The effectiveness of psychological treatments for chronic pain in older adults: cautious optimism and an agenda for research


Purpose of review
To explore the potential role of psychological treatments for older people who are affected by chronic pain.

Recent findings
It is now widely recognized that chronic pain is a highly prevalent health problem among older people, and guidelines have evolved to assist with the assessment and management of chronic pain. However, despite the fact that psychological treatments have been shown to be effective for a range of other conditions such as depression and anxiety, there is a relative paucity of studies focused on pain management. Although more evidence is needed, the trend from existing studies indicates that older people find psychological treatments for chronic pain to be relevant, acceptable in content, and beneficial in reducing distress and disability. Particular challenges arise for the delivery of psychological interventions to people with pain and cognitive impairment associated with dementia. There is a growing interest in this population and a good deal of research has focused on the assessment of pain, but with a small number of exceptions, almost no research activity as yet in developing psychological treatments for people with pain and dementia.

Summary
We conclude that there is sufficient evidence that psychological interventions are efficacious for older people with chronic pain. We propose a number of areas for research focus over the next 10 years that will help to consolidate our knowledge and to explore new avenues for the psychological management of chronic pain in older people.

Keywords
older adults, psychological, research, treatment

INTRODUCTION
In ways that are reminiscent of the delay in recognizing chronic pain as a problem in children, chronic pain has only recently been acknowledged as a major health problem among people aged over 65 years. In part, this recognition may be related to estimates of age-related changes in the populations of most countries. In the USA, studies suggest that by 2050, 20% of the population will be over 65, compared to 12% in 2008 [1]. Additionally, in most developed countries, the oldest old (80+ years) are the fastest growing group of the aging population [2]. The prevalence of chronic pain has consistently been shown to increase with age, occurring in 30–50% or more of people over 65 versus 15–20% in younger groups [3–6]. There is evidence that the frequency of pain in those living in nursing homes could be as high as 80% [7]. These statistics indicate that chronic pain in older adults will become a major challenge to those directly affected as well as their communities and healthcare systems.
Mirroring this belated recognition of chronic pain in older adults, there has been a paucity of research on psychological interventions for chronic pain in those over 65 years. This contrasts markedly with the level of research focused on working age adults. Systematic reviews of randomized controlled trials (RCTs) of psychological treatments for chronic pain have found that few studies included those aged over 65 years [8,9]. Indeed, many of the studies reviewed explicitly excluded those aged over 65 years. In view of the looming surge in demand for pain services by older adults, it is timely to take stock of what we know and identify an agenda for clinical research.

**OBSTACLES FACING PSYCHOLOGICAL PAIN TREATMENT STUDIES IN OLDER ADULTS**

Psychological treatments, especially cognitive–behavioral therapy (CBT), have been shown to help with adjustment to chronic pain in adults [8,9] and have been incorporated into several pain management practice guidelines [10,11]. However, a comprehensive summary of the psychological treatments for chronic pain in older adults highlighted that very few high-quality studies have been conducted with older people [12**]. The question arises as to why there are so few treatment studies in this population. This may be related to a general lack of recognition of chronic pain as a major health issue in older adults, but there may be obstacles to conducting psychological studies peculiar to this age group as well, as outlined here:

1. Older adults may be less likely to report pain [13], possibly because of cognitive impairment [14], possibly because of stoicism or a desire not to be a burden on caregivers, or just the belief that pain is a normal consequence of aging [15].
2. As comorbidities are common [16**], other health concerns may take priority and pain may not be reported or may not be a focus of attention.
3. Health professionals may be less likely to ask older patients about pain or may opt to manage pain differently in older patients. For example, people over 70 were less likely than younger patients to be recommended physiotherapy, exercise, or to be referred to a pain specialist or for CBT [17].
4. In one study, only 3.1% of older adults with lower back pain received CBT; but interestingly, older age groups perceived they would benefit less from CBT, possibly leading to reluctance to participate in such studies [17].
5. Pain treatment for the elderly poses particular clinical and research challenges, such as working with those with sensory loss, working with cognitive impairment and with other medical illnesses, and working with those living in residential care settings in which caregivers may not have the time or professional expertise to facilitate pain management treatment programs.
6. There may be relevant socio-contextual factors, for example, intervention research efforts in pain management may be targeted more at working age adults because of the priorities associated with return to work goals.

**PSYCHOLOGICAL TREATMENTS WORK FOR OTHER CONDITIONS: WHAT ABOUT CHRONIC PAIN?**

There is substantial evidence showing that psychological treatments, especially CBT, are effective for other common problems in older people, such as depression [18*], traumatic stress symptoms [19], insomnia [20], bereavement-related difficulties [21], health anxiety [22*], and generalized anxiety [23]. These studies are helpful in indicating that older people can benefit from psychological treatments, but what about the treatment of chronic pain in this age group?

