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Geriatric pain competencies and knowledge assessment for nurses in long term care settings

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Abstract

Pain in older adults is a prevalent problem that affects quality of life and challenges nurses, particularly those caring for older adults living in long term care settings. Despite the national priority of pain management, insufficient knowledge of nurses about geriatric pain is a documented barrier to effective geriatric pain management in all long term care settings. To address this knowledge gap, a website (GeriatricPain.org) was developed by the National Geriatric Pain Collaborative with a grant from the MayDay Fund to provide a single site for evidenced-based, easy-to-use, downloadable resources on pain management. This paper describes the development of the most recent addition to the website, a set of evidence-based core geriatric pain management competencies and a geriatric pain knowledge assessment, and discusses their potential uses in improving pain care for older adults. Geriatric Pain Competencies and Knowledge Assessment for Nurses in Long Term Care Settings.

Keywords

Pain; Competencies; Competency assessment tool; Education

Introduction

Pain in older adults is a prevalent problem that affects quality of life and challenges nurses, particularly those caring for older adults living in long term care settings. Effective pain management in these settings has been a regulatory and policy priority of The Joint Commission as well as the Centers for Medicare and Medicaid for a number of years.^{1,2} Several resources on pain management in older adults are now available to practicing nurses (e.g., National Guideline Clearinghouse, American Geriatric Society, Nurses Improving Care for Healthsystem Elders (NICHE), Portal of Geriatrics Online education (POGOe), End of Life Nursing Education Consortium-Geriatric (ELNEC-Geriatric), John A. Hartford

Institute of Geriatric Nursing's *How to Try This* series, and the Institute of Medicine's report, *Relieving Pain in America*).³⁻⁹ Despite the priority of pain management and increased number of resources available to clinicians, nurses' insufficient knowledge about geriatric pain is a documented barrier to effective geriatric pain management in most long term care (LTC) settings.^{10,11} Geriatric pain is defined as physical pain experienced by adults aged over 65. To address this knowledge gap, a website (GeriatricPain.org) was developed by the National Geriatric Pain Collaborative (Collaborative) with a grant from the MayDay Fund to provide a single site for evidenced-based, easy-to-use, downloadable resources on geriatric pain management. The resources on the site are primarily for nurses, both registered nurses (RNs) and licensed practical nurses/licensed vocational nurses (LPNs/LVNs), and administrators in nursing homes and other LTC facilities with a goal to improve pain outcomes for residents, change organizational standards for pain processes and outcomes, and help users to improve practices by providing direct access to quality improvement tools. That being said, many of the resources apply to older adults in a variety of settings and nurses in acute care, home care, and hospice are accessing the website as well. This paper describes the development of the most recent addition to the website, a set of evidence-based core geriatric pain management competencies and a geriatric pain knowledge assessment (hereafter referred to as test), and discusses their potential uses in improving pain care for older adults.

Specific core competencies for geriatric pain management to guide clinical practice have not been published. Because a common understanding of essential pain management competencies for quality practice, in general, was also lacking, a recent landmark interprofessional consensus project established core pain management competencies that apply to all health disciplines.¹² Although the authors of the consensus competencies include considerations for special populations as a caveat, identification of specific core geriatric pain competencies for LTC settings is important because the prevalence of pain is high and characteristics of many older adults (e.g., frailty, physiological changes, cognitive impairment) require modification of both assessment parameters and treatment choices used with younger adults. Thus, this work began with core competencies specific to older adults in LTC settings which served as the basis for knowledge/skill evaluation.

