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What do we mean by “Older adults’ persistent pain self-management”? A concept analysis.

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Acquisition of data	CS
Analysis and interpretation of data	All authors
Drafting/revising manuscript for important intellectual content	All authors
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Abstract

Background. No standard definition exists for the concept “persistent pain self-management” or how it should be defined in relation to older adults. Poorly defined concepts can result in misunderstandings in the clinical setting and can hinder research through difficulties identifying or measuring the concept.

Objective. To ascertain attributes, referents, antecedents, and consequences of the concept older adults’ persistent pain self-management and develop a theoretical definition.

Design. Rodgers evolutionary model of concept analysis was used to systematically analyze articles from the academic and grey literature (N = 45). Data were extracted using standardized extraction forms and analyzed using thematic analysis.

Findings. This concept was discussed in three ways: as an intervention, in reference to everyday behaviors, and as an outcome. Five defining attributes were identified: multidimensional process, personal development, active individuals, symptom response, and symptom control. Patients’ perceived need and ability to manage pain with support from others is necessary for pain self-management to occur. Numerous physical, psychological, and social health consequences were identified. A theoretical definition is discussed.

Conclusions. Our findings have clarified existing use and understanding regarding the concept of older adults’ persistent pain self-management. We have identified three areas for future development: refinement of the attributes of this concept within the context of older adults, an exploration of how providers can overcome difficulties supporting older adults’ persistent pain self-management, and a clarification of the overall theoretical framework of older adults’ persistent pain self-management.

Key Words. Aged; Pain; Chronic Pain; Pain Management; Self-Management; Concepts; Concept Development

Introduction

Persistent, or chronic, pain is a complex physical and psychological phenomenon lasting longer than 3 months, which may not have an identifiable cause [1]. It affects up to 50% of community-dwelling older adults, up to 80% of nursing home residents [2] and unrelieved can lead to many debilitating consequences [3–6]. While acute, temporary, pain, focuses on treating the cause of pain [7], persistent pain, an ongoing and often incurable condition, requires greater involvement of older adults to manage pain on a daily basis [7]. Active patient involvement (self-management) can enhance the management of persistent pain [8,9] and is promoted within clinical guidelines [3]. Although many older adults engage in various pain management approaches, they often report these approaches to be ineffective [10]. Additionally, older adults' lack of knowledge about pain and its management, and poor relationships with care providers can prevent some older adults engaging in persistent pain self-management (PPSM) [11]. The high prevalence and suboptimal treatment of persistent pain among older adults highlight the sizeable problem of managing later life pain.

Numerous interventions to increase older adults' engagement in PPSM have been developed but vary in their design, delivery, and outcomes [12,13], suggesting that PPSM may be interpreted in different ways. With no standard definition for PPSM, some authors have developed their own definitions such as "to enhance function, improve mood, and decrease pain intensity by changing the emotional, cognitive, and behavioural responses to pain" [14]. However, these definitions can be ambiguous; what do we mean by emotional, cognitive, and behavioral responses, and how does this relate to older adults?

Little consideration has been given as to whether PPSM means different things for younger (vs older) adults. Yet, we know that the perceptions and consequences of persistent pain differ between younger and older adults. Older adults are more likely to adopt a position of stoicism toward pain [15]. The erroneous belief that pain is inevitable in later life is prevalent among older adults [16] and may deter older adults from seeking help [11]. Additionally, the life context in which older adults experience pain differs from that of younger adults and typically involves retirement, bereavement, changes in function, and isolation [5]. Older adults also have an additional burden from multiple age-related diseases and conditions, which complicate the management of pain [5]. Older adults have a greater risk of developing depression [17] and physical impairment [18] than younger adults with pain. Reduced cognitive function is not uncommon in later life, making understanding and remembering pain management advice more difficult [19]. The uniqueness of older adults' pain experiences suggests that the use of a general population definition for PPSM may be insufficient, or even inappropriate, for older adults.

Older adults' PPSM can be considered a concept. Concepts represent an abstraction of a phenomenon that help us organize and understand our environment [20–22]. They allow researchers to examine scientific theories by providing a means of identifying and measuring theory components [23,24]. Clear concepts also permit efficient communication, facilitating shared understanding between individuals [22]. However, patients often misunderstand medical concepts [25]. This has been partly attributed to differences in vocabulary between patients and professionals [26]. These misunderstandings impede patients' knowledge and clarity about their illness, preventing implementation of chronic illness advice [27] and illustrating the importance of establishing a shared understanding.

Concept analysis involves analyzing current definitions and uses of the concept [15–18], integrating its characteristics [22,28] and clarifying its meaning [21]. It allows a definition to be proposed, which reflects current understandings and identifies areas requiring further clarification [21]. It differs from other review methods in that it aims to answer questions about a concept [29] rather than questions of process or outcome [30]. Although different approaches to analyzing concepts are available, their differences are subtle and they all involve reviewing the literature, identifying attributes (characteristics) of the concept, and developing a definition [31]. The literature review should involve a broad range of relevant disciplines [32] and include grey literature if appropriate [21] to provide breadth of perspectives. Explicit definitions can be rare, which leaves the researcher to seek implied understandings [21]. Implied meanings can be obtained by extracting data that represent how the concept has been used, its theoretical context, its functions, and the actions it involves [21]. Extracted data, both explicit definitions and implicit findings, are reviewed for emerging themes and then organized and reorganized until a clear list of descriptors is produced [21]. These descriptors then become the framework for the proposed definition [21].

This study aimed to develop a theoretical definition for older adults PPSM built upon common attributes (characteristics), referents (contextual information), antecedents (events prior to concept occurring), consequences (what happens after a concept occurs), surrogate concepts (terms meaning the same as PPSM), related concepts (concepts that have a relationship with PPSM), and any age-relevant aspects unique to older adults.

