Chronic Pediatric Pain and Mental Illness During the COVID-19 Era: A Case Series From Inpatient Child Psychiatry Unit

Ankit Jain 1, Sage Gee 1, Srikrishna V. Malayala 2, Christopher W. Laboe 1

1. Psychiatry & Behavioral Health, Penn State College of Medicine, Hershey, USA 2. Internal Medicine, Temple University Hospital, Philadelphia, USA

Corresponding author: Ankit Jain, ajain3@pennstatehealth.psu.edu

Abstract

Chronic pain is defined as pain that persists following tissue injury or disease processes and is believed to have taken place after healing. It is a functional impairment that causes discomfort and leads to the inability to perform various essential daily activities. Chronic pain in pediatrics can be of various types, the most commonly prevalent types being headaches, abdominal pain, and limb pain. Adolescents with chronic pain have been found to have generalized anxiety scores twice that of the average population, along with significant impairment of family dynamics. Some forms of chronic pain respond effectively to medication and psychotherapy, and recurrence is common when stress is triggered by external or environmental factors, most recently in the form of COVID-19. In this case series, we discuss three cases of worsening mental health presentations and chronic pain exacerbation in the context of the COVID-19 pandemic. We talk about the unique perspective of chronic pain in the pediatric population and comorbid mental illnesses and their management from a psychiatric standpoint.

Introduction

Chronic pain is defined as pain that persists following tissue injury or disease processes and is believed to have taken place after healing [1]. It is a functional impairment that causes discomfort and leads to the inability to perform various essential daily activities [2]. Chronic pain treatment aims to achieve significant decreases in pain intensity to help attain an individual’s goal to achieve a manageable level of pain to be able to have a good quality of life [2]. Approximately 13.5%-47% of the US population struggles with chronic pain, leading to a cascade of economic and medical problems within our society [3]. Chronic pain in pediatrics can be of various types, the most commonly prevalent types being headache (23%), abdominal pain (22%), and limb pain (22%) [2]. Adolescents with chronic pain have been found to have generalized anxiety scores twice that of the average population, along with significant impairment of family dynamics [2,4]. In recent times, there has been an upsurge in psychiatric presentations such as post-traumatic stress disorder (PTSD), major depressive disorder (MDD), anxiety disorders, and obsessive-compulsive disorder (OCD) since the onset of the COVID-19 pandemic [5-7]. There has been an increase in neuropsychiatric complications following COVID-19 infection across all age groups [8]. Chronic pain has often been noted to be one of the comorbidities in patients with psychiatric illness. Some forms of chronic pain respond effectively to medication and psychotherapy, and recurrence is common when stress is triggered by external or environmental factors, most recently in the form of COVID-19 [9].

In this case series, we discuss three cases of worsening mental health presentations and chronic pain exacerbation in the context of the COVID-19 pandemic. We talk about the unique perspective of chronic pain in the pediatric population and comorbid mental illnesses and their management from a psychiatric standpoint.

Case Presentation

Case 1

A 16-year-old White female with a history of depression and post-traumatic stress disorder presented to the inpatient psychiatry unit with worsening suicidal ideations from social isolation since the COVID-19 pandemic began, along with stressors of argument with their parents. Her home medications were topiramate 50 mg at bedtime for chronic headaches, fluoxetine 40 mg/day for depression, and prazosin 1 mg at bedtime for nightmares secondary to PTSD. No other significant medical or surgical history was noted, and the baseline laboratory results were within normal limits. She reported that she experienced chronic nausea and tension headaches that led to difficulty sleeping. She spent several hours per day lying in bed because that was the only way she found relief. She would often wake up at night and have difficulty falling asleep.

Additional case presentations are detailed in the full-length publication.
psychosocial factors, physical activity, academia, and parental care. Non-pharmacological measures are also considered in managing pediatric chronic pain, including a combination of medication management, psychotherapy, physical therapy, and relaxation exercises. Many mindful of drug-drug interactions and the varied pharmacodynamic impacts of these drugs involving calcium.