Development of geriatric pain competencies

Core competencies were developed by Collaborative members. The Collaborative was originally comprised of experts and researchers in geriatric pain, one member from five Hartford Centers of Geriatric Nursing Excellence, at the University of Iowa, Oregon Health & Science University, University of California San Francisco, University of Arkansas for Medical Science, and University of Pennsylvania. With technical support from Sigma Theta Tau International, the Collaborative maintains GeriatricPain.org and recently released the Geriatric Pain Competencies and related evaluation tool, the Geriatric Pain Knowledge Assessment. Three members of the Collaborative formed a workgroup to create the core pain competencies specific to older adults and develop the knowledge test. Their work was guided initially by the Minimum Geriatric Competencies for Medical Students accepted by the American Geriatric Society, which provided principles to direct early discussions.¹³ To enhance comprehensiveness, four additional evidence-based sources were used: the

American Geriatrics Society's *Clinical Practice Guidelines on the Management of Persistent Pain in Older Persons* and *Guidelines on Pharmacological Management of Persistent Pain in Older Persons*, *Gerontology Pain Management from the Core Curriculum for Pain Management Nursing*, and *Pain Assessment and Pharmacologic Management* by Pasero and McCaffery.^{4,14–16}

Following completion of an initial draft, the other members of the Collaborative reviewed the proposed competencies, providing valuable feedback and revisions through a consensus process. An external review was also conducted by five independent national geriatric pain experts in May of 2011 (see Acknowledgments section). Additional revisions were made and competency areas added in response to this helpful external review which enhanced comprehensiveness of the resulting competencies. The final set of 19 competencies is listed in Table 1.

Because the Collaborative's primary goal is to address the pain care of older adults in LTC settings, these Geriatric Pain Competencies focus on the knowledge-base and skills expected of LTC nurses specific to older adults in those particular settings. Each of the four domains identified by the Interprofessional Pain Management Competency Summit [1) The multidimensional nature of pain, 2) pain assessment and measurement, 3) pain management, 4) clinical conditions] is addressed within these Geriatric Pain Competencies despite the fact that they were developed before the Interprofessional Pain Summit.¹² The 19 geriatric competencies extend the newly established core pain competencies with unique and in-depth adaptations necessary to meet the pain needs of the older adult population. A comparison of the two sets of competencies indicates at least two significant differences. Perhaps most notably, the geriatric pain management competencies focus on the specific needs of older adults whose cognition requires special assessment skill. And, because of the physiologic changes associated with aging and subsequent related risks, the Geriatric Pain Competencies place a particular emphasis on safe and effective pharmacologic practice with older adults.

Geriatric pain knowledge assessment development

After establishing the 19 Geriatric Pain Competencies, the workgroup then focused on the development of a tool to evaluate nurses' knowledge and skills related to pain care for older adults. A user-friendly, online multiple choice test format was chosen. Priorities included: 1) each competency should be addressed by at least one test item; 2) a clinically relevant, case-based approach should be used; 3) the most current evidence should guide test answers; and 4) the test should be appropriate for adult learners. Following these priorities, four case scenarios related to pain issues common in LTC settings were developed by individual workgroup members and their clinical relevance and applicability were discussed. The scenarios focus on acute pain in a short term rehabilitation context, persistent pain in a cognitively intact person with multiple diagnoses, persistent musculoskeletal pain in a person with cognitive impairment, and pain associated with post-herpetic neuralgia. Once case scenarios were developed, test items were then generated by the workgroup, with each member working independently on a case study and associated questions. Following item generation, discussion and critique occurred at the workgroup level until consensus was

reached. As case studies and test items were finalized by the workgroup, they were then reviewed internally by the Collaborative for clarity and to reduce redundancies.

In the next step, five national reviewers with expertise in geriatric pain in the LTC setting assessed the content and face validity of the test. For each test item, reviewers evaluated the item along three defined dimensions: 1) relevance (the test item is clinically relevant and has content validity), 2) clarity (the test item and explanation is clear and understandable) and 3) accuracy of the response options (the correct answer is indicated and the rationale is correct from expert point of view). Reviewers used a 5-point Likert rating scale (strongly disagree – strongly agree).

The feedback from this in-depth review generated considerable valuable discussion related to the accuracy of response options. The workgroup concluded that those comments which were unexpected reflected the actual practice of individualized pain care, where decisions are contextual and multidimensional. Revisions were made to individual items and case studies to provide sufficient context so as to reduce the tendency of a test-taker to add to the information based on personal experience. Additional feedback from the reviewers raised questions of relevance and/or complexity on several items. When this was the case, the workgroup discussed at length until consensus was reached, taking into consideration the responses of reviewers, both individually and collectively. The issue of relevance appeared to reflect reviewer priorities and experience in the field. Test items of concern were revised and/or eliminated based on the reviews and subsequent discussion.

