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A Concept Analysis of Coping with Chronic Pain in Older Adults

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ABSTRACT

Objectives: There is no consensus on the definition of coping with chronic pain in older adults. The lack of a definition affects communication in interdisciplinary care, limits assessments of coping in clinical practice, and influences the development of knowledge on the subject. The aim of this paper is to report on a concept analysis of coping with chronic pain in older adults and to construct a definition of the concept.

Design: A concept analysis was conducted.

Data sources: A literature search was conducted in the CINAHL, MEDLINE, PsycINFO, and PubMed databases.

Review methods: Rodgers' evolutionary method was used for the concept analysis.

Results: The search yielded 32 articles. Surrogate terms included "living with pain," "pain management," "managing pain," "self-management," "adapting to pain," "dealing with pain," and "adjustment to pain." Related concepts were categorized under methods of coping, pain relief, and seeking help. The following definition, which takes into consideration the antecedents, attributes, and consequences of coping with chronic pain, was constructed: "Dealing with chronic pain is a process in which various attitudes and beliefs can result in the making of changes in daily life and activities. An action to adopt coping strategies is required, so self-involvement is needed. However, demographic characteristics, physical factors, psychological factors, social factors, relevant knowledge about one's own conditions and coping, and factors related to coping strategies affect how older adults deal with chronic pain. The actions that they choose to deal with chronic pain could lead to positive and/or negative outcomes."

Conclusions: Coping with chronic pain involves more than the use of coping strategies. This analysis provides suggestions on clinical assessments and interventions. The concept of coping with chronic pain requires continual development.

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Chronic pain is an unpleasant feeling persisting for longer than 3 months (International Association for the Study of Pain, 2016). According to a meta-analysis, the prevalence of chronic pain increases with age (Fayaz, Croft, Langford, Donaldson, & Jones, 2016). The prevalence of chronic pain in older adults has been found to be 42.5% in the United States (Lamerato et al., 2016), 38.5% in Sweden (Larsson, Hansson, Sundquist, & Jakobsson, 2017), 42.0% in Taiwan (Yu, Tang, Yeh, Kuo, & Yu, 2011), and 49.8% in China (Li et al., 2018). The most common location for chronic pain in older adults is the lower limbs (Li et al., 2018; Tse, Wan, & Wong, 2013). Chronic pain greatly affects the quality of life of older adults (Bruckenthal, Reid, & Reisner, 2009). Older adults tend to use multiple coping strategies concurrently, such as medicines and massage, with the mean

number of such strategies being 9.08 ± 3.56 (Yu et al., 2011). The high prevalence of the use of multiple coping strategies could imply a failure to find effective relief for their chronic pain.

Although coping with pain has been the focus of pain research since the early 1980s (McCracken & Eccleston, 2003), a common definition of coping with chronic pain is still lacking. In clinical practice each discipline uses its own terms, which reflect its areas of expertise, to describe a client's condition, but the terms may not actually reflect the client's overall experience (Basch, Chow, Logan, Schechter, & Simons, 2015). The lack of a common language badly hinders the clinical progress of the clients and poses challenges to the delivery of collaborative care. Assessments of coping in clinical practice are also limited.

Thus, clarifying the concept will not only contribute to the development of knowledge but will also enhance interdisciplinary communication (Rodgers, 2000). The concept of the "self-management of cancer pain" is found in the literature (Yamanaka, 2018), but it cannot be applied to older adults without cancer. A concept

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analysis of “coping with arthritic pain” was conducted among older adults in South Korea (Seomun, Chang, Lee, Lee, & Shin, 2006). However, the concept cannot be applied to pain not caused by arthritis. In addition, cultural differences may limit the application of the concept, and the cause of the chronic pain in older adults may not always be identifiable. Therefore, to develop effective care for older adults it is necessary to understand the concept of coping with chronic pain in general. The aim in this concept analysis is to ascertain the surrogate terms, related concepts, attributes, antecedents, and consequences of the concept, with examples provided to depict the concept, and to construct a definition of the concept.

Methods

Rodgers' Evolutionary Method

Rodgers' evolutionary method (2000) was adopted for this analysis. This method involves several steps: (1) identifying the concept of interest; (2) selecting the settings and samples; (3) collecting and analyzing data relevant to the attributes of coping with chronic pain and to the antecedents, consequences, surrogate terms, and concepts related to coping with chronic pain; and (4) identifying exemplars and implications of the concept (Rodgers, 2000). This method is appropriate for this study because coping is an abstract concept (Rodgers, 1989). In addition, ways of coping are very much shaped by changes in society (Lazarus, 1993). Many novel interventions are used currently, so ways of coping are changing over time. Furthermore, Rodgers' method can be used to examine how the concept has been used within and between disciplines (Toftagen & Fagerström, 2010).

This analysis will focus on coping with chronic pain because chronic pain has no recognizable endpoint, which makes coping challenging. Because older adults use more strategies than younger people (Molton et al., 2008), and expectations about coping may differ between older adults and caregivers, this analysis will focus on the perspective of older adults.

