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Targeting prescription opioid misuse and chronic pain with mindfulness-oriented recovery enhancement: Preliminary results from a randomized controlled trial

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Background: Prescription opioid misuse among persons with chronic pain is an emerging public health threat of epidemic proportions. Indeed, misuse of prescription opioids has increased more than threefold over the past 20 years. Though opioid analgesic therapy for chronic pain is often efficacious, long-term use of opioids may result in heightened sensitivity to pain, known as hyperalgesia, and risk of developing addiction. These issues emerge from cycle of behavioral escalation where pain and stress trigger hypervigilance and catastrophizing, biasing attention towards pain and opioid-related cues that fuels dependence on opioids in spite of ever diminishing analgesia. There is a dearth of therapeutic intervention strategies targeting this stage of behavioral escalation. As such, we are testing a novel intervention, Mindfulness-Oriented Recovery Enhancement (MORE), which integrates mindfulness training, cognitive restructuring, and positive emotion regulation to break the cycle of pain and misuse of opioid medication.

Methods: We are conducting a NIH-funded, randomized controlled trial comparing the efficacy of MORE to a conventional support group (SG) for persons with chronic pain who have been prescribed opioid analgesic therapy for >3 months. Thus far, 33 individuals have been randomly assigned to participate in either 8 weekly, two-hour sessions of MORE (n = 15) or the SG (n =18). Pre- and post-treatment, participants complete a battery of validated questionnaires, cognitive tasks, and psychophysiological measures.

Results: Thus far, we have identified significant effects of MORE on relief from pain, pain attentional bias, and desire for opioid medication. We identified a significant Group X Time interaction on relief from pain treatments, $F(1,27) = 8.16$, $p = .01$, $\eta\rho^2 = .23$, such that participation in MORE was associated with significantly greater increases in relief from pain treatments than the SG. We identified a significant Group X Time interaction on attentional bias toward pain-related cues, $F(1,14) = 4.86$, $p = .04$, $\eta\rho^2 = .26$, such that participation in MORE was associated with significantly greater reductions in the pain attentional bias than the SG. We identified a significant Group X Time interaction on desire for opioid medication, $F(1,27) = 4.19$, $p < .05$, $\eta\rho^2 = .12$, such that participation in MORE was associated with significantly greater reductions in desire for opioid medication than the SG. Although there was no significant Group X Time interaction on changes in well-being, there was a significant main effect of time $F(1,28) = 5.67$, $p = .02$, $\eta\rho^2 = .17$, such that participants in both groups reported significant increases in well-being over the course of the interventions.

Discussion: Preliminary results suggest that MORE is a promising therapeutic approach for chronic pain patients treated with prescription opioid analgesics. Importantly, participation in MORE seems to ameliorate pain, decrease hypervigilance to pain-related cues, and reduce desire for opioid medication. In the future, we will continue to refine, optimize, and test MORE, as well as to elucidate the cognitive, affective, and neurobiological mechanisms underlying its therapeutic effects.

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