In qualitative feedback, four reviewers believed the test would be valuable for both LPN/LVNs and RNs, while one reviewer expressed concern regarding the use of the test with LPN/LVNs, suggesting that some terminology and content may not be common to their practice. Other feedback related primarily to issues of clarity to reduce confusion. These were addressed with editorial revisions. The revisions were conducted by the workgroup and submitted for final evaluation by the Collaborative. The 46 item test resulted from consensus discussions following the final review by the Collaborative.

Pilot testing and psychometric evaluation

Pilot testing of the Geriatric Pain Knowledge Assessment was conducted with nurses working in nursing homes from three states: Iowa, Massachusetts, and Oregon. The test was distributed to 55 RNs and LPN/LVNs; 33 nurses returned the completed test for a 60% response rate. Demographic characteristics of the sample can be found in Table 2. Thirty RNs and three LPN/LVNs completed the test.

Psychometric testing was conducted by the University of Iowa Test Center. Psychometric evaluation of the pilot test focused on reliability, item difficulty, and item discrimination. An initial Cronbach's alpha internal consistency of 0.60 was obtained. Scores (number of correct items) on the 46-item test ranged from 22 to 41 with a mean of 34 (SD = 4.0). The degree of difficulty of the item refers to the percentage of total test takers who answer an item correctly; a 50% degree of difficulty is considered good for test item development.¹⁷ In this test, the degree of difficulty ranged from 12% to 100% with 9 items (19%) below 50% and almost half (49%) in the 80–100% range. The degree of discrimination of the responses

refers to the number of high-scoring students who answer an item correctly compared with the number of low-scoring students who answer an item incorrectly and has an index range from -1.0 to 1.0 .¹⁷ A lower discrimination index means that the item may be too easy and a negative index means that the item may be flawed; a higher index is preferred.¹⁷ In this test the discrimination on each item ranged from -0.11 to 0.56 , with 16 items (34%) below 0.15 , and five of these with a negative discrimination index.

In response to these psychometric findings, items with low levels of difficulty (i.e., high percent answered correctly) and items with discrimination index below 0.15 were re-evaluated, resulting in 25 questions requiring re-evaluation. Decisions about whether to change an item were based on both difficulty and discrimination statistics in combination. In some cases, response options for items with negative discrimination and low level of difficulty were revised to increase discrimination. Practically, this meant that response options were changed to be more difficult. The workgroup decided not to eliminate all the items with low levels of difficulty, based on the understanding that these items had educational value and reinforced crucial concepts and principles of pain care, despite the risk of the question being viewed as 'too easy' by a test taker.

Although the test is primarily written for RNs, we support the use of this test with LPN/LVNs. We included LPN/LVNs in the pilot testing because many LPN/LVNs have an important role in pain management in LTC. Table 3 compares RNs and LPN/LVNs on test score, time needed to complete the test, and perceived difficulty of the test. Of the three LPN/LVNs who took the test, all scored above the average for the group as a whole, suggesting the knowledge base of LPN/LVNs is adequate for this test. The amount of time needed to complete the test for the LPN/LVNs was slightly longer than the majority of the group. Each of them rated the test as moderately difficult. Because they required more time on average than the RNs to complete the test, LTC educators should plan to provide LPN/LVNs extra time for completion.

How the online test works

The Geriatric Pain Knowledge Assessment is free and can be accessed via a link on the GeriatricPain.org homepage. The test is made readily available for online use or can be accessed as a downloadable file for educators wishing to use the test in a pen/paper format. A brief form requesting access to the test to is required from both individuals wishing to take the test online and educators seeking the hard copy format. For online use, test-takers are provided a login and then access the test through Sigma Theta Tau International's (STTI) education courses page, CourseMill. At the end of the test, online users are given their score and a certificate of completion with the score indicated on the certificate. Additionally, online users are offered the opportunity to access a document with the test questions, correct answers, and the rationale for each answer. Within this document, references are provided to specific nursing resources related to each question, including chapters and page numbers where users would be able to review, in depth, the topic addressed by the individual question. With this information, users of all levels are able to determine gaps in knowledge and independently follow up with the suggested resources. Prior to taking the test, individual test-takers have an opportunity to provide feedback about

the test and to voluntarily respond to three questions about their nursing practice. The demographic data will allow The Collaborative to better understand the actual end-user of the test so revisions to the test can be tailored to the needs of the average test-taker. Additionally, this data is being gathered for future additional psychometric evaluation to assess validity, and strengthen reliability through test refinement.

