The Spectrum of Pediatric Amplified Musculoskeletal Pain Syndrome

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Children presenting with musculoskeletal pain to pediatric rheumatology clinics are very heterogeneous and on a continuum from those with localized pain to total body pain. Many report intermittent, rather than constant, pain. We examined clinical and psychological characteristics of these children at presentation and specifically those who fulfilled the criteria for fibromyalgia. We performed a retrospective, cross-sectional cohort study of children under ?18 years old presenting to the pediatric rheumatology pain clinic between January 2015 and July 2019 and enrolled in a patient registry. We included children diagnosed with amplified pain, excluding those fulfilling criteria for complex regional pain syndrome. Abstracted data included clinical characteristics, pain symptoms, functional disability inventory (FDI), widespread pain index, and symptom severity scale. We analyzed 636 subjects, predominantly non-Hispanic Caucasian females. Using median split method, 54% had diffuse pain (? 5 body regions involved), but, of these, only 58% met criteria for fibromyalgia. Subjects with diffuse pain, compared to those with localized pain had a longer duration of pain (24 vs 12 months, $p < 0.01$), reported greater pain intensity (6/10 vs 5/10, $p < 0.001$), greater mental health burden, and poorer function (FDI 25 vs 19, $p < 0.0001$). Subjects with limited pain more often reported a history of trigger event (34% vs 24%, $p < 0.01$) but not autonomic changes (14% vs 14%, $p = 0.94$). The presence of adverse childhood experiences did not differ among those with limited versus diffuse pain except for parental divorce (16% vs 23%, $p = 0.03$). Intermittent pain was reported in 117 children (18%) and, compared to subjects with constant pain, they reported less pain (0/10 vs 6/10) and were more functional (FDI 13 vs 25) (both $p < 0.0001$). There exists a wide spectrum of pain manifestations among children with amplified pain including limited or diffuse and constant or intermittent pain. Most children who presented to our clinic did not fulfill criteria for fibromyalgia but nonetheless had significant symptoms and disability. Studies focusing on fibromyalgia may miss the full extent of childhood amplified pain. Additionally, research limited to those meeting the fibromyalgia criteria likely underestimate the significant impact of amplified pain among the pediatric population.

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