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Research paper

A model of dance/movement therapy for resilience-building in people living with chronic pain



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ABSTRACT

Information: Accumulating evidence supports the use of mind-body therapies and psychological treatments for chronic pain management. This study aimed to build a model of Dance/Movement Therapy for resilience-building in people with chronic pain.

Methods: A mixed methods study was conducted to test and refine a preliminary model towards building a composite model of DMT for pain resilience. Twenty-two people with chronic pain participated in a 10week group DMT intervention. Quantitative assessments of resilience, kinesiophobia, body awareness. pain, mood, stress, and relaxation were conducted. Qualitative data were collected and analyzed according to grounded theory method and compared with the quantitative findings.

Results: DMT resulted in statistically significant improvements in resilience (p < 0.001), kinesiophobia (p = 0.03), body awareness (p = 0.02), and pain intensity (p = 0.03) over time. Sixty eight percent of people felt 'moderately to a great deal better' post intervention. We found significant within-session changes in mood, stress, relaxation, and pain (p < 0.001). Key mechanisms (activating self-agency, connecting to self, connecting to others, enhancing emotional intelligence, and reframing), intervening factors and contextual conditions were identified. Based on the findings, the preliminary model was revised and refined to construct a final model.

Conclusions: Group DMT is a promising treatment for chronic pain through dynamic mind-body pathways. The quantitative findings should be interpreted with caution due to the small sample size and the lack of control group. More substantive and methodological work is required such as utilization of a large scale randomized controlled trial and mediation analysis is needed to further refine the model. © 2017 Elsevier GmbH. All rights reserved.

1. Introduction

1.1. Resilience in chronic pain

Chronic pain is a multifaceted condition that can inflict a profound and debilitating impact on individuals' entire personhood. Although pain is a symptom of an illness or injury, chronic pain can become an illness in its own right, constituting a complex set of physical and psychosocial changes that exacerbate the burden of afflicted individuals [1,2]. Contemporary perspective on health and well-being stresses human adaptation and growth in the context of significant adversity of life stress rather than

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http://dx.doi.org/10.1016/i.eujim.2017.01.011 1876-3820/© 2017 Elsevier GmbH. All rights reserved. pathologies or disabilities [3]. Likewise, a new paradigm for chronic pain management emphasizes promoting people's positive health assets - strength and resources that can support a good life despite the adverse effect of chronic pain. One of the positive health constructs that fit well into the framework of chronic pain management is psychological resilience - the ability to withstand, adapt, and grow in the face of stressors [4–6]. There has been a proliferation of research efforts devoted to studying the construct of resilience in the context of chronic pain and the role of resilience in positive adaptation in people with chronic pain during the last decade [5,7-11]. Studies have shown that resilience is associated with individuals' pain attitudes and beliefs, catastrophizing tendencies, social responses to pain, coping style, and health care and medication utilization patterns in the chronic pain population [5,8,12-15].

Furthermore, researchers suggest that individuals' adaptive or maladaptive responses to chronic pain could be affected by the virtue of the dynamic interaction between resilience-protective factors (e.g., optimism, approach coping, emotional complexity, benefit finding, reciprocal self-disclosure, social intelligence, etc.) and vulnerability factors (e.g., anxiety and depressive symptoms, pain catastrophizing, avoidance, social stigma, etc.) [12,16]. The idea that specific factors may positively or negatively affect individuals' resilience suggests that interventions can target these factors to enhance resilience [17,18]. However, systematic examination of the concept of pain resilience is still in its early stages; therefore further research is needed to enrich the understanding of its construct and mechanisms in chronic pain so that the resilience concept can be incorporated into the development of interventions [14].

1.2. Dance/movement therapy for resilience-building in chronic pain

The high comorbidity between chronic pain and psychiatric disorders often necessitates interventions that target both mind and body aspects of individuals' pain experience [16,17]. Furthermore, researchers recommend that for a fuller understanding of the scope and impact of psychological resilience, it should be understood in the holistic context of mind and body and the dynamic relationship between the two [19].

One of the mind-body therapies that is well suited for the treatment of chronic pain is Dance/Movement Therapy (DMT). DMT is the "psychotherapeutic use of dance and movement to further individuals' cognitive, emotional, physical and social integration" [20]. Based on the core principles of mind-body integration, creative process, symbolic expression, and therapeutic relationship, DMT therapists utilize various non-verbal and verbal techniques to promote individuals' psychological and physical health and social well-being [21,22]. What makes DMT a unique approach for chronic pain management is the fact that it is a behavioral intervention that utilizes embodied and experiential modes of assessment and treatment. Since people with chronic pain often experience *alexithymia*, a condition in which they have difficulty processing and communicating thoughts and feelings in words, DMT can be an effective method for addressing various psychosocial issues in people with chronic pain [23,24]. In addition, DMT is a strength-based approach that supports individuals' ability to discover and connect with their innate strengths and resources toward achieving personal growth and healing [25], which makes it a suitable intervention for resiliencebuilding.

A small number of studies have shown the potential of DMT as a valuable chronic pain intervention by demonstrating its effects on the body image, mood, stress, mobility, life energy, movement pain, sense of agency, meaning making, and overall quality of life in people with chronic pain [26–32]. However, specific factors and pathways through which DMT fosters resilience in people with chronic pain are largely unknown. In addition, there is a dearth of empirical data addressing the mechanisms of mind-body interventions for chronic pain specified by theory in general; Thus, very little is known about how different treatments work [33]. This study therefore aimed to develop a theoretical model that explains the mechanisms of DMT for resilience building in people with chronic pain.

2. Materials and methods

2.1. Study design

A multiphase mixed methods research design, namely *Sequential Exploratory-Confirmatory Mixed Methods Grounded Theory* [22] (See Fig. 1) was developed and utilized. The design was comprised of three phases, during which a preliminary model was generated based on the literature and qualitative interviews (phase I); the model was then tested quantitatively and qualitative through a clinical experiment (phase II); and through a process of integration and refinement, a final theoretical model was constructed. Throughout the three phases, each phase informed the subsequent phase towards building the final composite model, reflecting the iterative process of grounded theory principle.

2.1.1. Phase I-preliminary model development

During the first phase, a preliminary DMT model for resiliencebuilding in people with chronic pain was developed based on two sets of data collection and analysis process, namely 1) meta modeling—developing a model based on the existing literature [34] and 2) a reflexive grounded theory study based on in-depth interviews (n = 16). The two models developed from each procedure were compared, combined, and integrated into a preliminary model. The process and outcome of phase I as well as a detailed description of the complex multi-phase methodology are outlined elsewhere [22].

2.1.2. Phase II and III-model-testing and final model construction

In order to test and refine the preliminary model, a clinical mixed methods experiment was conducted. Informed by the findings from the previous phase, a 10-week group DMT protocol

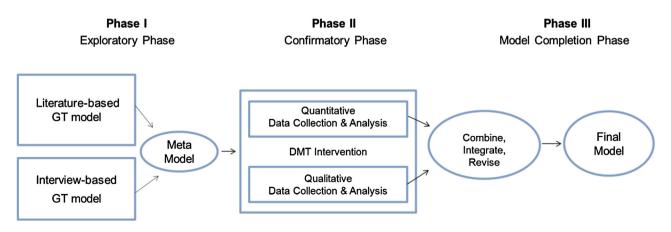


Fig. 1. Model diagram-Sequential Exploratory-Confirmatory Mixed Methods Grounded Theory.

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