In the context of the aforementioned difficulties that face the evaluation of psychological treatments for chronic pain in older adults, it is possible to discern three major categories of these treatments based on the role or predominance of the psychological intervention:

1. Category 1 treatment – the psychological treatment is either the only intervention or the major component within a multidisciplinary approach in which the principal focus is pain self-management (e.g. [16**]).
2. Category 2 treatment – the psychological treatment is primarily for comorbid conditions, such
as depression or insomnia. The impact of pain may be ameliorated as a result of treating the comorbid condition, but pain management is not the primary focus (e.g. [24]).

(3) Category 3 treatment – multi-element treatment programs in which psychological treatment is just one element alongside pharmacological and other physical treatments (e.g. [25**]).

For the sake of clarity, this review will primarily describe category 1 psychological treatments that reflect attempts to address some of the obstacles identified earlier. In practice, category 3 treatment programs frequently have psychological approaches as an integral and central element, but isolating their unique contribution in those cases is complicated. Among the psychological treatments (category 1), CBT-based treatments have the best supporting evidence [12**,25**], and there is support for a cognitive–behavioral conceptualization of adjustment to chronic pain in older populations [26,27].

An early study [28] found that CBT, in the form of pain coping skills training, was effective in reducing pain and psychological disability among people in their 60s and 70s with osteoarthritic knee pain. Interestingly, contrary to common expectations, the attendance level was high and so was reported treatment credibility. Cook [29] evaluated a 10-session CBT program with a chronic pain sample of elderly people living in nursing homes. The treatment group reported lower pain and pain-related disability than controls. Again, a high level of attendance (82%) and respectable weekly homework adherence (57%) were reported. This study demonstrated that a ‘hard to reach’ population, that is, very old people living in nursing homes, can benefit from CBT pain management strategies. Ersek et al. [30] also found that a sample of elderly residents in retirement communities (mean age 82 years) showed high motivation and attendance at group sessions over 8 weeks and good adherence to prescribed activities. Ersek et al. reported some short-term gains in pain levels in the treatment group relative to the controls, but no differences for pain-related disability or depression. Using a self-management treatment manual for older people [31], Green et al. [32] reported that CBT participants (mean age 72 years) treated in community or home settings showed improvement in maladaptive pain beliefs and use of relaxation relative to waitlist controls (mean age 77 years), although both groups reported reduced pain.

Despite the support for CBT methods from several RCTs, these results are not uniform. One large study [33] found no benefit, relative to a control condition, for CBT-based self-management conducted by trained, psychologist-supervised nurses in retirement communities. Although the intervention seemed acceptable to the participants, it is possible the treatment ‘dose’ (10.5 h over 7 weeks) and specifically the cognitive component of treatment in that study may not have been sufficient. More recently, a study using a ‘stronger dose’ (16 h over 4 weeks) found significant benefits for a CBT-based program conducted by an experienced clinical psychologist and physiotherapist relative to two control conditions [16**]. This study involved community-dwelling adults seen in a well established pain management center and therefore requires replication in other settings, but notably only 12% dropped out of the CBT group in the 1-month follow-up – questioning the view that older adults are not interested in such treatments.

In sum, the few RCTs of CBT-based treatments for chronic pain in older adults indicate that these treatments can be acceptable to this age group in a range of settings: they are able to participate in therapy and be reasonably adherent to the self-management strategies taught. Importantly, several studies have shown significant benefits across a range of dimensions [34,35]. Essentially, these findings indicate that further studies of these methods in older adults are warranted.

CONSIDERATIONS IN DESIGNING AND DELIVERING PSYCHOLOGICAL THERAPIES TO OLDER PEOPLE

There are a number of practical considerations when conducting treatment and evaluation studies in this population.

(1) One major challenge is the increased risk of cognitive impairment in older groups. The risk of cognitive impairment increases substantially with age and there is also a documented impact of pain on cognitive function [35,36] – this is effectively a ‘double jeopardy’ for older people with chronic pain. In severe dementia, patients may be largely uncommunicative, rendering a key information cue inaccessible, but there are now a growing number of studies addressing this complex issue (e.g. [37,38]). Achterberg et al. [39**,39**] provide an excellent review of the challenges of assessing and managing pain in people with dementia and note a need to provide better and more accessible pharmacological and behavioral treatments for this population.

