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Editorial

Future Directions in Psychological Therapies for Pain Management

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Psychological therapies for chronic pain are well established and have been deployed for decades as part of empirically supported interdisciplinary pain management programs [1]. Perhaps the most venerable and frequently encountered psychological approach to chronic pain management is cognitive behavioral therapy (CBT), which focuses on restructuring maladaptive cognitive and behavioral responses to pain to promote more adaptive and effective self-management of pain and its adverse impacts. Historically, CBT has not been monolithic, and it has encompassed an array of approaches that have shifted over time through several distinct generations, even as CBT has remained the "gold standard" for psychological interventions for pain [2]. The arrival of a "third wave" of psychological treatments has been part of an extension of CBT that has taken place over the past several decades [3], based centrally on the need for new cognitive and affective approaches that focus more on an individual's relationship to thoughts and emotions than on the actual cognitive and affective content. Collectively, third wave–based interventions are uniquely focused on mindfulness, acceptance, diffusion, life values, and relationships [4], although some have argued that the broad umbrella of CBT covers these concepts as well as more traditional cognitively and behaviorally oriented CBT approaches [5].

The most researched third-wave therapies for the treatment of chronic pain are acceptance and commitment therapy (ACT) and mindfulness-based interventions (MBIs), encompassing mindfulness-based cognitive therapy and mindfulness-based stress reduction (MBSR) [6], which were developed by Kabat-Zinn [7] and were initially used as a treatment for chronic pain in the 1980s, along with the more recently developed emotional awareness and expression therapy (EAET). Third-wave therapies, which can be delivered in an individual or group format, tend to differ from other psychological approaches, as the focus is less on reducing or eliminating negative cognitive or affective content (e.g., diminishing stress and depression) and more on the acceptance of unpleasant experiences [8, 9]. Other emerging, empirically supported approaches (which do not make an appearance in this issue of *Pain Medicine*) include education-focused approaches such as pain neuroscience education (often referred to as "explaining pain" [EP]) and dialectical behavioral therapy (DBT). EP refers to a set of educational interventions that aim to change patients' understanding of the biological processes that are thought to underpin pain as a mechanism to reduce pain itself [10]. It draws on conceptual change strategies to help patients understand current thought in pain biology, shifting the conceptualization of pain from that of a marker of tissue damage or disease to that of a marker of the perceived need to protect body tissue. EP treatments show promising effects in a variety of settings [11, 12], including reductions in pain intensity, central sensitization, pain-related disability, and pain catastrophizing. DBT, an approach developed by Marsha Linehan, is typically a combination of group skills training and individual therapy, designed primarily for group treatment of suicidal ideation and borderline personality disorder [13]. It has rarely been studied as a stand-alone treatment for chronic pain, but blended approaches that incorporate DBT principles and approaches (e.g., training in emotional self-regulation) have shown substantial promise [14].

ACT has emerged over the past decade as a strongly supported psychosocial treatment for chronic pain that can be delivered on its own or as part of a multidisciplinary multimodal pain management approach. ACT is oriented toward the development of greater psychological flexibility, and it was one of the therapies initially developed for chronic pain. Among other topics, it addresses issues of spirituality, acceptance, values, and self [15]. ACT is centrally designed to foster pain acceptance (the willingness to experience pain and still engage

in valued activities while the pain is present). Those increases in pain acceptance appear to reduce the burden and impact of chronic pain. Pain acceptance is associated with improvements in pain severity, pain-related disability, and quality of life across a broad array of pain conditions [16]. ACT can be used with individuals as well as groups, both as a brief therapy or as a long-term therapy in a wide range of clinical populations, including chronic pain. Similarly, interventions grounded in mindfulness approaches such as MBSR aim to detach the sensory experience of pain from its cognitive and emotional aspects and cultivate detached awareness of bodily sensations [7]. MBIs have been shown to be effective in reducing pain intensity [17] and improving depression symptoms and quality of life [18]. Specifically for MBSR, treatment gains have been shown to last up to 4 years after intervention [19].