Search Strategy

A literature search was conducted in the CINAHL, MEDLINE, PsycINFO, and PubMed databases using the following keywords:

1. chronic pain OR persistent pain OR long-term pain NOT cancer pain
2. coping OR “deal* with” OR manage* OR “live with” OR “living with”
3. “older adults” OR “older people” OR “older persons” OR elder* OR geriatric

The three groups of keywords were combined. The search was limited to articles published in the past 30 years (i.e., 1988–2018), because coping changes with time and context and the concept only began to be studied in the early 1980s (McCracken & Eccleston, 2003). After duplicate works were excluded, titles and abstracts were screened. The reference lists of the publications were also reviewed. Only articles related to the concept of coping with chronic pain in older adults were included. No restrictions were placed on study settings. Reviews, intervention studies, protocol studies, unpublished papers, or papers that did not focus on the perspective of older adults or that failed to mention the types of pain felt by the older participants were excluded. Papers containing data on older adults that could not be separated from the data of other populations were also excluded. The process of selecting the articles is summarized in the Preferred Reporting Items for Systematic Reviews and Meta-Analyses flow chart in Figure 1.

Data Analysis

The search yielded 32 articles. When a study was conducted by researchers from more than one discipline, it was classified according to the discipline of the corresponding author (Rodgers, 2000). There were 18 studies from researchers in the field of nursing; 8 from medicine; 2 from physiotherapy; 1 each from the fields of occupational therapy, dentistry, and psychology; and 1 from researchers in another discipline. There were 13 qualitative, 16 quantitative, and 3 mixed-methods studies, respectively. Rodgers (2000) suggests that 20% of the identified studies, or at least 30 articles, would be required for an analysis. Because these 32 articles met the criteria for inclusion, they were all included in this analysis. Key phrases regarding attributes, antecedents, and consequences were extracted, analyzed, and thematically categorized. Each category was named with a descriptor to illuminate the nature of the data. Surrogate terms and related concepts were also extracted. Two independent reviewers carried out the process of collecting and analyzing the data. A theoretical definition was constructed based on the attributes, antecedents, and consequences that were identified.

Results

Surrogate Terms and Related Concepts

Surrogate terms used interchangeably with “coping with chronic pain” include “living with pain,” “pain management,” “managing pain,” “self-management,” “adapting to pain,” “dealing with pain,” and “adjustment to pain” (Table 1). Related concepts carrying some of the relationships but not the same attributes as coping were clustered into the following three categories: methods of coping, pain relief, and seeking help (Table 2). Methods of coping refer to strategies or ways used by older adults when coping. Pain relief is often used to describe the alleviation of pain, but in coping, pain may not really be relieved. Seeking help is only used to describe the act taken by older adults in relation to coping.

Attributes

Attributes are characteristics of the concept (Rodgers, 2000). Four attributes were identified in this analysis.

Making Changes in Daily Life and Activities

Older adults allowed themselves more time to perform the activities of daily life (Blomqvist & Edberg, 2002). They made adjustments or changes to the ways in which they performed activities (Gillsjö, Schwartz-Barcott, Bergh, & Dahlgren, 2012; Mackichan, Adamson, & Gooberman-Hill, 2013) to remain active for as long as possible (Takai, Yamamoto-Mitani, & Chiba, 2017). They tried to maintain their independence (Richardson, Grime, & Ong, 2009). Some older adults even found ways to help others (Blomqvist & Edberg, 2002; Sofaer et al., 2005). Older adults used their residual capacities to develop new skills to better integrate into their environment (Alvarado & Salazar, 2015). Nevertheless, it was still necessary for them to sometimes seek help from others (Alvarado & Salazar, 2015; Klinger, Spaulding, Polatajko, MacKinnon, & Miller, 1999).

Self-Involvement

A high degree of self-involvement is one goal of coping with chronic pain (Davis, Hiemenz, & White, 2002). With regard to health care, older adults wanted to have some knowledge about their diagnosis and methods of coping and to be involved in making

