Adolescent Chronic Pain: Lessons Learned from COVID-19

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As a pediatric rheumatologist who specializes in treating children and teens with chronic non-inflammatory musculoskeletal pain, I was anticipating a lot of phone calls and e-mails when COVID-19 hit from my patients' families related to their child's pain. From our experience in the Center for Amplified Musculoskeletal Pain Syndrome at Children's Hospital of Philadelphia (CHOP), stress is a huge trigger for pain exacerbations or "flare ups" in patients with amplified musculoskeletal pain syndromes. However, a couple of weeks into the pandemic, our phone lines were quiet.

Initially, I assumed that families had more pressing issues to contend with, like seeking urgent medical care for COVID-19 symptoms or adjusting to new working, schooling and living arrangements. However, as I did start to speak with families, it dawned on me that there were a number of changes that came along with the pandemic that helped address some of the known drivers of chronic non-inflammatory pain. Could it be that the pandemic had a *positive impact* on teens' chronic pain?

Here are 3 reasons I think this might be the case:

First, **fatigue and poor sleep** are not only commonly reported among youth with chronic musculoskeletal pain, but are also greatly connected to the severity of their pain and pain-related symptoms. Patients have told me that because they have flexibility in their schedule with online schooling, they are now able to get more and better sleep. That makes me believe that the call from some advocacy groups for later school start times for teens would likely benefit those with chronic pain.

We also know that **acute physical pain** can lead to the development and persistence of adolescent chronic pain. I've had parents tell me now that their child doesn't have to lug around a large backpack all day at school, they've noticed decreases in their child's chronic pain. Similarly, by not attending school in person, children are less likely to encounter bullying, which has been shown to be associated with pediatric chronic pain. And as teens are likely spending more time with their parents as they quarantine together, this increased social support and connectedness may also be contributing to reduced pain-related symptoms.

Finally, **depression and anxiety** are highly linked to chronic pain in teens. With such a major life event like a pandemic, I initially had a hard time understanding why most of our patients seemed to be adapting well to their "new normal," while other youth were struggling with the disruptions COVID-19 is causing. I'd like to believe that since we recommend all patients establish care with a psychologist, teens with chronic pain may have the necessary coping tools to face these challenging times. Given the biopsychosocial model of pain and the importance of addressing how the brain processes pain, we recommend that teens with chronic pain seek cognitive behavioral therapy to address stress and to learn pain coping skills. Their reserve for harnessing resilience, therefore, may be much greater than that among teens not plugged into mental health services.

I suspect this may be true, because there are unfortunately still many teens coming to see us for new consultations for their chronic pain, indicating that the pandemic is by no means a cure-all for adolescent chronic musculoskeletal pain.

As communities reopen and schools strategize how to return to in-person classes, I am hopeful that parents, providers, and teachers alike will be able to apply some of the lessons learned about factors that could influence chronic pain in youth from this unique time. An ongoing emphasis on physical and mental well-being, a sense of community, and obtaining restorative sleep will all be critical for sustained improvements in adolescent chronic musculoskeletal pain. Otherwise, I anticipate the phone calls and e-mails will start pouring in soon after classes start.

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