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EDITORIAL

Biopsychosocial approaches to telerehabilitation for chronic primary musculoskeletal pain: A real possibility for physical therapists, that is here to stay

Chronic musculoskeletal pain is the leading cause of years lived with disability.[1] For a large portion of patients (e.g. chronic low back pain and chronic neck pain), the pain that persists or recurs for more than 3 months can be the sole or a leading complaint and is associated with significant emotional distress and/or functional disability, and the symptoms are not better accounted for by another diagnosis.[2] In the upcoming International Classification of Diseases, 11th revision, this subgroup of patients that requires special treatment and care will be called chronic primary musculoskeletal pain.[2] The Covid-19 pandemic is a unique opportunity for physical therapists to enhance their hands-off skills and decrease these patients' excessive dependence on passive interventions because in-person interventions, including physical contacts, provided in a small space, go against the prevention measures being implemented to reduce virus spread.[3,4] Even after partially relaxing the rules of social distancing, a great number of patients don't feel safe with in-person consultations. How can physical therapists help patients with chronic primary musculoskeletal pain, particularly with the provision of interventions based on the biopsychosocial model?

Telerehabilitation allows physical therapy interventions to be delivered through a range of synchronous/real-time (eg, video-conference) and asynchronous/store-forward (eg, digital images) consultations.[5,6] There is evidence to support the use of either synchronous or asynchronous consultations for a variety of musculoskeletal conditions.[7,8] Telerehabilitation is being recommended by councils, associations, and societies to allow physical therapists to treat patients via video calls.[3,4] In this new context, a growing number of physical therapists started to assess and treat patients remotely. The pandemic has opened an opportunity for physical therapists to deliver biopsychosocial interventions, such as cognitive behavioral therapy, pain neuroscience education, graded exposure, and cognitive functional therapy, through telerehabilitation.

A common aspect of all these biopsychosocial interventions is the use of active listening, reflection, and empathy as a strategy to allow patients to communicate their feelings and beliefs. Cognitive behavioral therapy aims at identifying and changing maladaptive behaviors, thought patterns, and contexts that may contribute to psychological dysfunction.[9] Pain neuroscience education is an educational intervention aiming to change patients' understanding about pain, what function pain serves, and what biological processes contribute to chronic pain.[10] Graded exposure is based on the identification and ranking a hierarchy of movements eliciting fear and avoidance, as well as the recognition of dysfunctional beliefs related to fear of reinjury or pain aggravation. This is followed by patient education to clarify misconceptions and a program of systematic gradual exposure to feared movements until the patients feel confident in performing the movements without any support.[11] Cognitive functional therapy originated from an integration of behavioral psychology and neuroscience knowledge within physical therapy practice and uses a multidimensional "clinical reasoning framework" to identify key modifiable targets for management on the basis of careful listening to the individual's story and examining the individual's behavioral responses to pain.[12] This is a promising treatment approach which seems to decrease disability for individuals with chronic non-specific low back pain,[12,13] and may be considered a suitable intervention to be delivered through telerehabilitation in the current healthcare context. The patient-clinician interaction involved in the three main components of cognitive functional therapy, i. making sense of pain, ii. exposure with control, and iii. lifestyle change, is possible via video calls.

During the Covid-19 pandemic, people are spending much more time at home, not taking part in their normal activities like going to school, work, or the gym to perform indoor sports. The adaptation to a routine of home office or schooling combined with more interaction with family members demand high level of energy and may cause emotional

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distress. Physical deconditioning, family discussions, constant worry about the future, poor sleep quality, and mood disorders are some of the many biopsychosocial factors that interact and could decrease pain threshold and pain tolerance levels.[14,15]

Given the reduced access to biomedical interventions during the pandemic, telerehabilitation is an opportunity to help patients make sense of their nonspecific chronic musculoskeletal pain. The process of making sense of pain, which is the first component of cognitive functional therapy, is completely reflective, where physical therapists can use the context of the patient's own story to provide a new understanding of their condition and also question their old beliefs.[16]

The second component of cognitive functional therapy is exposure with control, which is designed to normalize maladaptive or provocative movement and posture related to activities of daily living. This can be achieved during telerehabilitation.[17] Physical therapists can instruct individuals through exercises to promote body relaxation, guide patients to perform physical tasks once feared or avoided, with the goal to reduce fear-related behaviors. We suggest the use of the Patient Specific Functional Scale to help patients and physical therapists select the most valued functional goals needing to be addressed.[18] Then, the process of exposure with control happens through experiential learning and behavioral changes with the goal to improve self-efficacy and break the cycle of pain-related distress and disability. The aim is to allow patients to return to their valued functional activities without pain escalation, pain vigilance, or associated emotional distress.

The third component is lifestyle change.[17] There is growing evidence for the role of lifestyle factors linked to the persistence of pain and poor quality of life.[19] Therefore, it is relevant to investigate the influence of unhealthy lifestyles in the patient's pain context. Physical therapists can assess the individual's body weight, nutrition, quality of sleep, levels of physical activity or sedentary lifestyle, smoking, and other factors via video calls. Identifying such lifestyle factors helps physical therapists to individually advise and design exercise programs, rebuild self-confidence and self-efficacy, promote changes in lifestyle, and design coping strategies.

Telerehabilitation cognitive functional therapy has some limitations and strengths. Looking into the patients' eyes is an important aspect of clinical interactions. This is possible with telerehabilitation if the clinician looks at the webcam lens as opposed to the computer monitor. However, if the clinician focuses on the camera lens, it is not really possible to look at the patient's facial expression at the same time. It is an issue that will probably soon be solved with new technology. However, considering that in the context of the pandemic patients must wear masks during in-person consultation, video calls allow patients and physical therapists to see each other's whole facial expressions. Another challenge is related to performing components of a physical examination, which may require imagination to modify standard examination techniques use to perform special tests or assess range of motion or strength.[20] Conversely, if patients' most provoking or avoided functional tasks are related to activities performed at home, physical therapists have the opportunity to help patients engage in those activities in a controlled manner in a real-life context.

Because there is evidence that manual therapy can help but is not mandatory for patients with chronic pain, the main challenge of health professionals that deliver online interventions such as cognitive behavioral therapy, graded exposure, and cognitive functional therapy is to increase patients' expectations to adhere to a treatment without manual therapy.

Despite the difficulties, lower-income and older patients may have to access necessary technology, telerehabilitation is here to stay and now there are no excuses for interrupting any treatment due to time, space, and routine barriers like distance and transportation. It's time to reframe the physical therapist engagement during this unusual context of lockdowns or social isolation, and reimagine how we can provide best care for proper exercise, movement, and wellness.[21] Whereas providing biomedical interventions is challenging during the pandemic, there is now an unprecedented opportunity to consolidate biopsychosocial approaches delivered through telerehabilitation as a useful treatment option for patients with chronic musculoskeletal pain well beyond the pandemic subsiding.

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