(2) Psychological treatments with people with even mild cognitive impairment require different pacing of delivery, more repetition, more
memory and learning aides, and, possibly, the involvement of a caregiver or spouse (see [12**]). In treating older adults, the importance of behavioral rehearsal of homework tasks and exercises has been emphasized, rather than didactic instructions, for the promotion of home applications [12**].

(3) Frailty and medical comorbidities are common and there may be an impact of medication on cognitive function and the possibility of side-effects [40].

(4) In addition to strategies to enhance learning, care must be taken to ensure that the treatment materials are appropriate for an elderly group. This could include larger font sizes and spacing of written material, to underline and highlight the important aspects of written material, and to offer assistance to those with sensory impairment or reduced manual dexterity. Health staff should communicate clearly, avoid use of jargon, and offer to read written material aloud and to record participants’ answers if required.

(5) For treatment evaluation, psychometric measures should be both suitable and relevant to the population [34]. For example, reference to paid employment and playing sports may be irrelevant. Measures should be selected that have been validated and have norms for older people [13]. In very old or frail individuals, some physical function tests may be too demanding and modifications to existing tests may be necessary. Collateral reports can be of benefit in some cases. Recording the presence of comorbid conditions is important, as deterioration over time (e.g. during a follow-up period) may be attributable to a comorbid condition rather than the targeted pain condition.

THE NEXT 10 YEARS: RECOMMENDATIONS FOR RESEARCH AND EVALUATION

(1) We clearly need more RCTs of CBT and other psychotherapeutic approaches, including treatment programs that fall within each of the three categories of treatment outlined earlier, especially those in which treatment is delivered by nonpsychologists in nursing homes, as a high proportion of residents in nursing homes have chronic pain [7] and access to psychology services may be limited in that environment.

(2) There is a need to identify the most important ingredients of psychological interventions and the optimal ‘dose’ of treatment (e.g. therapy duration, pace, quantum, and use of booster sessions) and the optimal configuration of therapist factors (e.g. age, sex, professional background, experience, and training).

(3) As yet, little is known about the patient factors that influence outcomes such as cognitive ability, ‘psychological mindedness’ (the ability to recognize that thoughts mediate emotional and behavioral responses to pain), and the influence of comorbidity and mobility restrictions. We also do not know which older people are at highest risk for pain-related disability – the so-called ‘yellow flags’ (e.g. [41]) or psychosocial risk factors for pain-related disability may not be the same for all ages and we do not yet know whether older people will respond to targeted interventions.

(4) Studies should compare the different ways of delivering treatment – although there is evidence that the involvement of spouses can help [42,43], more research is required with older people who do not have a spouse but may have a trusted friend or other family member. Group versus individual therapy should also be evaluated.

(5) Although older adults are increasingly using the Internet for health reasons [44], the use of e-health and virtual reality technologies is rare with older people with pain. Turner [45**] highlighted the need to enhance patient receptiveness toward, and willingness to fully engage in, psychological treatments. The use of varied delivery modalities may help in this regard.

(6) Although there are comprehensive clinical practice guidelines for the assessment [46] and management of pain in older adults [25**], evaluation of their translation into better practice by clinicians is urgently required.

(7) There is evidence that the effect of chronic pain on cognitive and neuropsychological function may be cumulative [47], which raises the intriguing question of whether pain interventions could ameliorate the impact of pain on cognitive function. Researchers should consider looking at cognitive function as one of the outcomes of interest in psychological treatment studies.

CONCLUSION

This review indicates that chronic pain is a prevalent problem for older people; yet, psychological treatments which have been shown to be effective in those aged below 65 have rarely been evaluated with older adults. There is sufficient evidence that older adults may benefit from these treatments to warrant a concerted evaluation and refinement of such treatments with those in the later stages of life.
REFERENCES AND RECOMMENDED READING

Papers of particular interest, published within the annual period of review, have been highlighted as:
- of special interest
- outstanding interest


This study was the most rigorous RCT to date and showed evidence for effectiveness of a relatively low-intensity treatment program, providing a useful foundation on which future studies can build.


This study provides a very helpful review of the literature on CBT for pain in older people and provides pointers for future research in the area.


Although not focused on pain per se, this study looked at the related and relevant area of health anxiety and showed evidence for the effectiveness of a CBT program.


This comprehensive and informative clinical practice guideline is an excellent resource in the area.


This is a state-of-the-art review regarding the assessment and management of pain in people with dementia. It is one of the few papers that addresses the use of behavioral interventions in this population.


This study provides a very helpful review of the literature on CBT for pain in older people and provides pointers for future research in the area.


Acknowledgements

None.

Conflicts of interest

The authors have no conflict to declare in relation to this article.