Methods

Concept Analysis Model

Rodgers evolutionary model of concept analysis, which asserts that concepts evolve over time, was followed [21]. The evolutionary model is inductionist and considers contextual uses, disciplinary perspectives, and evolutionary changes.

Its resulting definition provides a starting point; it does not seek an essentialist definition but aims to illustrate the concepts' approximate parameters and identify limitations and gaps in knowledge [21].

Sample

Literature searches were conducted using OVID Medline, EMBASE, EBM Reviews, CINAHL, AMED, and PsychInfo databases. No date restrictions were set for consideration of changes over time. Subject key words and database subject headings were used, including "pain" or "arthritis" combined with "self management," "self care," "patient education," "self help," and "coping" (a full-search strategy can be provided on request). The 448 articles identified were screened electronically by title or abstract for a list of key words similar to subject headings to include only articles with a strong focus upon older adults' PPSM. These remaining 227 article abstracts were reviewed (Stewart and Schofield, coauthors), and inclusion and exclusion criteria applied. Our inclusion criteria were that the article must focus on non-malignant musculoskeletal PPSM, exclusively refer to or involve older adults (aged 65 years+) and be published in English.

Musculoskeletal pain represents the majority of pain disorders affecting older adults. The treatment of other pain types, such as rheumatoid arthritis or neuropathic pain, are likely to differ from musculoskeletal pain [4], and so were excluded. To clarify assumptions, a basic definition for PPSM was devised:

Any action or activity taken alone, or in combination, by an individual to control pain and/or reduce the impact of pain upon daily life which can be taught by another person (i.e., health care professional, complementary or alternative therapist, lay person/peer) or self-learned, that has a reasonable scientific basis for use and is reasonably accessible to the general public.

There were no restrictions on study designs; however, opinion pieces and editorials were excluded. Failure to meet age criteria was the most common reason for exclusion. Two articles (not meeting age criteria) were included in our final sample as the authors were key experts in the field of self-management. The articles included older adults even though they were not exclusively about them, and the articles did not differ in PPSM understanding from others being included. The reference lists of academic articles (N = 38) were reviewed for any missing relevant articles.

Grey literature (literature available outside academic publishing domains) searches were conducted of materials published by patient, professional, and government agencies. Articles considered relevant to this analysis were included (N = 7) and consisted of organizational guidelines, professional education documents, and patient education leaflets.

The minimum data set for concept analysis is 30 articles or 20% of the population of relevant articles [21]. Consequently, all 45 articles were included in the final analysis [2,13,33–75].

Data Collection

Articles were retrieved, and a standardized data extraction tool, with clearly defined conceptual components (i.e., attributes, referents, antecedents, consequences) was used by one reviewer (Stewart, co-author). A second reviewer (Schofield, co-author) checked a 10% sample. Few disagreements occurred; discussion between reviewers resolved disagreements. Data were transferred to Microsoft Excel spreadsheets (Microsoft Corporation, Redmond, WA, USA) for analysis.

Data Analysis

Grounded theory that aims to provide an overview of the phenomenon, seek relationships between themes, and provide insights that can develop or refine theory was applied [76]. Using a thematic analysis framework [77], a coding list was developed to capture data under each conceptual component. Emerging themes for each component were noted and organized into categories. Analyses between primary author disciplines (i.e., nursing, psychology) were conducted unblinded. No differences between disciplines emerged, and all articles were combined for the final analysis. A random sample (N = 18, 40%) was reviewed for emerging themes by Schofield, Elliott, and Torrance (coauthors). The theoretical definition was then constructed from the final themes and their relationships to one another, as identified, in the analysis. All reviewers discussed and agreed upon the final results.

Results

Articles from nursing (N = 14) and psychology (N = 14) predominated. Remaining articles were represented by disciplines such as allied health (i.e., physiotherapists) and geriatricians. Table 1 lists all included articles, the PPSM term used, and the target pain condition. Less than half (N = 20) of included articles provided an explicit definition. The terms "self-care" and "self-help" were identified as surrogate terms used in place of self-management. Pain coping and health education emerged as related concepts, subtly integrated among the attributes of PPSM. From an evolutionary perspective, older adults' PPSM appeared a relatively new concept; the earliest article was published in 1992, but the majority were published from 2006 to 2011 (N = 26).

Table 1 Articles included within the analysis of the concept older adults' persistent pain self-management (N = 45)

