

Measurement of Disability, Pain and Anxiety in Geriatric Nursing

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Abstract: The main aim of this paper is evaluation three factors of disability, pain and anxiety in geriatric nursing. A complex relationship exists between disability, and functional limitation. Because of their fragile health, elderly individuals often need special care, particularly since a minor health related issue can sometimes spin out of control quickly in the elderly. These conditions, which substantially impact health care spending and quality of life, remain under-addressed in the current system of health care delivery, particularly among old people. Linear regression revealed close associations between depression, pain and anxiety and activity of daily living limitation. Working as a geriatric nurse is often very gratifying and rewarding personally. However, it takes a special type of person to work in this field, and the work can also be frustrating or disheartening at times as well. Research studies have identified the common mental, social, and physical characteristics associated with disability, pain and Anxiety. Throughout all of this, you will also be required to keep accurate patient records and coordinate your care with the recommendations of your patients' physicians.

[Ayoob Faridi. **Measurement of Disability, Pain and Anxiety in Geriatric Nursing.** *Biomedicine and Nursing* 2016;2(4): 26-31]. ISSN 2379-8211 (print); ISSN 2379-8203 (online). <http://www.nbmedicine.org>. 5. doi:[10.7537/marsbnj020416.05](https://doi.org/10.7537/marsbnj020416.05).

Keywords: Geriatric Nursing, Disability, Pain and Anxiety

1. Introduction

As most people get older, their bodies start to wear out and they begin experiencing more health problems. Because of this, elderly people often need more medical care than others.

Geriatrics is a field of medicine that deals with the care of elderly people. Geriatric nurses are some of the most important professionals in this field, as they often provide daily care for geriatric patients. Since the human life expectancy has increased and the members of the Baby Boomer generation have started aging, the demand for geriatric nurses is expected to increase dramatically.

A geriatric nurse, or gerontological nurse, is a type of nurse that helps care for aging and elderly individuals. They are trained to be able to perform traditional nursing duties, yet they also have special training that helps them better understand the special needs of many elderly people. This extra training enables them to for aging patients with relative ease.

Working as a geriatric nurse is often very gratifying and rewarding personally. However, it takes a special type of person to work in this field, and the work can also be frustrating or disheartening at times as well. If you are looking to become a geriatric nurse, you must keep in mind that the aging process affects everyone differently. While some elderly patients are somewhat content or even happy-go-lucky, others may be sad, scared, or even angry that their health is failing.

Before becoming a geriatric nurse, you should evaluate your personality. Geriatric nurses should be

generally upbeat and cheerful people. They should also be patient, understanding, empathetic, and compassionate, with a true desire to work with aging patients. If you choose this career, you should also be able to handle and bounce back from depressing events, such as the death of a patient.

As a geriatric nurse, you will be required to perform a number of duties. For example, you will often be responsible for:

- measuring and recording vital signs;
- administering medications;
- exercising and massaging patients;
- watching for signs of elder abuse;
- transporting patients to doctor's visits and other appointments; and
- helping patients with their daily needs, such as bathing, dressing, and using the bathroom.

Throughout all of this, you will also be required to keep accurate patient records and coordinate your care with the recommendations of your patients' physicians. Geriatric nurses are often not only responsible for the physical well-being of their patients, but also for their mental and emotional well-being as well. Oftentimes, elderly patients will seem morose or angry, due to reasons such as their failing health, lack of independence, and isolation from their loved ones. As a geriatric nurse, you should keep a close eye on these patients and attempt to remain cheerful and compassionate, even during the most difficult times. When working as a geriatric nurse, you will also usually be encouraged to communicate with

your patients' family members. You may need to explain a patient's care regimen or medications, or act as a liaison between the family members, the patient, and the physician. As a geriatric nurse, you are also in an excellent position to give both patients and their loved ones' advice on certain health and ability related issues.

Geriatric nurses are often employed at healthcare facilities such as hospitals and clinics. They also work in residential care facilities, like nursing homes and retirement communities. Some geriatric nurses also work in home healthcare, traveling to patients' homes to care for them there. Most geriatric nurses start out by becoming registered nurses, which involves earning a nursing degree and passing a difficult certification examination.

Unfortunately, assessment, impact, or control strategies for functional limitations are rarely addressed systematically in health care delivery, despite the significant role of functional limitations in driving health care costs. Often, services delivered by health care teams fail to adequately support patients in their efforts to achieve functional goals.⁸ In the United States, despite the recent emphasis on teams, delivery of care is often focused on disease management and provided in silos, with providers failing to address function through interdisciplinary collaboration. Primary care providers (PCP) usually focus on management of chronic diseases; specialists on their specialty (cardiovascular, respiratory); and nurses on medication reconciliation, patient education, and symptom management. Physical and/or occupational therapists, who have the greatest expertise in assessment of function, are typically engaged in care only after a catastrophic event.