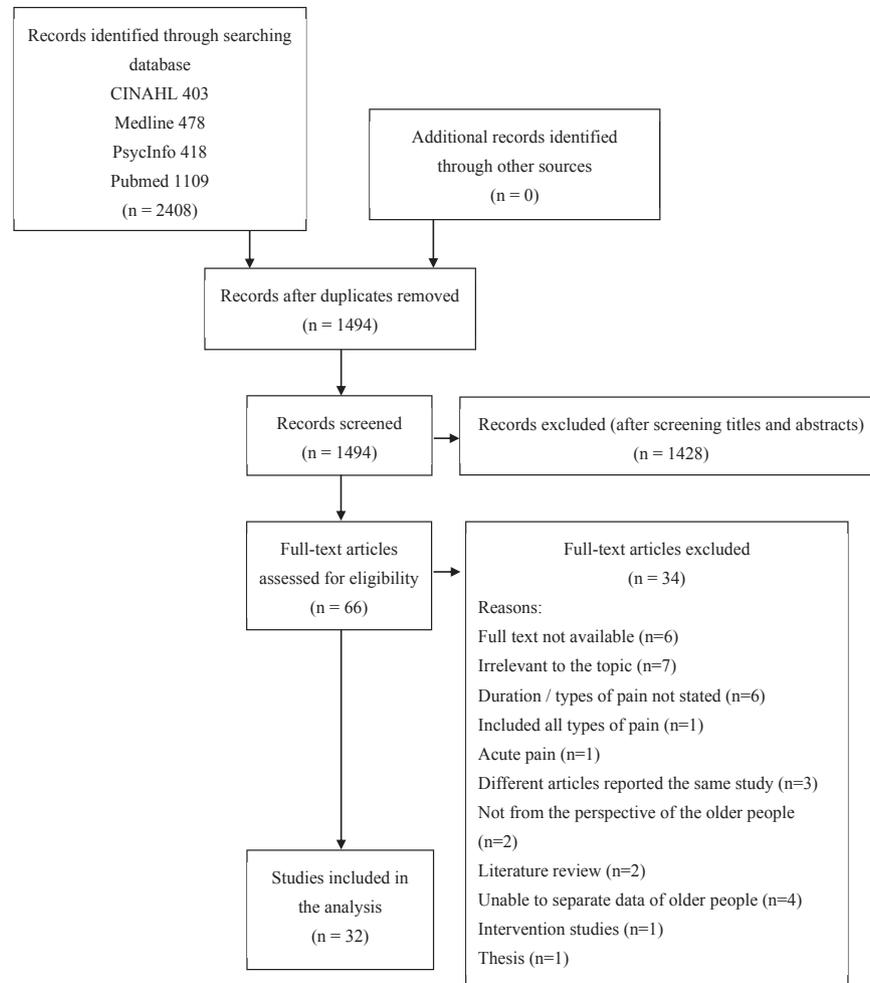


Figure 1. PRISMA flow chart.

decisions about their treatment (Davis et al., 2002; Lansbury, 2000; Takai et al., 2017). They took an active role in their treatment (Tse, Pun, & Benzie, 2005). Autonomy was perceived as important

(Mackichan et al., 2013). Older adults wanted to be involved in the activities of daily living (Blomqvist & Edberg, 2002), in society, and in the world (Richardson, Moore, Bernard, Jordan, & Sim, 2015).

Table 1
A Summary of the Surrogate Terms in the Literature

Authors	Surrogate Terms						
	Living with Pain	Pain Management	Managing Pain	Self-Management	Adapting to Pain	Dealing with Pain	Adjustment to Pain
Alvarado & Salazar (2015)	✓		✓		✓		
Andruszkiewicz et al. (2017)					✓		
Au et al. (2014)					✓		
Austrian et al. (2005)				✓			
Barry et al. (2004)						✓	
Blomqvist & Edberg (2002)	✓		✓				
Cabak et al. (2015)			✓	✓			
Chan et al. (2012)						✓	✓
Cornally & McCarthy (2011)	✓						
Davis et al. (2002)		✓				✓	
Gillsjö et al. (2012)	✓						
Jakobsson (2004)		✓					
Kemp et al. (2005)		✓					
Lansbury (2000)		✓					
Mackichan et al. (2013)	✓				✓		
Richardson et al. (2015)	✓						
Schofield et al. (2014)					✓		
Sofaer et al. (2005)					✓		
Stewart et al. (2012)		✓					
Takai et al. (2017)	✓						
Taverner et al. (2014)		✓	✓				
Turner et al. (2005)			✓	✓			✓

Table 2
A Summary of the Related Concepts in the Literature

Categories	Related Concepts
Methods of coping	Pain coping strategies (Cabak et al., 2015; Ersek et al., 2006; Lansbury, 2000; Tsai et al., 2008; Turner et al., 2005) Coping strategies (Barry et al., 2004; Chan et al., 2012; Dunn & Horgas, 2004) Pain management strategies (Austrian et al., 2005; Kemp et al., 2005; Stewart et al., 2012; Tsai et al., 2008) Ways of handling pain (Blomqvist & Edberg, 2002) Self-management technique (Au et al., 2014) Self-management approaches (Austrian et al., 2005) Self-management strategies (Schofield et al., 2014) Coping behaviors (Chan et al., 2012) Pain-reduction strategies (Barry et al., 2005) Pain relief strategies (Tse et al., 2013; Tse et al., 2005; Yu et al., 2011)
Pain relief	Pain reduction (Barry et al., 2005) Relieving pain (Tse et al., 2005)
Seeking help	Help-seeking behavior (Cornally & McCarthy, 2011) Treatment seeking behavior (Au et al., 2014) Seeking treatment (Panpanit et al., 2015)

