PAIN® xxx (2011) xxx–xxx

PAIN®

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Commentary

Common and specific treatment mechanisms in psychosocial pain interventions: the need for a new research agenda

Jensen's article [3] in this issue of PAIN® synthesizes various conceptualizations of psychosocial treatments for pain into an overarching framework, providing a springboard for future research. The author tackles an important and timely topic. Many psychosocial treatments provide some evidence of efficacy, and Jensen encourages us to take stock of what we have in our armamentarium, document how treatments work, and, as Paul suggested [6], develop principles by which we can find the best treatment for a particular problem given a patient's unique circumstances. Our commentary intends to amplify some of Jensen's points and suggest 2 additional areas in need of research.

We believe, with Jensen, that commonalities across treatment approaches must be examined. It is tempting to attend to distinctions among the therapies Jensen discusses, debate their relative merits based on apparent differences, and focus on "building better mousetraps." Doing so has spawned many "new and improved" treatment techniques presumed to offer unique advantages over the "old." When a certain approach shows efficacy – usually compared to wait-list or attention-placebo control – the inference is that it works because of its ostensible unique qualities. This may not necessarily be the case. Efficacious psychosocial pain treatments all seem to reduce pain and distress and increase physical function. If seemingly *different* therapies get to the *same* place, then we may hypothesize that they do so partly because of common features. It may thus prove fruitful to divert some attention away from the study of differences and toward identifying common mechanisms across treatments. Jensen does this to some extent, pointing to possible common brain states achieved with hypnosis, relaxation, and mindfulness. To further this endeavor, we can borrow from a well-established body of theoretical and empirical work.

Psychotherapy research has long wrestled with issues regarding common and unique factors of efficacy. Goldfried [2] and others [1] argue that common principles underlie most psychotherapy approaches, and warrant examination and understanding. Two common principles of therapeutic change involve stimulating patient expectations that treatment will help, and establishing a sound therapeutic relationship between patient and therapist. Although Jensen acknowledges that certain psychosocial pain treatments (eg, hypnosis, relaxation) work partly via fostering positive patient expectations, the importance of the therapeutic relationship was not featured in his review. In behavioral medicine, we may have lost appreciation for the centrality of this factor, relegating it to part of "placebo" responses. Results from many studies of psychotherapy process and outcome confirm that the therapeutic relationship is a crucial piece of the foundation upon which successful interventions are built [2]. How sound relationships may augment psychosocial pain treatment and when, in the course of treatment, these effects may be exerted remain largely unexplored territories, although there are a few revelations. Consider recent studies suggesting that real and sham acupuncture may be equally effective, and may be effective to the extent that the therapeutic relationship is emphasized [4]. We are not suggesting that effects of psychosocial treatments can be reduced to those produced solely by common mechanisms associated with expectancy and therapeutic relationships. Rather, we argue that to advance the field, we need to acknowledge, identify, and measure the variance accounted for by common factors.

We also suggest that a second area of research must be emphasized, one that examines the contribution of specific mechanisms associated with various techniques. As Jensen indicates, we must know the specific mechanisms by which a treatment works, not just whether it does. Here it would be important to know not only whether change in a factor hypothesized to constitute a therapeutic mechanism for a given technique, for example, change in cognitive content for cognitive behavioral therapy (CBT), predicts change in outcome factors, but also whether change in this factor was unique to this approach. Given recent evidence of the consistent effects of pain catastrophizing on adjustment to chronic pain, it may prove productive to explore whether change in this factor is a key mechanism not only for CBT, but for mindfulness, exposure, or even attention-placebo. It may also be important for investigators to show that specific mechanisms add sufficient outcome "value" over and above, say, attention-placebo (which could capitalize on common factors like expectations and therapeutic relationship) to justify the increased effort and cost of their favored technique. Why go to all the trouble of, for example, restructuring cognitions through significant effort on the part of patient and therapist when something much simpler and less time-consuming will produce a fair amount of improvement? Hard data regarding these issues are extremely scarce. At present, we can state that many psychosocial interventions reduce pain and distress and increase physical function, but we cannot state definitively why this is the case.

To identify therapeutic mechanisms in pain treatments and to disentangle effects of putative unique mechanisms from common effects of patient expectations, therapeutic relationships, and other undiscovered common factors, a new research agenda is needed in behavioral medicine. Testing whether a new treatment works better than wait-list or attention-placebo conditions by examining pre- to post- to follow-up changes barely addresses the issues we have raised. Current directions in psychotherapy process research have moved beyond testing whether an approach is efficacious,

☆ DOI of original article: 10.1016/j.pain.2010.09.002

doi:10.1016/j.pain.2010.12.017

and here again, behavioral medicine and psychosocial pain treatments can benefit from this work [5]. First, conceptualizations must focus on defining what are and are not unique mechanisms and setting up designs to test these propositions. Process mechanisms are not routinely examined in our research, and we will need to assess those associated with the conceptual model of a particular treatment (eg, catastrophizing and CBT), but also examine changes in factors not necessarily expected to be associated with the particular treatment (eg, acceptance and CBT). Second, all measures must be assessed more frequently than pre- to post- (eg, every session), allowing examination of lagged relationships over short periods. A specific therapeutic factor may be supported if (i) large changes in this factor relative to outcomes occur early in treatment; (ii) early-treatment changes in this factor are related to late-treatment changes in outcome; (iii) changes in this factor account uniquely for outcome changes after controlling for competing therapeutic factors and common factors.

Psychotherapy researchers have also begun to examine moderators of change and the course of symptom change over time [5]; paths we too can surely follow. Change does not necessarily occur in a steady linear way (which is all we can discern with pre-post values), but may show quadratic or other discontinuous patterns of change, which may expose important specific and common process effects. With Jensen, we argue that a new research agenda informed by process questions and analytic methods will provide crucial answers not only as to whether a psychosocial (or biomedical) pain treatment works, but also why, for whom, and under what circumstances.

Conflict of interest statement

Neither author has any conflicts of interest to report.

References

[1] Castonguay LG, Constantino MJ, Holtforth MG. The working alliance: where are we and where should we go? Psychotherapy 2006;43:271–9.
[2] Goldfried MR. Toward the delineation of therapeutic change principles. Am Psychol 1980;35:991–9.
[3] Jensen MP. Psychosocial approaches to pain management: An organizational framework. Pain 2010. doi:10.1016/j.pain.2010.09.002.
[4] Kaptchuk TJ, Conboy LA, Davis RB, Kerr CE, Jacobson EE, Kirsch I, Schyner RN, Nam BH, Nguyen LT, Park M, Rivers AL, McManus C, Kokkotou E, Drossman DA, Goldman P, Lembo AL. Components of placebo effect: randomised controlled trial in patients with irritable bowel syndrome. BMJ 2008;336:999–1003.
[5] Laurenceau J-P, Hayes AM, Feldman GC. Some methodological and statistical issues in the study of change processes in psychotherapy. Clin Psychol Rev 2007;27:682–95.
[6] Paul GL. Strategy of outcome research in psychotherapy. J Consult Psychol 1967;31:109–18.

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Received 19 October 2010
Accepted 13 December 2010

Available online xxxx