

COVID-19 Era impact on Musculoskeletal Health in the Pediatric Population

Purpose / Hypothesis

The COVID-19 pandemic resulted in extended school closure, reduced outdoor activities, increased screen time which resulted in poor musculoskeletal health. This study aimed to evaluate the effect of the COVID-19 pandemic on musculoskeletal complaints, injury patterns, and bone health in the pediatric population. We conducted retrospective observational study on lifestyle changes during the Covid leading to increased musculoskeletal symptoms in children.

Methods

A retrospective observational study was conducted at a tertiary care hospital SGRD Medical College Amritsar comparing pediatric musculoskeletal presentations during the COVID-19 period (March 2020–March 2021) with a pre-COVID control period (March 2019–March 2020). Children aged 3–16 years presenting with musculoskeletal complaints were included. Excluded criteria include chronic illness affecting bone metabolism, pathological fractures. Data collected included type of musculoskeletal complaint, mechanism of injury, activity level, screen time history, and biochemical parameters for (Vitamin D levels). Injury patterns, fracture types, and non-traumatic musculoskeletal pain were analyzed between the two periods.

Results

A total of 320 pediatric patients were included. During the COVID-19 period, there was a significant reduction in sports-related injuries but an increase in domestic low-energy trauma fractures. Non-traumatic musculoskeletal complaints, including low back pain and night cries increased by 42%. Vitamin D deficiency was more prevalent during the COVID-19 period (68% vs 46% pre-COVID). Delayed presentation of fractures and infections was also observed, resulting in higher complication rates.

Conclusions

The COVID-19 era significantly affected pediatric musculoskeletal health, with increased non-traumatic musculoskeletal complaints, higher prevalence of Vitamin D deficiency, and delayed presentation of injuries. Awareness, early screening for nutritional deficiencies, and promotion of physical activity especially outdoor activities are essential to mitigate long-term musculoskeletal consequences in children