Collectively, activities of the health care team are directed toward maximizing quality of life and function. However, with each provider viewing the patient through a distinct professional lens, the health care team often overlooks targeted interventions that focus on maximizing functional ability amongst medically complex community-dwelling elders. These missed opportunities are unfortunate, as functional limitations, defined as having difficulty with activities such as bathing, preparing meals, or walking, are often modifiable.

Prior research has identified complex interactions between chronic pain, deconditioning and loss of function, isolation, and depression, indicating that better interdisciplinary management of pain and depression may influence functional limitations and improve health-related quality of life. Associations between chronic pain and depression are particularly strong among African- American and Hispanics due to race-related disparities in identification of and treatment for pain-related depression. Still, despite

some evidence that depression is more strongly related to a decline in functional status than pain is, few have examined the extent to which depression may mediate the relationship between pain and functional limitations among minority and low-income populations.

Understanding whether depression mediates the relationship between pain and functional limitations may lead to more impactful targeted interventions. Efforts should particularly investigate relationships between functional limitations, depression, and pain among low-income and minority groups, as these groups have higher rates of pain, psychosocial and physical disabilities, depression and under-treatment of chronic conditions compared to higher-income and non-Hispanic whites. Given that well-documented positive associations exist between depression and functional limitations among older adults, we suspect that depression may serve as a mediator in the relationship between pain and functional limitation amongst this largely low-income and minority sample.

Measures

The primary dependent variable of this review was functional limitations. Functional limitations were measured using an assessment tool developed by Katz et al., which reflects an individual's perceived difficulty and need for assistance in performing ADLs. Items are rated on a 3-point scale (0 ¼ "No difficulty and don't need help", 1 ¼ "Difficulty but don't need help", 2 ¼ "Needs help regardless of difficulty"), and a total baseline score ranging from 0 to 16 is generated from the sum of a participant's responses to the 8 prompts, with a higher total score indicating a decreased level of function.

The primary independent variables included pain and presence of depressive symptomology. We used the British Pain Society's Pain Rating Scale²⁷ to gather data on pain by asking each participant to rate the intensity, distress, interference of normal activities, and relief from pain, each on a continuous scale from 0 to 10. Pain interference is a measure of how much pain interferes with the ability to do activities, and pain intensity is how intense the pain is perceived to be. Presence of depressive symptoms was evaluated using the Patient Health Questionnaire-9 (PHQ-9), a validated module used to assess the severity of depressive symptoms in a patient. Participants rated answers on a scale of 0 ("not at all") to 3 ("nearly every day"), with total scores equaling the sum of individual responses. For purposes of this analysis, PHQ-9 score was treated as a continuous variable, with higher scores indicating a higher level of depressive symptomology.

Covariates included in this analysis were race, sex, age, number of common comorbidities, and whether a participant lived alone. Since nearly all

participants in the study were African-American, race was grouped into the categories “African-American” and “non-African-American.” A count of comorbidities was created using the number of the following conditions for which participants reported receiving treatment from a doctor: high blood pressure, arthritis, high cholesterol, diabetes, depression, cancer, and heart disease. Age was treated as a continuous variable.

Means and frequencies were generated for sex, race, living arrangement, age, comorbidities, PHQ-9

total scores, pain intensity, pain interference and treatment for depression.

Linear regression analyses were used to examine the cross sectional associations between degrees of functional limitation, pain, and PHQ-9 total score. Model 1, represented in Table 1, examines unadjusted associations between functional limitations and each pain measure, as well as the unadjusted association between functional limitation and PHQ-9 total score.

Table 1
Baseline demographic and medical characteristics of CAPABLE study participants (n = 285).