Reference (Name)	Term Used	Pain Type
Baird and Sands (2004) [35]	Self-management	Arthritis
Barlow et al. (2009) [36]	Self-management	Arthritis
Barlow, Williams and Wright (1997) [37]	Self-management	Arthritis
Barry et al. (2004) [38]	Pain coping	Chronic pain
Berman et al. (2009) [39]	Self-care	Chronic pain
Blyth et al. (2005) [40]	Self-management	Chronic pain
Davis (1992) [41]	Self-management	Chronic pain
Dunn and Horgas (2004) [42]	Pain coping	Chronic pain
Ehrlich-Jones (2001) [43]	Self-care	Chronic pain
Ersek et al. (2008) [33]	Self-management	Chronic pain
Green et al. (2009) [44]	Pain coping	Chronic pain
Haas et al. (2005) [34]	Self-management	Low back pain
Hadjistavropoulos and Shymkiw (2007) [45]	Self-management	Chronic pain
Hopman-Rock et al. (1998) [46]	Pain coping	Arthritis
Krein et al. (2007) [47]	Self-management	Chronic pain
Kroenke et al. (2009) [48]	Self-management	Chronic pain
Lachapelle and Hadjistravropoulos (2005) [49]	Pain coping	Chronic pain
Laforest et al. (2008) [50]	Self-management	Arthritis
Lansbury (2000) [51]	Pain coping	Chronic pain
Lohmann et al. (1998) [52]	Pain coping	Chronic pain
Lorig, Ritter and Plant (2005) [53]	Self-management	Arthritis
McCracken, Vowles and Gauntlett-Gilbert (2007) [54]	Pain coping	Chronic pain
McDonald-Miszczak and Wister (2005) [55]	Self-care	Arthritis
Mendelson, McCullough and Cahn (2011) [56]	Self-management	Arthritis
Morone et al. (2008) [57]	Pain coping	Chronic pain
Newman (2001) [58]	Self-help	Arthritis
Nour et al. (2007) [59]	Self-management	Arthritis
Rapp et al. (2000) [60]	Pain coping	Arthritis
Reid et al. (2008) [13]	Self-management	Chronic pain
Roberto and Reynolds (2002) [61]	Self-care	Chronic pain
Robinson (1999) [62]	Self-care	Chronic pain
Ross et al. (2001) [63]	Self-care	Chronic pain
Seomun et al. (2006) [64]	Pain coping	Arthritis
Tak (2006) [65]	Pain coping	Arthritis
Townley et al. (2010) [66]	Self-management	Back pain
Tsai, Liu and Chung (2010) [67]	Self-care	Chronic pain
Turner, Ersek and Kemp (2005) [68]	Pain coping	Chronic pain
Yang (2006) [69]	Self-management	Chronic pain
American Geriatric Society (2002) [3]	APP	Chronic pain
British Geriatrics Society (2010) [70]	Self-management	Any LTC
British Pain Society (2007) [71]	PMP	Chronic pain
Department of Health (2006) [72]	Self-management	Chronic pain
National Health Service (2008) [73]	Self-help	Chronic pain
NHS QIS (2006) [74]	Self-management	Chronic pain
NICE (2008) [75]	Self-management	Arthritis

APP = active patient participation; LTC = long-term condition; PMP = pain management program; NHS = National Health Service; NHS QIS = National Health Service Quality Improvement Scotland; NICE = National Institute for Clinical Excellence.

Referents, Antecedents, and Consequences

Analysis of referents (contextual information) resulted in the identification of three situations where older adults' PPSM occurs: first, as an intervention to teach self-management skills; second, as everyday patient behaviors; and third, as an outcome. Older adults' PPSM was expected to occur on a regular basis, and although older adults were at the center of PPSM, the involvement of others, such as care providers, family, and friends, was also a common theme. However, little agreement as to the boundaries of the roles of others made it difficult to disentangle the roles of formal and informal health care. Three antecedents were identified: the individual's awareness of the need to self-manage pain, the individual's willingness and ability to engage with PPSM, and the availability of external support. Numerous consequences of PPSM spanning the physical, psychological, and social health domains were identified (Table 2). We found no standard instrument to measure the occurrence or consequences of PPSM.

Theoretical Context

Theories associated with older adults' PPSM focused on either explaining older adults' engagement with PPSM or the pathway between PPSM and health improvement. Most were of psychological origin and included the theory of self-efficacy [13,33,34,36,37,41,47,48,50,58,63,64,68,75], the transactional model of stress and coping [49], and the health beliefs model [55,56,62]. Increasing self-efficacy, the confidence to manage pain [68] was commonly considered to be highly important to increasing older adults' participation with PPSM. Less attention was given toward explaining how PPSM leads to health improvement. There was overlap between mediating and outcome variables; choice of pain management behaviors were considered to mediate the relationship between pain and PPSM health outcomes [68], but pain management behaviors were also considered as outcomes of PPSM [62].

Table 2 Examples of identified outcomes associated with older adults' persistent pain self-management and their respective measurement tools

Domain	Outcomes	Measures Used
Physical health and function	Pain (intensity, severity, interference, location) Fatigue Stiffness Mobility Disability Sleep General health and wellbeing	Arthritis impact measures (AIMS2) Health assessment questionnaire (HAQ) Brief pain inventory (BPI) Roland–Morris disability questionnaire (RDQ) Short Form-36 (SF36)
Psychological health and function	Anxiety and depression Self-efficacy Cognitive function Locus of control	Arthritis self-efficacy scale Hospital anxiety and depression scale (HADS) Positive and negative affect scale (PANAS) Pain self-efficacy questionnaire (PSEQ) Arthritis helplessness index (AHI) Geriatric depression scale (GDS) Pain beliefs questionnaire (PBQ) Pain stages of change questionnaire (PSOCQ)
Social function	Social wellbeing/function Quality of life	Social support survey Health-related quality of life
Use of pain self-management techniques	Pharmacologic: over the counter and prescribed medicines Relaxation Exercise Social contact Cognitive symptom management Stress management Community/health education/support group	Stanford arthritis scale Self-care behavior inventory Chronic pain coping inventory Coping strategies questionnaire Ways of coping questionnaire Self-management behavior questionnaire Pain management inventory
Other	Use of health care resources (i.e., GP visits) goal attainment	Self-report or medical records goal attainment scaling

This table provides a summary of the most frequently occurring outcomes and measurement tools and does not list each outcome and measurement tool identified in this analysis. GP = General Practitioner.

Attributes

Five attributes of older adults' PPSM were identified: multidimensional process, active individuals, personal development, response to symptoms, and symptom control. Each attribute is presented below, followed by consideration of the concepts unique relevance to older adults.

Multidimensional Process

Older adult's PPSM is complex, involving multiple events and features, as illustrated by Figure 1 and through the range of identified pain management skills, behaviors, and actions (Table 3). The complexities of PPSM can be further demonstrated through the common assumptions that PPSM has multiple functions: to engage older adults with pain management, to inform and support older adults pain management, to improve health and well-being, and to improve use of health care resources.