Applications

It is our intent that these Geriatric Pain Competencies and the associated Geriatric Pain Knowledge Assessment contribute to effective educational initiatives to enhance knowledge and skills of nurses caring for older adults with pain. The 19 Geriatric Pain Competencies are ideal for use in educational curricula that promote improvements in geriatric pain practice. To this end, the next phase for the Collaborative is the development of educational modules to further the learning opportunities associated with the test, guided by the 19 competencies.

The competencies are valuable in supporting and establishing pain-focused policies and procedures that define and guide practice with the test serving as a competency assessment tool. They are well aligned with the current pain assessment policies prompted by the Minimum Data Set (MDS) 3.0. To support the building of knowledge and skill around these MDS 3.0 standards, nursing home staff training personnel could use the competencies to guide pain-focused training and then assess learning with the knowledge test. Doing so would also assist facilities in maintaining compliance with the regulatory requirements of F309 Quality of Care. The recommended resources (Table 4) are a useful starting point for addressing any gaps in knowledge and are readily available for purchase and/or accessed online. These would be a valuable addition to any LTC facility's educational resource library. In facilities or organizations where pain-focused policies are needed, the Geriatric Pain Competencies would be a useful foundation for the development of such policies.

The Geriatric Pain Knowledge Assessment is ideal as an element of a quality improvement program for pain management. In this application, the test could be administered before the initiation of a pain-focused quality improvement project and again afterward alongside other outcome measures (e.g., number of individual pain assessments and/or use of individualized pain scales in assessment). It also has a variety of other potential applications at the individual LTC facility level: 1) help individual nurses independently identify key strengths and areas for pain management improvement 2) assist in identifying continuing education needs, 3) provide a guide for the development of educational programs in the orientation of new nurses, 4) focus content for formulating pain-specific care plans, and 5) use as a resource to routinely review and update nursing knowledge.

Another important use of the test is in undergraduate nursing programs as a means to enhance and further geriatric pain knowledge of nursing students. Although GeriatricPain.org and its collection of resources have been focused on nurses working in LTC settings, the Competencies and Geriatric Pain Knowledge Assessment could also be used to improve readiness to care for older adults in pain in all settings. Because older adults make up a proportionally larger number of patients in general, it is crucial that new

graduates are adequately prepared to care for the specific needs of this frequently encountered population group.¹⁸ Integration of pain competencies and evaluation into undergraduate curricula meets the recommendations of the Core Competency Task Force¹² and the Geriatric Pain Competencies are aligned with the outline of interprofessional curriculum for pain assessment and management developed by the International Association for the Study of Pain (IASP).¹⁹ Entry level knowledge-base needs of nurses must have parity with other health care professions to optimize interprofessional communications and continuity of care. Toward this end, these competencies can serve as a guide to undergraduate faculty in preparing the entry-level nurse in caring for older adults with pain, addressing several Essentials of Baccalaureate Education requiring that new graduates be prepared to provide competent care to patients “across the lifespan” and in the varied environments where patients are encountered.¹⁸

Conclusion

Improving basic knowledge of pain management principles by all providers has been a national and international priority.²⁰ For the older adult population, core competencies for geriatric pain care are critical to effectively address this priority by providing a foundation by which knowledge and skills can be taught as well as evaluated. The Geriatric Pain Competencies and associated Geriatric Pain Knowledge Assessment offer new options for those working to enhance excellence in geriatric pain management. Available for immediate application, these web-based professional development resources promote efficiencies for both educators and clinicians; they are important, relevant, easily accessible, and user-friendly tools geared to the adult learner.

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Table 1

Geriatric pain competencies.