This can occur through increasing GABA or stabilizing the neurons through channels such as ion channels. The treatment of chronic pediatric pain, are believed to work by decreasing the firing frequency of neurons. Increased norepinephrine and serotonin in the synaptic clefts near the spinal cord that have an inhibitory role of NSAIDs and anticonvulsants, with only recent evidence supporting the use of psychotropic medications, pharmacological and psychotherapeutic interventions were utilized. In terms of pharmacological management, the evidence of using non-opioid pharmacological agents has been limited mostly to the use of NSAIDs and anticonvulsants, with only recent evidence supporting the use of psychotropic medications, mainly from the antidepressant category [10]. Antidepressants work through pathways that involve increased norepinephrine and serotonin in the synaptic clefts near the spinal cord that have an inhibitory effect on the perception of pain [11]. Anticonvulsants, which are often used as an off-label medication for the treatment of chronic pediatric pain, are believed to work by decreasing the firing frequency of neurons. This can occur through increasing GABA or stabilizing the neurons through channels such as ion channels involving calcium [12]. When utilizing different psychopharmacological options, clinicians need to be mindful of drug-drug interactions and the varied pharmacodynamic impacts of these drugs [13,14].

Chronic pain management in the pediatric population needs a multidisciplinary approach, which requires a combination of medication management, psychotherapy, physical therapy, and relaxation exercises. Many non-pharmacological measures are also considered in managing pediatric chronic pain, including psychosocial factors, physical activity, academia, and parental care [15]. Multimodal approaches to pediatric pain management have been shown to have reduced side effects compared with a single method. In addition,
interdisciplinary approaches have been shown to be the most effective for managing chronic pain [16]. We also found that learning coping skills such as guided imagery, progressive muscle relaxation, and mindfulness-based learning were extremely helpful in managing chronic pain in our patients.

Since the COVID-19 pandemic, there has been a rapid shift from in-person visits to telemedicine appointments to a decrease in in-person visits without interruptions in the continuity of care [9,17]. While it is not the optimum solution, it helped bridge the gap because of the scarcity of in-person appointments in pain clinics. A systematic review from 2019 analyzed virtual delivery of cognitive behavioral therapy (CBT) for children and adolescents with chronic pain. According to the study, there was insufficient evidence that CBT provided remotely could significantly reduce chronic pain symptoms. Adolescents exhibited a short-term reduction in pain, but the proof of a long-term decline in pain symptoms was equivocal [18]. There were short-term pain decreases with headaches, but the results did not last for more than at least three months. However, wait times for pain clinics were reported to be around 197.5 days, and virtual CBT might allow teenagers to receive psychiatric care geared toward the management of their chronic pain more quickly and at a reduced cost [19]. In an Internet-based setting, acceptance and commitment therapy has shown favored efficacy in treating child and adolescent chronic pain and following related domains, including depressive symptoms and psychological inflexibility [20]. Virtually delivered care is more widely adopted by the pediatric pain management community, and tools are becoming increasingly available in recent years. Still, the specific treatments may need tailoring to address particular challenges in the context of the current pandemic. In the midst of a shortage of in-person pediatric chronic pain appointments with exceptionally long waiting periods, because of the scarcity of pediatric pain specialists, it is important for psychiatrists and primary care providers to help bridge this gap. With the recent evidence supporting the use of commonly prescribed psychiatric medications for the treatment of chronic pain along with pediatric anxiety and depression, it helps the clinicians make more evidence-based treatment recommendations to their patients and their families.

Conclusions

This case series highlights the importance of effectively treating chronic pain and mental disorders by the combined therapeutic approach of pharmacology and psychotherapeutic techniques especially in the presence of a significant stressor such as the COVID-19 pandemic. The shift toward virtual healthcare services in the time of social distancing raises concerns about how effective these modalities are compared with traditional services. These concerns have been addressed in randomized controlled trials, which have shown virtual services to deliver various treatments, including psychotherapy, effectively. More robust future studies need to be conducted to see if these effects are long-lasting and can replace or substitute the needs for in-person patient visits for treatment options such as Internet-based cognitive behavioral therapy around the management of chronic pediatric pain. All clinicians should be mindful of obtaining a detailed medical history that includes a history of chronic pain. Interdisciplinary management is the key to providing effective and safe management of chronic pediatric pain. Judicious use of psychotropic medications is an important tool that is readily available to most psychiatrists to manage and treat psychiatric illnesses with comorbid chronic pain conditions.

Additional Information

Disclosures

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