The aims of pain management programmes are to: improve people's understanding of chronic pain and the relationship between pain, emotion and behaviour, improve people's level of physical, social, practical and emotional functioning and confidence, reduce fear of movement, provide coping strategies for dealing with their disability and distress, promote autonomy and independence, reduce or modify the person's future use of health-care. ([74], p. 15)

PPSM is also a process; it develops over time and aims to achieve improvement across multiple health domains (Table 2).

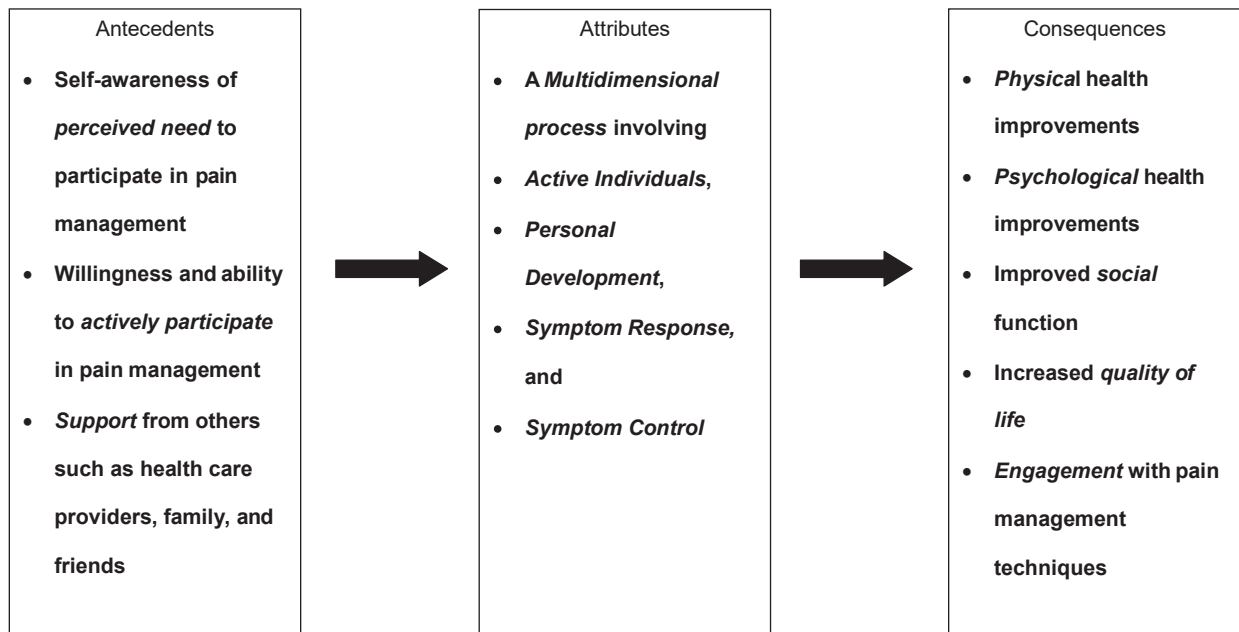


Figure 1 Diagram illustrating the antecedents, attributes, and consequences of older adults' self-management of persistent pain.

Active Individuals

This attribute reflects the central role played by individuals in the everyday decisions and actions taken to manage persistent pain and pain-associated symptoms. When describing this role, commonly applied descriptives emerged: "to be empowered . . ." ([70], p. 3) and "to take responsibility and maintain their independence." ([69], p. 232). It was often anticipated that as part of being an active individual, older adults would have, or build, collaborative relationships with care professionals.

[f]ive core self-management skills: problem-solving, decision-making, resource utilization, formation of a patient-provider partnership, and adoption of actions to manage the health condition. ([33], p. 30)

It was also apparent that self-awareness was important. To be active individuals, older adults needed to be aware of pain beliefs, motivations toward managing pain, and negative thoughts toward pain.

Personal Development

Personal development reflects the commonly agreed need to learn, evaluate, and build upon personal resources and skills. The focus upon personal action plans and the setting of personal targets reflects a common assumption that PPSM is individualized. Health education was related to personal development through the expectation that health professionals should provide patients with information “by giving them information relevant to the advanced stages of arthritis” ([50], p. 541). Developing knowledge and skills, alongside the need to evaluate their own progress (Table 3) suggests that individuals should take ownership and responsibility for enhancing their abilities to self-manage persistent pain.

Response to Symptoms

Response to symptoms describes individuals’ cognitive or emotional reactions to pain and pain-associated symptoms. Cognitive behavioral therapy was frequently cited as one method of addressing an individual’s symptom response.

[c]ognitive-behavioral treatments for chronic pain are based on the idea that altering an individual’s responses to their condition can reduce disability and suffering ([54], p. 339)

A relationship with pain coping emerged from discussions regarding the importance of “active coping,” i.e., having positive beliefs and responses to pain. The importance of this attribute was stressed: “an individual’s choice of coping strategies will determine their adjustment to chronic pain” ([54], p. 339). However, contradiction exists as to what are, and are not, active coping strategies. One definition states that:

Active coping strategies were defined as including any instrumental activity initiated by the person in pain to deal with his/her pain, but only if not characterised by avoidance or escape ([40], p. 287)

Blyth et al. classified “mental distraction” as an active coping behavior [40]. However, Lachapelle and Hadjistavropoulos depicted distraction techniques to be avoidance oriented [49] stating that avoidance actions are not active-coping strategies.