Adopting Coping Strategies

Older adults used a variety of strategies (Table 3) to cope with their pain. They looked for all possible ways (Sofaer et al., 2005) and new methods to relieve pain (Lansbury, 2000). They selected which

methods to use by balancing the pros and cons (Blomqvist & Edberg, 2002; Taverner, Closs, & Briggs, 2014) and by referring to their experiences (Takai et al., 2017). They preferred self-administered and home-based strategies (Lansbury, 2000). Their

Table 3
A Summary of Coping Strategies

Coping Strategies
Behavioral Strategies
<ul style="list-style-type: none"> • Reporting pain to health care professionals (Dunn & Horgas, 2004) • Medications (Au et al., 2014; Austrian et al., 2005; Barry et al., 2004, 2005; Blomqvist & Edberg, 2002; Cornally & McCarthy, 2011; Dunn & Horgas, 2004; Kemp et al., 2005; Lansbury, 2000; Stewart et al., 2012; Taverner et al., 2014; Tse et al., 2005, 2013; Yu et al., 2011) • Complementary therapies such as acupuncture, massage, Chi Kung, herbal medicine (Au et al., 2014; Barry et al., 2004; Lansbury, 2000; Stewart et al., 2012; Taverner et al., 2014; Tsai et al., 2008; Tse et al., 2005, 2013; Yu et al., 2011) • Diversion (Dunn & Horgas, 2004) • Exercise (Au et al., 2014; Barry et al., 2004, 2005; Dunn & Horgas, 2004; Kemp et al., 2005; Lansbury, 2000; Stewart et al., 2012; Turner et al., 2005). • Activity (Cabak et al., 2015; Richardson et al., 2015) • Mobility (Blomqvist & Edberg, 2002) • Physical movement (Richardson et al., 2009) • Activity restriction (Barry et al., 2004, 2005; Klinger et al., 1999; Mackichan et al., 2013; Tsai et al., 2008). • Pacing (Barry et al., 2004; Ersek et al., 2006; Sofaer et al., 2005; Takai et al., 2017; Turner et al., 2005) • Rest (Au et al., 2014; Blomqvist & Edberg, 2002; Jakobsson, 2004; Tse et al., 2005, 2013; Turner et al., 2005) • Relaxation (Tsai et al., 2008; Turner et al., 2005) • Change of position (Barry et al., 2004; Taverner et al., 2014; Yu et al., 2011) • Asking for assistance (Alvarado & Salazar, 2015; Blomqvist & Edberg, 2002; Klinger et al., 1999; Takai et al., 2017; Turner et al., 2005) • Cold or warm modalities (Au et al., 2014; Barry et al., 2004, 2005; Kemp et al., 2005; Stewart et al., 2012; Tse et al., 2013) • Task persistence (Chan et al., 2012; Ersek et al., 2006; Turner et al., 2005) • Nutrition (Au et al., 2014; Barry et al., 2004; Stewart et al., 2012) • Adjustment with pain (Gillsjö et al., 2012; Klinger et al., 1999; Takai et al., 2017) • Sourcing resources (Alvarado & Salazar, 2015; Panpanit et al., 2015; Schofield et al., 2014) • Getting professional treatment (Au et al., 2014; Lansbury, 2000; Tse et al., 2013) • Guarding (Barry et al., 2004; Turner et al., 2005) • Talking about pain (Blomqvist & Edberg, 2002) • Using adaptive resources (Davis et al., 2002; Sofaer et al., 2005; Takai et al., 2017)
Cognitive Strategies
<ul style="list-style-type: none"> • Coping self-statements (Chan et al., 2012; Dunn & Horgas, 2004; Ersek et al., 2006; Tsai et al., 2008; Turner et al., 2005) • Distraction (Alvarado & Salazar, 2015; Au et al., 2014; Blomqvist & Edberg, 2002; Cabak et al., 2015; Dunn & Horgas, 2004; Jakobsson, 2004; Taverner et al., 2014; Tsai et al., 2008; Tse et al., 2005, 2013) • Ignoring pain (Cabak et al., 2015; Dunn & Horgas, 2004; Gillsjö et al., 2012) • Reinterpreting pain (Dunn & Horgas, 2004; Tsai et al., 2008) • Catastrophizing (Cabak et al., 2015; Dunn & Horgas, 2004) • Paying less attention to pain (Tsai et al., 2008) • Declaration of coping with pain (Andruszkiewicz et al., 2017) • Asking the body (Takai et al., 2017) • Resignation to the situation of pain (Blomqvist & Edberg, 2002; Gillsjö et al., 2012) • Declaring coping with pain (Cabak et al., 2015) • Reevaluating sensation of pain (Cabak et al., 2015)
Spiritual Strategies
<ul style="list-style-type: none"> • Prayer or hope (Andruszkiewicz et al., 2017; Cabak et al., 2015; Dunn & Horgas, 2004; Kemp et al., 2005; Sofaer et al., 2005; Tsai et al., 2008; Yu et al., 2011) • Religious activities (Barry et al., 2004) • Deferring (Dunn & Horgas, 2004) • Self-directive strategies (Dunn & Horgas, 2004)

aim was to carry on with their everyday life (Mackichan et al., 2013; Richardson et al., 2009).