Characteristic	Summary statistic
Age (mean ± SD)	75.6 ± 7.6
Female (%)	248 (87.0)
Black (%)	244 (85.6)
Education (%)	
Less than high school/GED	92 (32.4)
High school/GED	148 (52.1)
Bachelor's degree+	44 (15.5)
Living alone (%)	140 (50.2)
Treated for depression (%)	66 (23.2)
Comorbidities (mean ± SD)	3.8 ± 1.5
Pain (mean ± SD)	
Current pain intensity	3.9 ± 3.0
Pain intensity last week	5.4 ± 2.9
Current pain distress	3.4 ± 3.0
Pain distress last week	5.1 ± 3.0
Pain interference	4.8 ± 3.1
Pain relief	5.5 ± 2.6
PHQ-9 total (mean ± SD)	6.9 ± 5.1
ADL total score (mean ± SD)	4.0 ± 3.1

Model 2, also represented in Table 2, reflects the results of multiple regression used to assess these associations with the inclusion of listed covariates: age, sex, race, number of common comorbidities, and living arrangement. To reduce the influence of collinearity among different measures of pain,

separate regressions were performed for each measurement of pain. Beta coefficients and p-values for adjusted and unadjusted regression models are recorded in Table 2; and mediation models are presented graphically.

Table 2
Association between ADL total score and pain or depression.

Independent variables	Model 1				Model 2			
	B	SE	T	p-value	B	SE	t	p-value
Pain now	0.13	0.06	2.11	0.04	0.12	0.06	1.93	0.05
Pain last week	0.16	0.06	2.59	0.01	0.16	0.06	2.44	0.02
Distressing pain	0.19	0.06	3.14	0.00	0.18	0.06	3.07	0.00
Distressing last week	0.16	0.06	2.78	0.01	0.17	0.06	2.70	0.01
Pain interference	0.27	0.06	4.69	0.00	0.26	0.06	4.39	0.00
Pain relief	-0.01	0.01	-1.71	0.09	-0.01	0.01	-1.71	0.09
PHQ-9 total	0.15	0.03	4.17	0.00	0.14	0.04	4.01	0.00

Model 1: Univariate linear regression of ADL total score (DV) on various IVs.

Model 2: Adjusted for variations in age, sex, race, living arrangement, and comorbidities.

Results and Discussion

Baseline data for 285 participants were included in this secondary analysis. Demographic and medical characteristics of these participants have been recorded in Table 1. The mean age of all participants was 75.6-years. Within the sample population, a majority of participants were female (87.0%), African-American (85.6%), and high school graduates (52.1%). At time of data collection, 50.2% of participants lived alone and 23.2% of participants were being treated for depression. Participants had a mean pain intensity score of 3.9 out of 10 and a mean pain interference score of 4.8 out of 10. On average, patients had a total of 3.8 common comorbidities and were mildly depressed with an average PHQ-9 score of 6.9.

Simple linear regression revealed a positive association between functional limitations and all

metrics of pain intensity, distress, and interference, with the exception of current pain intensity. Pain relief was not significantly associated with ADL total score ($b \neq 0.01$, $p \neq 0.09$). Lastly, PHQ-9 total score was positively associated with ADL total score ($b \neq 0.15$, $p \neq 0.00$), indicating that a higher level of depressive symptomology is, as hypothesized, associated with increased functional limitations. Among all independent variables studied, self-rated pain interference explained the greatest amount of variation in ADL total score among participants (adj. $R^2 \neq 0.07$).

Results of these tests are included in Table 2. Simple linear regressions also revealed significant associations between PHQ-9 total score and various measures of pain intensity, distress, and interference (see Table 3).

Table 3
Association between PHQ-9 total score and pain.

Independent variables	Model 1				Model 2			
	B	SE	T	p-value	B	SE	t	p-value
Pain now	0.45	0.10	4.65	0.00	0.37	0.10	3.69	0.00
Pain last week	0.50	0.10	4.96	0.00	0.44	0.10	4.29	0.00
Distressing pain	0.55	0.09	5.84	0.00	0.49	0.10	5.12	0.00
Distressing last week	0.49	0.09	5.13	0.00	0.45	0.10	4.52	0.00
Pain interference	0.53	0.09	5.63	0.00	0.47	0.10	4.78	0.00
Pain relief	-0.02	0.01	-2.62	0.01	-0.02	0.01	-1.91	0.06

Model 1: Univariate linear regression of PHQ-9 total score (OV) on various IVs.
Model 2: Adjusted for variations in age, sex, race, living arrangement, and comorbidities.

Figs. 1 and 2 summarize the results of adjusted mediational models derived using the analysis proposed by Baron and Kenny. The following initial

conditions were met for PHQ-9 total score to function as a mediator in the relationship between current pain intensity and ADL total score.