Table 3 The range of skills, actions, activities, and behaviors associated with older adults’ persistent pain self-management

General skills taught or required for the self- management of pain

- Learning about pain
- Practice and experience of skills and behaviors
- Self-confidence in own ability to manage pain
- Communication skills
- Problem solving and decision making
- Planning and goal setting
- Evaluating and monitoring
- Pain management behaviors, activities, and strategies
- Exercise
- Yoga
- Tai chi
- Thermal treatments
- Massage
- Analgesic medications
- Complementary therapies
- Managing general health (i.e., optimizing diet)
- Rest
- Pacing and prioritizing activities
- Keeping busy and persevering
- Relaxation/breathing exercises
- Cognitive behavioral therapy
- Religious activities (i.e., prayer)
- Cognitive management (i.e., distraction, positive self-statements)
- Seeking/using professional support/advice
- Support in the community (i.e., self-help groups)
- Seeking/using social support (i.e., family, friends)

Symptom Control

This attribute describes the relationship between the broad ranges of symptom control activities (Table 3) and expected outcomes of PPSM (Table 2).

By using these techniques and making them part of your daily routine, we hope you will be able to manage your pain better, making life more enjoyable and rewarding; It's all about giving you some control back, rather than letting the pain take over. [73]

As shown in Table 2, PPSM does not focus upon pain control exclusively but also includes controlling pain interference with general health and daily activities. Reducing pain was not always considered the most important outcome; reduced physical impairment and psychological distress were often considered to be as, or more, important. Therefore, symptom control relates to the control of pain and also wider impacts of living with pain as perceived by the older adult.

Reference Toward Older Adults

Few articles expressed consideration of how PPSM applies specifically toward older adults or how older adults' PPSM may differ from younger adults. One study suggests older adults may have different expectations regarding the efficacy of PPSM strategies [38]. Older adults' responses to pain may differ on account of experiencing different stresses from younger adults [49]. There may be wider benefits to older adults learning to self-manage pain such as increased ability to cope with other sources of stress encountered in daily life [36]. One study's findings suggested that older adults particularly value social contact from group self-management activities [33]. Additionally, comorbidities [55] and restricted abilities to participate in PPSM activities [49] were suggested as potential barriers unique to older adults.

Theoretical Definition

Based upon the identified antecedents, attributes, and consequences, our proposed theoretical definition for older adults' PPSM follows:

A multidimensional process occurring when an older adult perceives the need to self-manage pain and is willing and able to do so with support from others. It involves an older adult with persistent pain being an active individual in their treatment, engaged in the personal development of skills and being aware of their own responses to symptoms. The older adult initiates, participates, and develops their own methods of symptom control by using pain management techniques that lead to improvements in the physical, psychological, and social health domains.

Discussion

Limited literature, focused predominantly in the last decade, indicates the novelty of PPSM within the context of older adults. Older adults' PPSM was identified as a multidimensional process composed of many components sharing commonality across disciplines: active individuals, personal development, response to symptoms, and symptom control. However, lack of clarity surrounding its theoretical framework and little detail regarding PPSM within the context of later life have implications for the theoretical definition and the use of this concept. For example, if older adults' expectations of PPSM differ from younger adults, then how will this impact upon personal development as influenced by older adults' unique treatment goals and priorities. Nonetheless, the analysis of the concept of PPSM in relation to older adults allows us and others to better focus our research efforts and identify important clinical considerations in the support of older adults' PPSM.

A collaborative relationship between providers and patients appeared important. Our analysis suggests this should involve providers giving pain information and supporting patients' treatment choices. However, older adults vary in how much involvement they want to have in treatment decisions; some older adults prefer providers to make all treatment decisions [78]. Furthermore, some patients are perceived by providers to be unable to participate in decision making, and providers report that this and time constraints pose barriers to shared decision making [79]. In addition, older adults with multimorbidity can present further difficulties, specifically, the need to prioritize conditions and manage opposing treatments [80]. Patients with multiple morbidities can find performing self-management more difficult and burdensome [80] and thus needing increased provider guidance and support. While providers have an important role, they are presented with many challenges in supporting older adults' PPSM. The literature rarely considered older adults' PPSM within the background of other chronic illnesses and provides little indications as to how providers can support the self-management of multiple long-term conditions. Further research is critically needed in this more complicated context of older adults' PPSM so that providers can be better advised as to how they can enhance older adults' PPSM.

In view of the numerous theories, mediating variables, and outcome measures identified, we propose that the overall theoretical framework for older adults' PPSM requires clarification. Theory analysis examines theoretical components and the relationships between them, providing a clear basis for future research and practice [81]. We also suggest a need to consider how best to measure PPSM; as PPSM has been identified as a multidimensional process, one-dimensional assessment

tools measuring selected attributes would not be adequate. However, clarification of theories and measures will require that one important gap be addressed: the need to explore the perspectives and experiences of older adults and health professionals. This exploration will allow us to refine the attributes, providing a clearer understanding of how to identify the concept. Considering the evolutionary nature of concepts [21] and that the cohort of older adults will change over time, we must also consider the impact of change among future research. "Today's generation" of older adults may differ from future generations, and it is imperative to explore this to avoid working with an outdated and ill-informed concept of PPSM.