Attitudes and Beliefs

In the literature, positive attitudes and beliefs were described as a means of coping. Chronic pain was perceived as a normal age-related change (Cornally & McCarthy, 2011; Davis et al., 2002; Lansbury, 2000; Mackichan et al., 2013; Richardson et al., 2009). Older adults found meaning in their situation; hoped for a recovery; adopted a positive attitude (Alvarado & Salazar, 2015); tried to understand the pain (Taverner et al., 2014); reevaluated the pain (Cabak et al., 2015); kept their mind, body, and life going (Richardson et al., 2009); found ways to continue their work (Gillsjö et al., 2012); fought the pain; and kept themselves looking good (Sofaer et al., 2005). They did not make excuses, and they adjusted their attitudes to make their body function (Takai et al., 2017). Older adults with high levels of stoicism had greater courage and pain control (Cornally & McCarthy, 2011). Furthermore, self-efficacy was found to play an important role in coping with pain. Studies have found that higher self-efficacy is associated with a greater perception of the effectiveness of a strategy (Kemp, Ersek, & Turner, 2005), less disability and fewer symptoms of depression (Turner et al., 2005), the use of strategies for managing pain (Stewart et al., 2012), and lower pain intensity (Tse et al., 2013). Self-efficacy could also predict pain interference (Chan, Hadjistavropoulos, Carleton, & Hadjistavropoulos, 2012). A study on pain control beliefs found that Chinese older adults had a mean score of 1.7 on the Pain Control Belief Scale, where the scores range from 0 to 4, with higher scores indicating a higher perception that pain can be controlled (Tsai, Chu, Lai, & Chen, 2008).

Apart from positive attitudes, there were also negative ones. Older adults perceived that pain-induced limitations or disabilities put them at a disadvantage to other people (Alvarado & Salazar, 2015). They thought others did not understand (Au, Wong, McMillan, Bridges, & McGrath, 2014; Blomqvist & Edberg, 2002) or were not concerned about their pain (Blomqvist & Edberg, 2002; Taverner et al., 2014). They were concerned about the side effects of analgesics (Au et al., 2014; Taverner et al., 2014). They were also worried about the decline in their condition, about losing autonomy (Mackichan et al., 2013) and self-determination (Takai et al., 2017), and about becoming bedridden or a burden to others (Blomqvist & Edberg, 2002; Takai et al., 2017). They felt they were being poorly treated because they were receiving no treatment or faulty treatment (Blomqvist & Edberg, 2002). Some older adults were even resigned to their situation of pain (Blomqvist & Edberg, 2002; Gillsjö et al., 2012).

Antecedents

Antecedents are the precursors of the occurrence of the concept (Rodgers, 2000). They have been categorized into six domains.

Demographic Characteristics

Associations were found between the demographic data and coping. Pain management strategies were used more by women than men (Stewart et al., 2012). Women were more likely to adopt cognitive coping methods, take part in religious activities (Barry et al., 2004), use psychological approaches (Yu et al., 2011), and engage in diversion and exercise than men (Dunn & Horgas, 2004). Dunn and Horgas (2004) explained that women might have less access to resources and would therefore be more likely to make use of accessible strategies to cope with chronic pain. However, a study found that men used cognitive coping strategies such as reevaluating and ignoring sensations more often than women (Andruszkiewicz et al., 2017). Age was also a factor in the use of strategies to cope

with pain. People aged 65–74 used more strategies than those aged 85 and older (Kemp et al., 2005). However, another study found no differences in the use of coping strategies across age groups, with the exception of activity pacing (Ersek, Turner, & Kemp, 2006). Older adults who were less educated made greater use of activity pacing (Ersek et al., 2006), whereas those with a higher level of education were more likely to exercise more often (Austrian, Kerns, & Reid, 2005). This might be because older adults with more education had better health literacy and understood the benefits of exercise. Non-Caucasians used more collaborative religious coping strategies, deferring religious coping strategies, and total religious coping strategies than Caucasians because ethnicity affected access to health care resources (Dunn & Horgas, 2004). The number of strategies used was associated with the number of pain locations (Kemp et al., 2005). Health care professionals should pay attention to these factors when discussing coping strategies with older adults.

Physical Factors

Physical factors influenced efforts to cope with chronic pain. The following were found to be antecedents of coping: greater functional difficulty (Klinger et al., 1999), immobility (Takai et al., 2017) or difficulty with mobility (Stewart et al., 2012), the cause of the pain (Barry et al., 2004; Stewart et al., 2012), the severity of the pain (Stewart et al., 2012; Tsai et al., 2008), pain interference (Stewart et al., 2012), duration of restricted activity, types of disorders (Austrian et al., 2005; Lansbury, 2000), the flaring up of pain and suffering (Takai et al., 2017), fair or poor health, obesity (Stewart et al., 2012), and leg ulcers unresponsive to pain management and treatment (Taverner et al., 2014). Austrian et al. (2005) suggested targeting older adults with limitations resulting from pain because these adults would be more likely to participate in interventions.

