



# Incidence of hip fractures during the COVID-19 pandemic in the Brazilian public health care system

Audrey Caetano da Silva<sup>1</sup> · Guilherme da Silva Santos<sup>1</sup> · Eliane Mara Cesário Pereira Maluf<sup>2</sup> · Victoria Zeghbi Cochenski Borba<sup>3</sup>

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We are glad to hear that Dr. Gavilanez reached results similar of ours and is interested in our article. We included individuals aged 60 years or older who had a hip fracture before and during the COVID-19 pandemic and received treatment through the Brazilian public health system (SUS). In the results, we reported a significant decrease in the incidence of hip fracture and in the length of hospital stay, with a non-significant reduction in fracture mortality, fatality, and hospital expenses [1].

Considering the impossibility to discriminate fractures by type of trauma and specific location in the DATASUS system, we restricted the evaluation to the hip fractures, as they require hospitalization, had imaging confirmation, and need of a specialized orthopedic care, which gave us more confidence in the diagnosis. All ICD-10 (72.0 to 72.9) related to hip fractures were included aiming not miss any individual. At the same time, we applied specific filters such as age ( $\geq 60$  years); in addition, fractures resulting from any type of high-energy trauma as car accident were excluded. The number of non-osteoporotic hip fractures in individuals over 60 years of age, when those caused by any type of

accident are excluded, is small. In a study carried out in Brazil, only 1.11% of fractures in people over 60 years of age were caused by accidents [2].

The non-hip-femoral-fractures occur with an incidence 20 times lower than the hip-fractures [3]; most hip fractures that occur in patients over 60 years of age are in the neck and per trochanteric area, closely related to osteoporosis and to falls from the same level. So, the impact of the number of fractures unrelated to fragility was small, although we cannot rule it out. Besides, it should be considered that they are more common in other sites of the femur and the total number of fractures analyzed was small [3–5]. Furthermore, subtrochanteric fractures in the elderly also may be related to frailty, as already demonstrated, reinforcing the need to include them in series of hip fractures in this population [6, 7]. Unfortunately, as already highlighted in this study, it was not possible to exclude pathological fractures.

Studies prior to the pandemic showed a trend towards an increase in hip fractures with prospects of tripling by 2050 [8, 9]. Future epidemiological data in the post-pandemic period will show whether this decrease in incidence observed by us and other researchers was temporally and exclusively related to the various variables involved in the pandemic or will persist after the return to normality [10].

✉ Victoria Zeghbi Cochenski Borba  
vzcborba@gmail.com

Audrey Caetano da Silva  
Audreyaetano@gmail.com

Guilherme da Silva Santos  
Santoss.guilherme96@gmail.com

Eliane Mara Cesário Pereira Maluf  
eliane.cesario@yahoo.com.br

<sup>1</sup> Medical School, Federal University of Paraná, Curitiba, Paraná, Brazil

<sup>2</sup> Department of Internal Medicine, Federal University of Paraná, Curitiba, Paraná, Brazil

<sup>3</sup> Department of Internal Medicine, Endocrine Division (SEMPR), Federal University of Paraná, Av. Agostinho Leão Júnior, 285 – 80030-110, Curitiba, Paraná, Brazil

**Data availability** The datasets used and/or analyzed during the current study will be made available by the corresponding author upon reasonable request.

**Code availability** Not applicable.

## Declarations

**Informed consent** Not applicable.

**Conflicts of interest** None.

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