Our findings are subject to some limitations. Despite a comprehensive search strategy, only a relatively small number of publications were found, which may not have been large enough to detect differences between disciplines. The few explicit definitions of PPSM available resulted in our need to incorporate implied understandings. As secondary analysis of a random sample of the literature was conducted, we cannot rule out the possibility of researcher bias, although we did clarify prior assumptions by agreeing on a basic definition for older adults' PPSM before embarking on this investigation. Absent boundaries surrounding PPSM, particularly in relation to symptom control activities, present a further limitation; a strategy perceived by older adults to be helpful in terms of pain control may be health harming in the eyes of the health professional. The absence of age-specific considerations within the theoretical definition, although reflective of the literature examined, does leave us with a definition that could be applicable to all ages. We do however consider this to be an important finding in itself; that those applying the concept of PPSM to older adults often do not consider how its meaning may change in later life. Therefore, our results provide a starting point and form the first of a series of studies exploring the concept of older adults' PPSM. Our ongoing research, exploring the perspectives of older adults and health care professionals toward PPSM, aims to address some of the limitations and unanswered questions this analysis has uncovered. We also suggest that research utilizing a form of the Delphi technique would be beneficial in obtaining consensus opinion among relevant stakeholders regarding the meaning of older adults' PPSM.

Conclusion

Our findings have clarified what is currently known and agreed upon regarding the concept of older adults' PPSM, providing a guide for further development and use of this concept. A refinement of the PPSM attributes is warranted with consideration of the unique and complex needs of older adults. Further research is needed to determine strategies that will help providers overcome barriers to their key support of the process of older adults' PPSM. Finally, clarification of the theoretical framework surrounding older adults' PPSM will greatly enhance our understanding and utility of the concept, older adults' PPSM.

References

- 1 British Pain Society. Pain management programmes for adults—Information for patients. British Pain Society 2007. Available at: http://www.britishpainsociety.org/book_pmp_patients.pdf (accessed September 2013).
- 2 Department of Health. The Musculoskeletal Services Framework—A joint responsibility, doing it differently. Department of Health Ref 6587 2006. Available at: http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/documents/digitalasset/dh_4138412.pdf (accessed September 2013).
- 3 National Health Service. Chronic pain a self help guide. National Health Service Forth Valley 2008. Available at: <http://www.moodjuice.scot.nhs.uk/ChronicPain.asp> (accessed September 2013).
- 4 National Health Service Quality Improvement Scotland (NHS QIS). Management of chronic pain in adults. NHS Health Quality 2006. ISBN 1-84404-385-1.
- 5 National Institute for Health and Clinical Excellence (NICE). Osteoarthritis: National Clinical Guideline for Care and Management in Adults. National Collaborating Centre for Chronic Conditions NICE Clinical Guide- line 5 2008. Available at: <http://www.nice.org.uk/nicemedia/live/11926/39557/39557.pdf> (accessed September 2013).
- 6 Holloway I, Todres L. Grounded theory. In: Gerrish K, Lacey A, eds. *The Research Process in Nursing*, 6th edition. Singapore: Wiley Blackwell; 2010:153– 64.
- 7 Ritchie J, Spencer L, O'Connor W. Carrying out qualitative analysis. In: Ritchie J, Lewis J, eds. *Qualitative Research Practice: A Guide for Social Science Students and Researchers*. London: Sage; 2003:219– 62.
- 8 Price EL, Bereknyei S, Kuby A, Levinson W, Braddock CH III. New elements for informed decision making: A qualitative study of older adults views. *Patient Educ Couns* 2012;86:335–41.
- 9 Legare F, Ratte S, Gravel K, Graham ID. Barriers and facilitators to implementing shared decision-making in clinical practice: Update of a systematic review of health professionals perceptions. *Patient Educ Couns* 2008;73:526–35.

- 10 Bower P, MacDonald W, Harkness E, et al. Multimorbidity, service organization and clinical decision making in primary care: A qualitative study. *Fam Pract* 2011;28:579–87.
- 11 Walker LO, Avant KC. Theory analysis. In: Walker LO, Avant KC, eds. *Strategies for Theory Constructions in Nursing*, 3rd edition. Norwalk: Appleton & Lange; 1995:133–54.
- 12 International Association for the Study of Pain (IASP). Pain terms—A current list with definitions and notes on usage. *Pain* 1986;24(S1):S215–21.
- 13 Helme RD, Gibson SJ. The epidemiology of pain in elderly people. *Clin Geriatr Med* 2001;17:417–31.
- 14 American Geriatric Society. The management of persistent pain in older persons. *J Am Geriatr Soc* 2002; 50:S205–24.
- 15 American Geriatric Society. Pharmacological management of persistent pain in older persons. *J Am Geriatr Soc* 2009;57:1331–46.
- 16 Bruckenthal P, Reid MC, Reisner L. Special issues in the management of chronic pain in older adults. *Pain Med* 2009;10:S67–78.
- 17 Leveille SG, Jones RN, Kiely DK, et al. Chronic musculoskeletal pain and the occurrence of falls in an older population. *JAMA* 2009;302:2214–21.
- 18 Grichnik KP, Ferrante FM. The difference between acute and chronic pain. *Mt Sinai J Med* 1991;58:217–20.
- 19 Pasero C, McCaffery M. The undertreatment of pain. *Am J Nurs* 2001;101:62–5.
- 20 Resnik DB, Rehm M, Minard RB. The undertreatment of pain: Scientific, clinical, cultural, and philosophical factors. *Med Health Care Philos* 2001;4:277–88.
- 21 Barry LC, Gill TM, Kerns RD, Reid MC. Identification of pain-reduction strategies used by community-dwelling older persons. *J Gerontol A Biol Sci Med Sci* 2005; 60:1569–75.
- 22 Davis GC, Hiemenz ML, White TL. Barriers to managing chronic pain of older adults with arthritis. *J Nurs Scholarsh* 2002;34:121–6.
- 23 Warsi A, Lavalley MP, Wang PS, Avorn J, Solomon JH. Arthritis self-management education programs: A meta-analysis of the effect on pain and disability. *Arthritis Rheum* 2003;48:2207–13.
- 24 Reid MC, Papaleontiou M, Ong A, et al. Self-management strategies to reduce pain and improve function among older adults in community settings: A review of the evidence. *Pain Med* 2008;9:409–24.
- 25 Ersek M, Tuner JA, Cain KC, Kemp CA. Chronic pain self-management for older adults: A randomized controlled trial [ISRCTN11899548]. *BMC Geriatr* 2004;4:7. doi: 10.1186/1471-2318/4/7.
- 26 Yong H, Gibson SJ, Horne DJL, Helme RD. Development of a pain attitudes questionnaire to assess stoicism and cautiousness for possible age differences. *J Gerontol B Psychol Sci Soc Sci* 2001;56B:279–84.
- 27 Theilke S, Sale J, Reid C. Are these 4 pain myths complicating care. *J Fam Pract* 2012;61:666–70.
- 28 Turk C, Okifuji A, Scharff L. Chronic pain and depression: Role of perceived impact and perceived control in different age cohorts. *Pain* 1995;61:93–101.
- 29 Wittnik HM, Rogers WH, Lipman AG, et al. Older and younger adults in pain management programmes in the United States: Differences and similarities. *Pain Med* 2006;7:151–63.
- 30 Isaac LM, Tamblin RM. McGill–Calgary Drug Research Team. Compliance and cognitive function: A methodological approach to measuring unintentional errors in medication compliance in the elderly. *Gerontologist* 1993;33:772–81.
- 31 Kim HS. *The Nature of Theoretical Thinking in Nursing*, 2nd edition. New York: Springer Publishing Company; 2000.
- 32 Rodgers BL. Concept analysis: an evolutionary view. In: Rodgers BL, Knaf KA, eds. *Concept Development in Nursing—Foundations, Techniques, and Applications*, 2nd edition. Philadelphia: Saunders; 2000:77–102.
- 33 Baldwin MA, Rose P. Concept analysis as a dissertation methodology. *Nurse Educ Today* 2009;29(7): 780–3.

