Cognitive behavioural therapy for smartphone-induced musculoskeletal pain: A novel approach to managing text neck syndrome and texting tenosynovitis

Kinnari D Ahari[1], Anandh Vaiyapuri[2], Arunachalam R[2] & Rakesh V[3]

[1]PhD scholar, Faculty of Physiotherapy, Madhav University, Rajasthan, India
[2]Professor, Faculty of Physiotherapy, Madhav University, Rajasthan, India.
[3]Assistant professor, SIMATS, Chennai, India

* * * * *

Dear Editor

Text neck syndrome and texting tenosynovitis are increasingly common conditions associated with excessive smartphone use, and they are frequently encountered as chronic pain scenarios. Unlike acute pain, which serves as a protective mechanism, chronic pain in these conditions often transcends its sensory nature and manifests as an emotional experience. Pain is no longer just a localized sensation but a complex phenomenon influenced by cognitive and emotional factors, often exacerbated by psychological distress. Traditional physical treatment modalities such as electrotherapy, medication, and ergonomic corrections may provide temporary relief, but they frequently fail in cases where pain perception has shifted from a mere sensory input to an entrenched emotional burden. The suffering component of chronic pain intensifies the agony, making it resistant to purely physical interventions.(Tsantili et al., 2022)

The limbic system and the amygdala play a crucial role in pain processing and emotional modulation. The amygdala, a key structure involved in fear and emotional regulation, amplifies the perception of pain through a process known as pain catastrophization. (Neugebauer, 2015) Individuals suffering from chronic musculoskeletal conditions such as text neck syndrome and texting tenosynovitis often develop heightened pain sensitivity due to repeated reinforcement of negative pain experiences. This emotional reinforcement contributes to peripheral and central sensitization, wherein the nervous system becomes hyper-responsive to pain stimuli. Peripheral sensitization occurs due to prolonged nociceptive input from affected muscles, tendons, and ligaments, leading to increased pain perception even in response to non-threatening stimuli. Central sensitization, on the other hand, results from continuous nociceptive signaling that alters pain pathways in the spinal cord and brain, leading to widespread pain hypersensitivity and a lowered pain threshold. This neurological rewiring causes even mild postural discomfort to be perceived as severe pain, sustaining the cycle of discomfort and dysfunction. (Volcheck et al., 2023)

Given the interplay between emotional distress and chronic pain, interventions targeting the cognitive and emotional components of pain are essential. Cognitive Behavioural Therapy (CBT) has emerged as an effective approach in breaking this cycle by addressing maladaptive thought patterns, behavioral responses, and emotional triggers associated with chronic musculoskeletal pain. CBT focuses on cognitive restructuring, which helps patients identify and reframe catastrophic thoughts about pain. (Nakao et al., 2021) Many individuals suffering from text neck syndrome and texting tenosynovitis tend to believe that any movement will exacerbate their pain, leading to fear-avoidance behavior. CBT interventions challenge these beliefs and replace them with rational perspectives, allowing patients to reintroduce movement without excessive apprehension gradually.

In addition to cognitive restructuring, graded exposure therapy is commonly used to help patients confront movements they have been avoiding. By gradually increasing the intensity of neck and hand movements under controlled conditions, patients regain confidence in their musculoskeletal function and reduce kinesiophobia. (Coronado et al., 2020) Mindfulness-based CBT further complements these approaches by promoting relaxation and reducing muscle tension associated with stress-induced pain. Techniques such as progressive muscle relaxation, guided imagery, and deep breathing exercises help regulate autonomic nervous system responses, preventing excessive activation of pain pathways. Behavioral modifications, including scheduled smartphone breaks, posture retraining, and ergonomic adjustments, reinforce long-term adherence to healthier habits. (George et al., 2010)

Despite the growing evidence supporting CBT in chronic pain management, in my two decades of professional experience, there remains a significant lack of awareness among both patients and healthcare providers regarding its benefits. Many patients continue to rely on symptomatic interventions such as painkillers, muscle relaxants, and passive physical therapy modalities, which fail to address the underlying cognitive and emotional dimensions of pain. Similarly, physicians often overlook the role of psychological interventions in musculoskeletal conditions, focusing primarily on pharmacological or procedural interventions. (Roditi & Robinson, 2011) This gap in awareness results in prolonged suffering, increased disability, and a reliance on ineffective treatments. Incorporating CBT into mainstream physiotherapy and pain management programs could

significantly enhance treatment outcomes, particularly when combined with targeted exercise programs designed to restore muscular balance and joint mobility.