Domain One. Multidimensional nature of pain: What is pain?	
1	Explain and apply information to clarify common misconceptions about pain in older adults and the barriers to effective treatment.
2	Explain the etiologies and characteristics of, and differences in treatment for, nociceptive and neuropathic pain.
3	Explain potential consequences of untreated pain specific to older adults.
Domain two. Pain assessment and measurement: How is pain recognized?	
4	Select and use valid and reliable pain assessment tools for assessing pain in cognitively intact individuals.
5	Describe approach to identifying and evaluating pain in older adults with cognitive impairment, including selecting and using valid and reliable pain assessment tools.
6	Recognize verbal and nonverbal behaviors which can be indicative of pain in an older adult with cognitive impairment.
7	Apply information about specific physiological age-related factors that influence the assessment and management of pain in older adults.
Domain three. Management of pain: How is pain relieved?	
8	Develop and implement an individualized treatment plan for managing pain based on assessment, functional and cognitive abilities, and the older adult's pain treatment goals.
9	Evaluate the effectiveness of an individualized treatment plan for pain and adapt the plan based on changing pain assessment data.
10	Identify appropriate analgesic drugs and doses, taking into account the physiologic changes commonly seen in older individuals and interactions with other prescribed and over-the-counter medications.
11	Identify medications that should be avoided or used with caution in older adults and explain their adverse effects.
12	Identify and implement treatment strategies to avoid the adverse effects of analgesic drugs in older adults with renal and hepatic impairment.
13	Recognize common side effects of opioids and apply treatment strategies to prevent, minimize and/or treat side effects.
14	Identify characteristics of older adults at risk for adverse effects of prolonged use of non-steroidal anti-inflammatory drugs (NSAIDs).
15	Incorporate appropriate adjuvant drugs into the treatment plan for select painful conditions.
16	Select appropriate non-pharmacological pain treatment strategies tailored to the unique needs, abilities and preferences of the older adult.
Domain four. How does context influence pain management?	
17	Explain the role of the interdisciplinary team in pain management.
18	Advocate for timely and appropriate treatment of pain for all older adults in the long-term care setting.
19	Articulate accreditation and regulatory requirements pertinent to long-term-care settings related to pain management.

Table 2

Demographic characteristics of nurses completing pilot of geriatric pain knowledge assessment.

Variable	N (%)	Total (n = 33)
Gender		
Female	32 (97%)	
Male	1 (3%)	
Age by category		
21–29 years	6 (18%)	
30–39 years	4 (12%)	
40–49 years	9 (28%)	
50–59 years	7 (21%)	
Over 60 years	7 (21%)	
Employment status		
Full-time	26 (79%)	
Part-time	5 (15%)	
No response	2 (6%)	
Highest level of education		
LPN/LVN	3 (9%)	
Associate degree (ADN)	14 (42%)	
Diploma	5 (15%)	
Bachelor degree (BSN)	7 (21%)	
Masters degree or PhD	4 (12%)	

Table 3

Pilot test results for RNs and LPN/LVNs.

Variable	RN (n = 30)	LVN/LPN (n = 3)
Average score on 46 item test	34 (range: 22–41)	37 (range: 35–39)
Time taken to complete test		
Less than 30 min	4	0
30–45 min	11	0
46–60 min	9	2
61–90 min	4	1
More than 90 min	2	0
Perceived difficulty		
Very easy	0	0
Easy	4	0
Moderately difficult	25	3
Very difficult	1	0

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Table 4

Recommended geriatric pain resources.

1	Pasero C, and McCaffery, M. <i>Pain Assessment and Pharmacologic Management</i> , St. Louis: Mosby Elsevier, 2011. The entire book is a useful resource with relevant issues for older adults interspersed throughout.
2	American Geriatrics Society Panel on Pharmacological Management of Persistent Pain in Older Persons (2009). Download free as a pdf from GeriatricPain.org Clinical Practice Guidelines tab. Reference: American Geriatrics Society Panel on Pharmacological Management of Persistent Pain in Older Persons: Pharmacological management of pain in older persons. <i>Journal of the American Geriatrics Society</i> . 2009;57(8):1331–46.
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