- 34 Duncan C, Cloutier JD, Bailey PH. In response to: Risjord M (2009) Rethinking concept analysis. *J Adv Nurs* 2009;65(9):1985–6.
- 35 Avant KC. The Wilson method of concept analysis. In: Rodgers BL, Knafk KA, eds. *Concept Development in Nursing—Foundations, Techniques, and Applications*, 2nd edition. Philadelphia: Saunders; 2000:55–64.
- 36 Keselman A, Smith CA. A classification of error in lay comprehension of medical documents. *J Biomed Inform* 2012;45:1151–63.
- 37 Patrick TB, Monga HK, Sievert M, Hall JH, Longo DR. Evaluation of controlled vocabulary resources for development of a consumer entry vocabulary for diabetes. *J Med Internet Res* 2001;3:e24. doi: 10.2196/jmir.3.3.e24.
- 38 Freeman J, Loewe R. Barriers to communication about diabetes mellitus. *J Fam Pract* 2000;49:507–12.
- 39 Penrod J, Hupcey JE. Enhancing methodological clarity: Principle-based concept analysis. *J Adv Nurs* 2005;50:403–9.
- 40 Wilson J. *Thinking with Concepts*. Cambridge, UK: Cambridge University Press; 1963.
- 41 Broome ME. Integrative literature reviews for the development of concepts. In: Rodgers BL, Knafk KA, eds. *Concept Development in Nursing—Foundations, Techniques and Applications*, 2nd edition. Philadelphia: Saunders; 2000:231.
- 42 Knafk KA, Deatrick JA. Knowledge synthesis and concept development in nursing. In: Rodgers BL, Knafk KA, eds. *Concept Development in Nursing—Foundations, Techniques and Applications*, 2nd edition. Philadelphia: Saunders; 2000:39–54.
- 43 Risjord M. Rethinking concept analysis. *J Adv Nurs* 2009;65:684–91.
- 44 Ersek M, Turner JA, Cain KC, Kemp CA. Results of a randomized controlled trial to examine the efficacy of a chronic pain self-management group for older adults. *Pain* 2008;138:29–40.
- 45 Haas M, Group E, Muench J, et al. Chronic disease self-management program for low back pain in the elderly. *J Manipulative Physiol Ther* 2005;28:228–37.
- 46 Baird CL, Sands L. A Pilot study of the effectiveness of guided imagery with progressive muscle relaxation to reduce chronic pain and mobility difficulties of osteoarthritis. *Pain Manag Nurs* 2004;5:97–104.
- 47 Barlow J, Turner A, Swaby L, et al. An 8-yr follow-up of arthritis self-management programme participants. *Rheumatology* 2009;48:128–33.
- 48 Barlow JH, Williams B, Wright CC. Improving arthritis self-management among older adults: “Just what the doctor didn’t order.” *Br J Health Psychol* 1997;2:175–86.
- 49 Barry LC, Kerns RD, Guo Z, et al. Identification of strategies used to cope with chronic pain in older persons receiving primary care from a Veterans Affairs Medical Center. *J Am Geriatr Soc* 2004;52:950–6.
- 50 Berman RLH, Iris MA, Bode R, Drengenberg C. The effectiveness of an online mind–body intervention for older adults with chronic pain. *J Pain* 2009;10:68–79.
- 51 Blyth FM, March LM, Nicholas MK, Cousins MJ. Self-management of chronic pain: A population-based study. *Pain* 2005;113:285–92.
- 52 Davis GC. The meaning of pain management: A concept analysis. *J Adv Nurs* 1992;15:77–86.
- 53 Dunn KS, Horgas AL. Religious and nonreligious coping in older adults experiencing chronic pain. *Pain Manag Nurs* 2004;5:19–28.
- 54 Ehrlich-Jones L. Self-care behavior of African–American elderly with arthritis. Doctoral Dissertation. University of Illinois at Chicago 2001. Purchased from ProQuest Information & Learning. Available at: <http://www.proquest.co.uk/en-UK> (accessed September 2013).
- 55 Green SM, Hadjistavropoulos T, Hadjistavropoulos H, Martin R, Sharpe D. A controlled investigation of a cognitive behavioural pain management program for older adults. *Behav Cogn Psychother* 2009;37:221–6.
- 56 Hadjistavropoulos H, Shymkiw J. Predicting readiness to self-manage pain. *Clin J Pain* 2007;23:259–66.