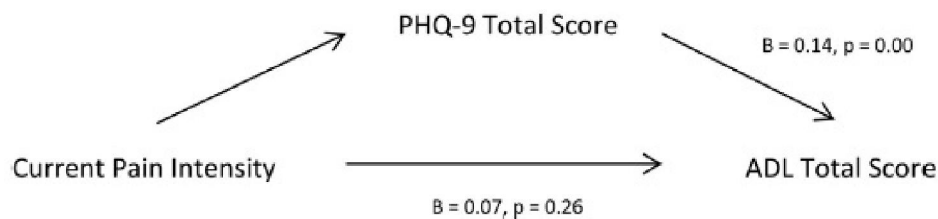


Fig. 1. Depression as mediator in the relationship between pain intensity and functional limitations.

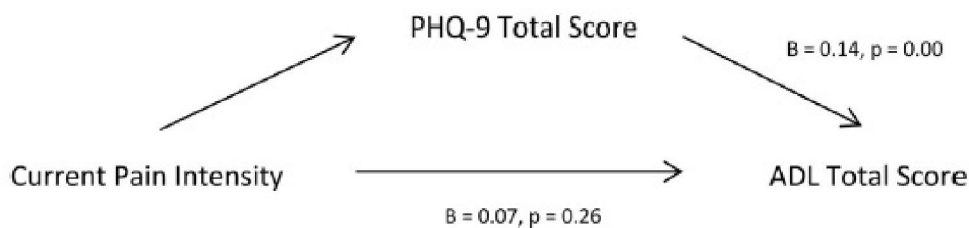


Fig. 2. Depression as mediator in the relationship between pain interference and functional limitations.

The current study sought to enhance understanding of standards and practices regarding how resident death is handled within CCRCs, and to determine their descriptions of best practices in bereavement care. Key findings were that (1) administrators and staff have little to no training on bereavement care or best practices; (2) the procedures for removing the bodies of the deceased were varied, as were notification of resident deaths within the communities; and (3) administrators discussed the roles of hospice and the chaplains as resources for “best practices” and none identified research-based standards of practice. Functional limitations and disabilities among older adults significantly impact quality of life and personal health care expenditures.

Results of this study indicate that low-income, functionally-challenged older adults living in Baltimore City have a relatively high incidence of severe pain and depression. Depression and pain are closely associated with functional limitations, and multiple regressions indicates that depression seems to mediate the relationship between pain and functional limitation. Ultimately, variations in pain interference and PHQ-9 total score account for roughly 14% of the variation in functional limitations among this sample (adj. $R^2 \frac{1}{4} 0.14$).

Prior research indicates that issues of pain and depression are often under-treated and under-explored among minority individuals. As such, little is known about the association between functional limitations and pain and depression among the specific population studied in this analysis. Still, a number of researchers have examined the associations among pain, depression, and functional limitations among older adults as a general population.

Other authors, including Kauppilla, Pesonen, Tarkkila, and Rosenberg (2007) have found that pain is less strongly associated with functional limitations than are other factors, including depression, social isolation, and poor cognition.¹⁴ Numerous others have found that depression is associated with a higher risk for onset of disability in activities of daily living. Still others, including Green et al (2003) and Iliffe et al (2009) have found that depression is associated with factors such as pain, social isolation, poverty, and race. Walker and colleagues found that pain severity was associated with functional limitations and disability and that depressive symptoms were associated with disability among middle aged and older African-American women with OA. Though no studies have shared the exact design of the current analysis, several have identified similar associations between pain and depression as well as between depression and functional limitations.

Given the findings of preceding studies, it is relatively unsurprising that a link exists between

depression and functional limitations. As others have noted, it is probable that depression and pain exist as components of a larger model, in which risk factors such as age, comorbidities, racial discrimination, social isolation, educational status, pain, and depression may contribute to an individual’s risk for disability. As there are diverse pathways that contribute to a cycle of pain, depression, and functional limitations, it is essential that care providers partner to improve the functional ability of aging minorities.

Conclusion

This study was limited by a small sample size and was exploratory in nature, thus limiting the ability to identify strong implications. Findings do however demonstrate a need for the consideration and development of best practices, not only for procedures, but to ensure appropriate care for staff and residents. This analysis adds to a growing body of work documenting linkages between pain, depression, and functional limitations. Addressing the range of conditions that promote disability among older adults necessitates viewing a patient’s needs holistically, accounting for the numerous factors environmental, medical, personal, and social that could influence an individual’s capacity to perform necessary tasks. In order to reduce risk, health care providers and researchers should consider regularly screening for depression and pain, as low-income populations and racial and ethnic minorities are at increased risk for under-treatment of these conditions. By addressing pain and depression, two modifiable conditions which are associated with functional limitation, health care workers may improve older adults’ quality of life while simultaneously advancing cost-effective, patient-centered care.

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11/27/2016