Psychological Factors

Psychological factors were also found to contribute to coping. These included depression (Klinger et al., 1999; Stewart et al., 2012), anxiety (Stewart et al., 2012), fear of loss of control and independence, acceptance of pain (Lansbury, 2000), hope for recovery, awareness of self-care, beliefs and feelings about oneself (Alvarado & Salazar, 2015), priority of pain management (Panpanit, Carolan-Olah, & McCann, 2015), emotional distress (Davis et al., 2002), and a sense of coherence (Andruszkiewicz et al., 2017). Stewart et al. (2012) explained that a concern about side effects will affect the selection of strategies. When older adults were able to gain control over their pain, they adapted better to chronic pain (Sofaer et al., 2005). Furthermore, a stoic attitude was associated with fewer help-seeking behaviors (Cornally & McCarthy, 2011). Health care professionals can use facilitating factors to promote coping and help older adults remove hindering factors to enable the older adults to cope with chronic pain.

Social Factors

Social factors have also been found to play a role in coping. Such factors include social support (Klinger et al., 1999), the attitudes of health care professionals (Lansbury, 2000), the relationship with health care professionals (Davis et al., 2002), external resources such as family (Alvarado & Salazar, 2015), satisfaction with the practitioners and preferences for practitioners (Panpanit et al., 2015), and recommendations by relatives or friends (Au et al., 2014). Some older adults thought that health care professionals dismissed their reports of pain and that nurses lacked the knowledge to handle pain (Taverner et al., 2014). These reports indicate that health care professionals are the main social factors involved in the control of pain because older adults prefer consulting health care professionals to relieve their pain (Au et al., 2014). Therefore,

health care professionals should have adequate knowledge of pain management.

Relevant Knowledge about One's Own Conditions and Coping

A lack of knowledge about the medical diagnosis, pain management strategies, how to use adaptive resources (Davis et al., 2002), and one's own condition (Lansbury, 2000) was discovered to hinder coping because older adults were uncertain about the cause of their pain and the possible methods that could be used to relieve it (Panpanit et al., 2015). By contrast, recognition of adaptation resources (Alvarado & Salazar, 2015), having the skills to seek information and resources, and having access to pain-related information facilitated coping (Panpanit et al., 2015). Davis et al. (2002) suggested that health care professionals can enrich the knowledge of older adults on how to cope with pain. A study found that older adults prefer to receive easily accessible, readable, and relevant materials (Schofield et al., 2014).

Factors Related to Coping Strategies

Older adults considered many factors when they selected coping strategies. These included convenience, the need to make behavioral changes, whether the strategy was self-administered and home-based, familiarity, the need for professional techniques, side effects (Lansbury, 2000), cost (Davis et al., 2002; Lansbury, 2000), accessibility (Davis et al., 2002; Lansbury, 2000; Panpanit et al., 2015), time conflicts, treatment efficacy, the risk of pain or injury (Austrian et al., 2005), transportation (Austrian et al., 2005; Davis et al., 2002), effects on existing pain, and the availability of adaptive resources and embarrassment about adopting them (Davis et al., 2002). A study found that perceptions about the effectiveness of a strategy was associated with depression, self-efficacy, and pain intensity (Kemp et al., 2005). Therefore health care professionals should consider all of these factors when suggesting coping strategies.

Consequences

Consequences are the results of the concept (Rodgers, 2000). They can be positive or negative.

Positive Outcomes

Effective coping has led to positive outcomes, including better pain control, effective pain relief (Cabak et al., 2015), reduced pain interference (Chan et al., 2012; Richardson et al., 2015), reduced pain-related disability (Turner et al., 2005), the maintenance of physical independence (Blomqvist & Edberg, 2002), and better integration into the environment (Alvarado & Salazar, 2015). Psychologically, there can be a decrease in depressive symptoms (Chan et al., 2012; Turner et al., 2005) and older adults can gain a sense of self, an identity, and the ability to plan strategically (Richardson et al., 2015), and regain control over themselves despite feeling pain (Takai et al., 2017). These positive outcomes can improve a person's quality of life.

Negative Outcomes

Ineffective coping was found to result in negative outcomes. Physically, negative coping led to tiredness, sleep disturbance, dependence on others (Blomqvist & Edberg, 2002), physical disability (Ersek et al., 2006), loss of mobility (Taverner et al., 2014), decreased physical activity (Tse et al., 2005), and increased pain intensity (Tse et al., 2013). Psychologically, negative coping caused loneliness, worry (Blomqvist & Edberg, 2002), isolation (Taverner et al., 2014), anxiety (Tse et al., 2005), depression (Ersek et al., 2006; Klinger et al., 1999; Taverner et al., 2014; Tse et al., 2005), and even suicidal thoughts (Au et al., 2014; Gillsjö et al., 2012; Taverner et al., 2014; Tse et al., 2005). Older adults felt

embarrassed and old when they used adaptive devices (Davis et al., 2002). Socially, negative coping caused older adults to avoid activities (Davis et al., 2002) and to reduce the number of attempts they made to seek help (Cornally & McCarthy, 2011). These negative outcomes can badly affect the pain experience and the physical and psychosocial well-being of older adults.