- 57 Hopman-Rock M, Kraaimaat FW, Odding E, Bijlsma JW. Coping with pain in the hip or knee in relation to physical disability in community-living elderly people. *Arthritis Care Res* 1998;11:243–52.
- 58 Krein SL, Heisler M, Piette JD, Butchart A, Kerr EA. Overcoming the influence of chronic pain on older patients' difficulty with recommended selfmanagement activities. *Gerontologist* 2007;47:61–8.
- 59 Kroenke K, Bair MJ, Damush TM, et al. Optimized antidepressant therapy and pain self-management in primary care patients with depression and musculoskeletal pain: A randomized controlled trial. *JAMA* 2009;301:2099–110.
- 60 Lachapelle DL, Hadjistravropoulos T. Age-related differences among adults coping with pain: Evaluation of a developmental life-context model. *Can J Behav Sci* 2005;37:123–37.
- 61 Laforest S, Nour K, Gignac M, et al. Short-term effects of a self-management intervention on health status of housebound older adults with arthritis. *J Appl Gerontol* 2008;27:539–67.
- 62 Lansbury G. Chronic pain management: A qualitative study of elderly people's preferred coping strategies and barriers to management. *Disabil Rehabil* 2000;22:2–14.
- 63 Lohmann R, Heuft G, Schneider G, Kruse A. Pain, coping and psychological well-being in late life. *Eur J Pain* 1998;2:43–52.
- 64 Lorig K, Ritter PL, Plant K. A disease-specific self-help program compared with a generalized chronic disease self-help program for arthritis patients. *Arthritis Care Res* 2005;53:950–7.
- 65 McCracken LM, Vowles KE, Gauntlett-Gilbert J. A prospective investigation of acceptance and control oriented coping with chronic pain. *J Behav Med* 2007;30:339–49.
- 66 McDonald-Miszczak L, Wister AV. Predicting self-care behaviors among older adults coping with arthritis: A cross-sectional and 1-year longitudinal comparative analysis. *J Aging Health* 2005;17:836–57.
- 67 Mendelson AD, McCullough C, Chan A. Integrating self-management and exercise for people living with arthritis. *Health Educ Res* 2011;26:167–77.
- 68 Morone NE, Lynch CS, Greco CM, Tindle HA, Weiner DK. "I felt like a new person." The effects of mindfulness meditation on older adults with chronic pain: Qualitative narrative analysis of diary entries. *J Pain* 2008;9:841–8.
- 69 Newman AM. Self-help care in older African Americans with arthritis. *Geriatr Nurs* 2001;22:135–8.
- 70 Nour K, Laforest S, Gauvin K, Gignac K, Gignac M. Long-term maintenance of increased exercise involvement following a self-management intervention for housebound older adults with arthritis. *Int J Behav Nutr Phys Act* 2007;4:22. doi: 10.1186/1479-5868-4-22.
- 71 Rapp SR, Rejeski WJ, Miller ME. Physical function among older adults with knee pain: The role of pain coping skills. *Arthritis Care Res* 2000;13:270–9.
- 72 Roberto KA, Reynolds SG. Older women's experiences with chronic pain: Daily challenges and self-care practices. *J Women Aging* 2002;14:5–23.
- 73 Robinson LK. Attributions and representations of joint pain symptoms in seniors: Implications for self-reported health care behaviours. Doctoral Dissertation. University of Saskatchewan, 1999. Available at: <http://library.usask.ca/theses/available/etd-10212004-001605/unrestricted/NQ37911.pdf> (accessed September 2013).
- 74 Ross MM, Carswell A, Hing M, Hollingworth G, Dalziel WB. Seniors' decision making about pain management. *J Adv Nurs* 2001;35:442–51.
- 75 Seomun GA, Chang SO, Lee PS, Lee SJ, Shin HJ. Concept analysis of coping with arthritic pain by South Korean older adults: Development of a hybrid model. *Nurs Health Sci* 2006;8:10–9.
- 76 Tak SH. An insider perspective of daily stress and coping in elders with arthritis. *Orthop Nurs* 2006; 25:127–32.
- 77 Townley S, Papaleontiou M, Amanfo L, et al. Preparing to implement a self-management program for back pain in New York City senior centers: What do prospective consumers think? *Pain Med* 2010;11:405–15.
- 78 Tsai Y, Liu L, Chung S. Pain prevalence, experiences, and self-care management strategies among the community-dwelling elderly in Taiwan. *J Pain Symptom Manage* 2010;40:575–81.

- 79 Turner JA, Ersek M, Kemp C. Self-efficacy for managing pain is associated with disability, depression, and pain coping among retirement community residents with chronic pain. *J Pain* 2005;6:471–9.
- 80 Yang CA. An intervention to promote quality of life in older adults experiencing chronic nonmalignant pain. Doctoral Dissertation. Texas Woman's University, 2006. Purchased from ProQuest Information & Learning. Available at: <http://www.proquest.co.uk/en-UK> (accessed September 2013).
- 81 British Geriatric Society. Geriatricians and the management of long term conditions. British Geriatric Society 2010. Available at: http://www.bgs.org.uk/index.php?option=com_content&view=article&id=359:managinglongtermconditions&catid=12:goodpractice&Itemid=106 (accessed September 2013)