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CORRESPONDENCE

Comment on "Decreases in pediatric fractures during the COVID-19 pandemic–a nationwide epidemiological cohort study"

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To the Editor:

We read, with great interest, the article entitled "Decreases in pediatric fractures during the COVID-19 pandemic–a nationwide epidemiological cohort study" by Galia Zacay et al. [1]. Through a cohort study, the authors found a significantly lower incidence of fractures in Israeli children in 2020 compared to 2015–2019, due to the impact of the COVID-19 pandemic. After reading this article respectfully, we would like to put forward some different opinions for reference.

First, in the summary of studies on pediatric orthopedic trauma during the COVID-19 pandemic in Table 1, the data were from developed countries in Europe and the USA, with the exception of Iran, and data from developing countries was missing. I reviewed the literature and found relevant studies from China and Korea. Arum Choi et al. found an increase in the proportion of pediatric emergency patients in Korea following the COVID-19 outbreak, and fractures increased by 0.1% per week ($p < 0.001$, 95% CI 0.03 to 0.1%) [1]. A retrospective study in China compared children with fractures at this hospital in 2017–2019 and 2020, with the number of patients peaking at 2 to 4 years of age in all years [2]. Therefore, the table is somewhat one-sided and needs to be stated separately by the authors.

Secondly, in order to distinguish whether multiple visits to the same child over a period of time are a single fracture event or two different fracture events, the authors use a 90-day period as a cut-off and refer to issues such as the subjectivity of the physician's diagnosis in their analysis. In practice, a combination of telephone and outpatient follow-up visits could be used for these children to determine if the fracture was a single one, making the data more reliable. Some insidious fractures may not be detected in time by the child or the guardian, resulting in a prolonged second visit. Simultaneously, the authors arrived at the 90-day time limit by extracting fracture diagnoses for the top 200 children who had fractures in 2019, and manually reviewing the medical records before using the results as a guide. The study is based on the statistical conclusion that there were over 10,000 fractures in Israeli children in 2019, so the sample size of the first 200 seems unconvincing.

Thirdly, the authors suggest that there are two sides to the relationship between physical activity and fracture risk. I agree with this view, but it needs to be taken into account whether the novel coronavirus itself cause bone destruction and loss of bone density, thereby increasing the risk of fractures. It has been found that novel coronavirus can affect the development of bone metabolism to some extent [3], and that angiotensin-converting enzyme 2 (ACE2) deficiency caused by viral invasion may lead to reduced bone matrix and early muscle disorders [4].

Fourthly, apart from sports-related fractures, traffic accidents are also a major cause. The blockade caused by the new crown epidemic has made people travel much less frequently, which has largely reduced crash-related fractures [2].

Authors' contributions CW and QL contributed to the acquisition of data and literature, as well as the drafting of manuscripts. XQ contributed to the overall writing of the manuscript. All the authors gave their final approval of the submitted version.

Declarations

Competing interests The authors declare no competing interests.

Consent for publication All authors consent to publication of this data.

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Conflict of interest The authors declare no competing interests.

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