Theoretical Definition

Based on the identified antecedents, attributes, and consequences, the following theoretical definition was constructed. Dealing with chronic pain is a process in which various attitudes and beliefs can result in the making of changes in daily life and activities. An action to adopt coping strategies is required, so self-involvement is needed. However, demographic characteristics, physical factors, psychological factors, social factors, relevant knowledge about one's own conditions and coping, and factors related to coping strategies affect how older adults deal with chronic pain. The actions that they choose to deal with chronic pain could lead to positive and/or negative outcomes (Fig. 2).

Exemplar

A model case is used here to explain how the attributes describe the concept. Mary was a retired, 68-year-old Chinese woman who lived with her family. She had been experiencing low back pain for 10 years. When the pain became severe 6 months ago, she found ways to distract herself from the pain; changed the ways in which she performed her activities of daily living, such as sitting down to wash her clothes; and allowed herself more time to work. She understood that her low back pain was due to degenerative changes and accepted the pain. During a follow-up appointment, health care professionals discussed coping strategies with her and let her decide which ones she found most suitable. She had a high level of self-efficacy and found meaning in her situation. She feared being a burden, so she actively controlled her pain by doing exercises with her husband. She maintained independence in her life and had regained a sense of control over herself despite the pain.

This model case depicts the concept of coping. Mary was found to hold certain attitudes and beliefs, including high self-efficacy and acceptance of the pain. She understood her disease and was involved in making informed decisions about coping strategies and participating in activities of daily living. She made changes in her daily life and activities by changing the way she washed her clothes and allowing herself more time to work. She adopted exercises and distraction as her coping strategies.

John is another model case, but one that offers a contrast to Mary. He was a 65-year-old Chinese cleaner who lived alone. For the past year, he had been experiencing bilateral pain in his shoulders. In an attempt to cope, he went on sick leave to get some rest, and took analgesics. He made changes in his daily life by reducing his physical activities when the pain became severe. He worried that the pain would worsen. He thought that other people did not understand his pain, so he isolated himself at home and finally developed depression.

Although John involved himself in his treatment, he was not as active as Mary in coping with chronic pain and experienced a different outcome. He engaged in attitudes and beliefs that included worrying and forming a perception of how other people viewed his pain, which had a negative effect on his self-worth.

Discussion

The earliest study in this analysis was conducted in 1999 by occupational therapists, who investigated coping in daily life

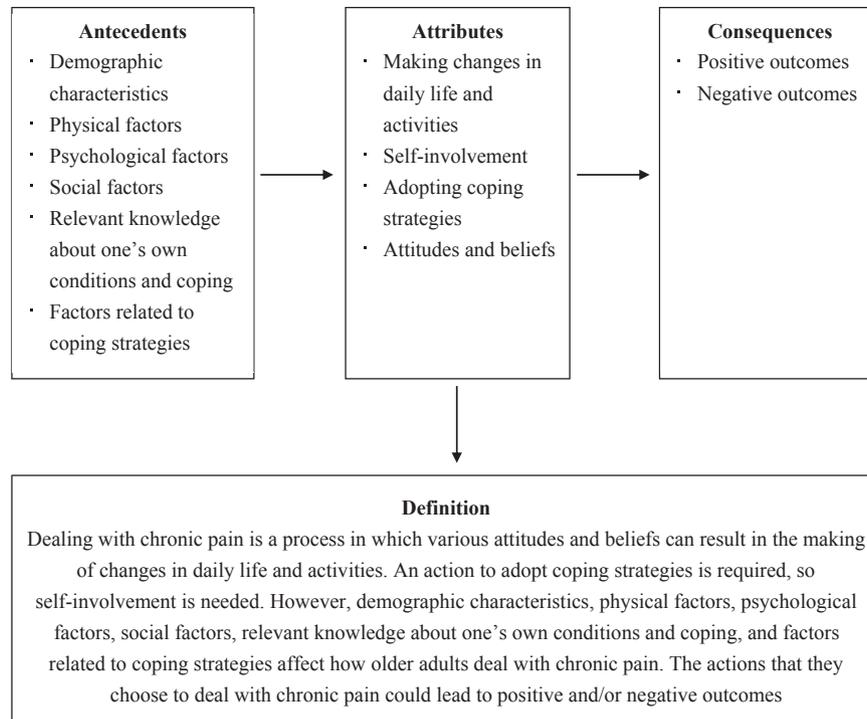


Figure 2. Diagram depicting the antecedents, attributes, consequences, and definition of coping with chronic pain in older adults.