The integration of CBT with structured exercise therapy presents a promising alternative to symptomatic treatments, offering a more sustainable and holistic approach to managing text neck syndrome and texting tenosynovitis. (Shinde & Bhende, 2023) While exercise helps restore musculoskeletal function and reduce stiffness, CBT ensures that pain perception is modulated at a cognitive and emotional level, preventing recurrence and promoting long-term self-management. Encouraging greater adoption of CBT among healthcare professionals and integrating it into routine musculoskeletal care can lead to improved patient outcomes, reduced healthcare costs, and a shift from dependency on pain medications and passive interventions. Raising awareness about the psychological mechanisms underlying chronic pain and promoting evidence-based cognitive interventions (Rod, 2015) in combination with other modern interventions (Gayduk A, et al., 2022) will be instrumental in reshaping the treatment landscape for smartphone-induced musculoskeletal disorders.

References

Coronado, R. A., Brintz, C. E., McKernan, L. C., Master, H., Motzny, N., Silva, F. M., Goyal, P. M., Wegener, S. T., & Archer, K. R. (2020). Psychologically informed physical therapy for musculoskeletal pain: Current approaches, implications, and future directions from recent randomized trials. *Pain Reports, 5*(5), e847. https://doi.org/10.1097/PR9.0000000000000847

Gayduk, A., Shishkovskaia, T., Cumming, P., Koutsomitros, T., Sack, A., Vlasov, Y., & Smirnova, D. (2022). Association between neuropathic pain and depression: Focusing on transcranial magnetic stimulation as a promising treatment approach. *Psychiatria Danubina, 34*, 105–111.

George, S. Z., Wittmer, V. T., Fillingim, R. B., & Robinson, M. E. (2010). Comparison of graded exercise and graded exposure clinical outcomes for patients with chronic low back pain. *Journal of Orthopaedic & Sports Physical Therapy, 40*(11), 694–704. https://doi.org/10.2519/jospt.2010.3396

Nakao, M., Shirotsuki, K., & Sugaya, N. (2021). Cognitive-behavioral therapy for management of mental health and stress-related disorders: Recent advances in techniques and technologies. *BioPsychoSocial Medicine, 15*(1), 16. https://doi.org/10.1186/s13030-021-00219-w

Neugebauer, V. (2015). Amygdala pain mechanisms. *Handbook of Experimental Pharmacology, 227*, 261–284. https://doi.org/10.1007/978-3-662-46450-2_13

Rod, K. (2015). Observing the effects of mindfulness-based meditation on anxiety and depression in chronic pain patients. *Psychiatria Danubina, 27*(Suppl. 1), S209–S211.

Roditi, D., & Robinson, M. E. (2011). The role of psychological interventions in the management of patients with chronic pain. *Psychology Research and Behavior Management, 4*, 41–49. https://doi.org/10.2147/PRBM.S15375

Shinde, S., & Bhende, R. (2023). Evidence-based treatment strategies for "text neck syndrome": A review. *International Journal of Occupational Safety and Health, 13*(2), 245–257. https://doi.org/10.3126/ijosh.v13i2.48679

Tsantili, A.-R., Chrysikos, D., & Troupis, T. (2022). Text neck syndrome: Disentangling a new epidemic. *Acta Medica Academica, 51*(2), 123–127. https://doi.org/10.5644/ama2006-124.380

Volcheck, M. M., Graham, S. M., Fleming, K. C., Mohabbat, A. B., & Luedtke, C. A. (2023). Central sensitization, chronic pain, and other symptoms: Better understanding, better management. *Cleveland Clinic Journal of Medicine, 90*(4), 245–254. https://doi.org/10.3949/ccjm.90a.22019

Correspondence:
Arunachalam R
Faculty of Physiotherapy, Madhav University,
Pindwara, Sirohi, Rajasthan, India
arunachalam@madhavuniversity.edu.in