The three publications in this issue nicely represent some of the current trends in the field, including shortening treatments to make them more accessible and convenient, evaluating remote-delivered or online versions of treatments designed to maximize scalability, and comparing treatments head-to-head in order to study which treatments work best for which patients. In this issue of *Pain Medicine*, the article "Feasibility and Acceptability of an Abbreviated, Four-Week Mindfulness Program for Chronic Pain Management" by Brintz and colleagues [20] reports outcomes from a shortened mindfulness treatment program. Observed benefits included improvements in positive affect, well-being, sleep disturbance, mindfulness, pain acceptance, pain catastrophizing, and depression. The abbreviated program was found to be acceptable to chronic pain patients new to mindfulness practice. Participants reported in the performed qualitative videos that they found the shortened format to be "less intimidating" and easier to fit into their schedules. One of the strengths of this type of protocol is that it might be especially convenient for physically disabled participants or people with similar limited accessibility. However, as noted by the authors, the omission of a comparison group and the inclusion of a small sample size limits generalizability and causality.

In addition to abbreviating these interventions, the development of technology-assisted programs could not only increase access for patients with impaired mobility or patients living in geographically remote or underserved areas but could also increase availability and flexibility in receiving treatment for every chronic pain patient. Further, treatment protocols delivered virtually (e.g., via a videoconferencing system) can potentially decrease costs and allow the continuation of treatment during challenging times such as the current COVID-19 pandemic. In addition, web-based interventions for chronic pain have shown promising results when compared with waiting-list control groups [21]. In this issue, Kioskli and colleagues [22] report results from an online pilot ACT study for patients with painful diabetic neuropathy. Their findings show improved daily functioning and psychological flexibility, pain intensity, depression, functional impairment, cognitive fusion, committed action, self-as-context, and pain acceptance. Similar findings have been reported in a previous internet-delivered ACT intervention applied to a broader chronic pain population [23]. However, some considerations regarding the digital delivery of psychotherapy remain, including technological barriers, confidentiality, security and relationship concerns, and emergency and crisis issues.

Finally, EAET, an intervention developed by Lumley and Schubiner [24], is a third-wave treatment approach to psychological trauma and comorbid medical conditions that blends neurobiologically oriented pain education (somewhat similar to EP treatments), exposure therapies, and psychodynamic approaches (e.g., emotional processing of unresolved trauma and psychological conflicts). In the current issue of *Pain Medicine*, Yarns and colleagues [25] present results from their comparative study "Emotional Awareness and Expression Therapy (EAET) Versus CBT for Chronic Musculoskeletal Pain," in which EAET was directly compared with CBT. Treatment with EAET produced significantly lower pain severity than CBT at posttreatment and follow-up, and the EAET group reported greater pain reduction and reduced anxiety. The results of this study suggest that EAET might be a treatment of choice for patients with chronic centralized pain, especially because it involves the processing of previous traumatic experiences, an element that is not present in mainstream CBT protocols. Although larger studies exploring processes of change and phenotypic predictors of intervention benefits are necessary, the results of the studies included in this issue lay the groundwork for scalable third-wave therapies as promising therapeutic interventions for chronic pain.

Collectively, treatment options such as ACT, MBIs, and EAET, which focus on increasing mindful acceptance and engagement in meaningful activities, show promise in improving quality of life and decreasing suffering in patients with chronic pain. CBT and third-wave therapies do appear to share some common characteristics and mechanisms, including reductions in catastrophizing and increased self-efficacy, acceptance, and mindfulness. Recent studies highlight these common change pathways that underpin the benefits of MBSR, CBT, and other third-wave treatments among individuals with chronic pain [26]. The evolution of CBT in different waves has allowed more effective treatments to be developed and to be made available to chronic pain patients in various forms. In the future, scalable, remotely delivered treatments (whether by website, app, or live video) are likely to dominate, and large-sample, well-controlled studies using robust phenotyping of patients will help determine the potential of psychological therapies to be implemented in a more widespread fashion, promoting a personalized approach to pain management.

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