(Klinger et al., 1999). In the past, health care professionals took an active role in teaching older adults to cope with chronic pain, but in the past couple of decades, attention has shifted to encouraging older adults to take a proactive role. Studies have been extended to include a focus on self-efficacy, beliefs, and attitudes, and not just on coping strategies in nursing, medicine, and psychology (Alvarado & Salazar, 2015; Chan et al., 2012; Cornally & McCarthy, 2011; Richardson et al., 2009; Takai et al., 2017; Tse et al., 2005, 2013). People from different disciplines are increasingly collaborating in the area of pain care. In 2004 the first interdisciplinary study, which included researchers in the areas of medicine and psychology, identified coping strategies and the associated factors (Barry et al., 2004). Collaborative studies have since become common. The majority of them involve collaborations between nursing and medical researchers (Ersek et al., 2006; Kemp et al., 2005; Richardson et al., 2015; Sofaer et al., 2005; Stewart et al., 2012; Tsai et al., 2008; Turner et al., 2005; Yu et al., 2011). In 2017 a study involving researchers from three disciplines (nursing, medicine, and psychology) further revealed the importance of interdisciplinary care in chronic pain management (Andruszkiewicz et al., 2017).

The definition of coping derived in this analysis helps to differentiate coping from other related concepts. For example, coping strategies are often mentioned in practice and research but are, in fact, only one aspect of coping. Focusing on some but not all of the attributes of coping will affect the effectiveness of the health care that is provided. The clarification provided by this analysis helps to advance knowledge on the subject. Although coping strategies are known to help older adults, this analysis uncovers other attributes of coping in need of consideration—for example, the involvement of the older adults when client-centered care is provided.

In clinical settings the antecedents or attributes found in this analysis have not been fully considered. Older adults with chronic pain experience a deterioration in their quality of life, poorer physical and cognitive performance, and poorer psychological

health (Kress et al., 2014), which could be the negative outcomes of ineffective coping. Therefore health care professionals should assess the antecedents and consequences of coping because older adults may hesitate to talk about their pain if they believe it to be purely age related. Because in the past two decades the management of chronic pain has focused on making changes in one's daily life and activities and on adopting coping strategies, education about coping should cover these two attributes. Changes in activities have been found to potentially lead to depression (López-Lopez, González, Alonso-Fernández, Cuidad, & Matías, 2014), which is consistent with the findings in this analysis. Therefore, emotional support should be provided to older adults. In addition, the belief that chronic pain is normal (Cornally & McCarthy, 2011; Davis et al., 2002; Lansbury, 2000; Mackichan et al., 2013; Richardson et al., 2009) should be corrected. Surprisingly, older adults have positive attitudes and beliefs about coping. This may be because one must accept the pain before proceeding to the stage of coping with it (Mann, LeFort, & VanDenKerkhof, 2013). Health care professionals can also make use of those positive attitudes and beliefs, such as the hope for a recovery, to support the older adults in their efforts to cope.

This analysis provides insights for clinical practice. The antecedents and consequences of coping with chronic pain should be included in nurses' assessments of older adults. Client education could include discussing possible strategies for making modifications to daily life and allowing older adults to choose the methods for dealing with their pain to increase the possibility that those methods would be adopted. This can lead to higher self-efficacy and promote positive outcomes. In addition, engaging older adults in planning their care is crucial to increasing their sense of involvement. With this new knowledge, incorporating the concept of coping with chronic pain in older adults into the nursing curriculum and into continuing education will enhance understanding and communication among colleagues, improve client outcomes through client education, and add to the taxonomy of nursing science and practice. A critical reflective inquiry

approach can be adopted to improve nursing practice and refine nursing knowledge.

This analysis lays the groundwork for future studies. The concept of coping in practice needs further exploration through fieldwork. The antecedents, attributes, and consequences can be hypothesized as associated factors in research. An instrument covering all attributes can be developed and validated. Interventions to promote coping and the best time for implementation can be explored. Cross-cultural comparisons are helpful to advance knowledge.

Limitations

This analysis has its limitations. First, the data may have been inadequate for making interdisciplinary comparisons. Second, no particular concern was found in the included studies about the time points of the assessment during the course of coping, but psychological changes may be more negative in the initial stage of coping (Takai et al., 2017). Third, older adults with cognitive impairment were excluded in about one third of the included studies (Andruszkiewicz et al., 2017; Au et al., 2014; Barry et al., 2005; Klinger et al., 1999; Mackichan et al., 2013; Panpanit et al., 2015; Stewart et al., 2012; Taverner et al., 2014; Tse et al., 2005, 2013). All of these issues might have limited the generalizability of the findings of this analysis.

Conclusions

This analysis provides a holistic view of coping with chronic pain in older adults, which shifts from an approach led by health care professionals to one led by the clients. Existing knowledge has been clarified and the theoretical definition had been constructed. This analysis provides insights on how coping can best be supported. Also discussed were the implications for clinical practice, research, and the development of knowledge.

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