this is consistent with the literature (Chapman, Perry, & Strine, 2005), we found the Bonferroni post-hoc test to be non-significant for pairwise comparisons across the eight groups. When a non-significant post-hoc test occurs in the presence of a significant F-test, as we found, this is often interpreted as a function of a more complex contrast, such as a linear trend (Cardinal & Aitken, 2013, p. 91). It may also be associated with insufficient statistical power to detect the post-hoc comparisons due to unequal sample sizes, especially when one or more groups contain less than 10% of the study participants (e.g. the group of elders who reported having heart problems and hypertension was  $n = 17$ ), or related to the large number of groups (i.e.,  $n = 8$ ) (Cardinal & Aitken, 2013, p. 91).

Finally, we examined Pearson's correlations among the three outcomes, interference with daily functioning, self-assessed health, and depressive symptoms. We found that the elder's rating of interference of their chronic conditions on daily functioning was moderately associated with their self-assessed health ( $r = -.50, p < .001$ ) and depressive symptoms ( $r = .41, p < .001$ ) with greater impairment in functioning related to poorer self-assessed health and greater depressive symptoms. In addition, the elder's self-assessed health was inversely associated with depressive symptoms ( $r = -.32, p < .001$ ), indicating that elders' reports of better self-assessed health were correlated with fewer depressive symptoms.

## Discussion and Implications for Practice

This study represents the first attempt to examine the effects of self-reported chronic conditions, combinations of these conditions, and their perceived interference with the daily functioning on the self-assessed health and depressive symptoms of elders residing in assisted living facilities. While previous research indicated that that risk of depressive symptoms increased with the number of chronic diseases (Black, Goodwin, & Markides, 1998; Zauszniewski, Morris, Preechawong, & Chang, 2004), and that more depressive symptoms were related to poorer subjective and objective health and more somatic symptoms (Nicolosi, Falcao, Batistoni, Lopes, & Cachioni, 2011; Williamson & Schulz, 1992), this study is unique in examining the effects of self-reported chronic conditions, combinations of these conditions, and their perceived interference with the daily functioning on the self-assessed health and depressive symptoms of elders residing in assisted living facilities.

Our results indicated that having more chronic conditions was associated with greater impact on both self-assessed health and daily functioning. An implication of this study finding is that nurses can identify older adults who have chronic conditions and help them to maintain their daily functioning. Perhaps, additional physical and occupational therapy may be a consideration to help older adults to maintain their daily functioning.

The most consistent finding was that those with more of the three conditions were worse off on daily functioning and self-assessed health than having none or one of the conditions. However, the results with depressive symptoms must be interpreted with caution. In fact, the current study used a measure of depression that excluded physical symptoms that may be associated with chronic conditions. This, indeed, might be different than other studies who might include physical symptoms within their measures. It is recommended that future research, with larger groups by diagnosis and equal cell sizes, should look at the association between depression and chronic conditions to see whether there are certain conditions that are more clearly associated with depressive symptoms than others. This, in fact, might be challenging because of the great overlap of chronic conditions experienced by elders; it is well documented in the literature that elders commonly have at least three chronic conditions.

The current study findings indicated that interference with daily functioning, self-assessed health, and depressive symptoms were inter-correlated. This, in fact, is similar in part to the research conducted by Molarius and Janson (2002) who found that depression is one of the largest contributing factor to poor self-assessed health among middle age and elderly men and women (Molarius & Janson, 2002) and also in accordance with the research done by McDaid et al. (2013), who found that multiple chronic conditions are associated with disability, poor self-rated health and poor quality of life (McDaid et al., 2013). Therefore, interventions related to psychosocial support could be considered to alleviate the depressive symptoms and improve the psychological well-being of older adults. Psychological support can be initiated by nurses by initiating short and frequent visits with older adults to demonstrate a feeling of interest and concern. This, in fact, will help older adults to express their feelings and alleviate their sense of depression. Nursing interventions directed toward minimizing depressive symptoms, especially among those with multiple chronic conditions, may more bring about a positive self-assessment of health through the experiencing of increased energy, interest, ability to concentrate, and hope for the future. As a result, elders might be better able to begin to address self-care needs related to their chronic conditions. In fact, mental health practitioners are in a strategic position to provide cognitive behavioral interventions to help older adults fight depression (Rupke, Blecke, & Renfrow, 2006) and to enhance their quality of life, which in turn will improve their self-care and help them to deal with their chronic conditions.

Previous research has shown a relationship between depression and loneliness (Cacioppo, Hughes, Waite, Hawkey, & Thisted, 2006; Heikkinen & Kauppinen, 2004; Wei, Russell, & Zakalik, 2005) therefore, the nurse can help them to relate to each other by arranging some physical and occupational therapy to increase their contact with each other and consequently decrease their depressive states.

In fact, depression and one's view of health are multifactorial, especially in the elderly who reside in assisted living facilities. Future research might consider other factors in studying depression and self-assessed in older adults. For example, older adults might be depressed because of that fact that they live in an assisted living facility and many elders might have lost loved ones or friends that could bring about a depressed state. In addition, depressive symptoms can influence one's perception of health. Therefore, further studies to examine how these factors might be associated and how perception of health and depressive symptoms may influence each other are recommended.

One limitation of the study was that it was a secondary analysis of existing data. For example, the chronic conditions that were analyzed were those that were listed on the OARS instrument. For example, there was no way to know exactly the type of the heart problem that the elders really had and

how it affected their daily functioning. Future research might consider collecting data regarding the specific type of heart problem and its impact on interference with daily functioning. Another limitation of using a secondary analysis is that we do not have the data on the elder's perception of the seriousness/severity of the chronic condition(s) they had. In fact, previous research has shown that complications and co-morbidities may have differential impacts on older adults' diabetic patients' outcomes depending on patients' perception of their symptoms (Beverly, Wray, Chiu, & Weinger, 2011). Therefore, future research might consider the severity of the chronic diseases and their association with daily functioning, self-assessed health, and depressive symptoms.

We suggest that future research might compare elders in assisted living with elders in the community to determine the degree to which being in assisted living facility may precipitate depression in the elderly. Because these secondary data were from older adults in assisted living facilities, the findings can only be generalized to similar elders and not to all older adults who live in the community. In addition, because the majority of the sample were White Caucasians, the findings may not apply to elders with other racial/ethnic backgrounds. Finally, given the fact that this research is cross-sectional, it is not possible to determine causality. However, the current results indicated that the correlations among the three outcomes; interference with daily functioning, self-assessed health, and depressive symptoms are found to be significantly inter-correlated. Therefore, we recommend that future longitudinal studies can investigate the impact of interference with functioning on self-assessed health and depressive symptoms.

In brief, nurses are in a strategic position to provide assessment and nursing interventions to help older adults with chronic conditions who reside in assisted living facilities to overcome their depression, which in turn will help them to address their self-care needs related to their chronic conditions. Mental health practitioners can provide cognitive behavioral interventions and facilitate older adults' socialization and self-expression so that they will be able to fight their depressive symptoms.

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