



Letter to the editor

## Letter to the editor: Coronavirus disease 2019 (COVID-19) markedly increased mortality in patients with hip fracture: A systematic review and meta-analysis



Dear Editor,

I read the recently published systematic review and meta-analysis by Lim et al.<sup>1</sup> with interest and they should be congratulated on their original work. They present the available data reporting the prevalence and crude mortality rates associated with Coronavirus 2019 (COVID-19) in hip fracture patients. They report a pooled prevalence of COVID-19 positive patients presenting with a hip fracture of 9% (95% confidence intervals (CI) 7%–11%) and a crude mortality rate of 36% (95% CI 26%–47%), which was associated with a significantly increased mortality risk relative to those patients without COVID-19. One aspect that was not clear on reading the results section is the sentence: “We found that the pooled prevalence of COVID-19 was 9% [95% CI: 7% to 11%] [Fig. 2].” However, their Fig. 2 seems to imply the prevalence of COVID-19 in patients with a hip fracture was 16% (95% CI 8%–24%) when data from all four studies were combined. This may be due to my misunderstanding of their Fig. 2 as the header states “ES” and may represent something other than a simple percentage prevalence. According to the data presented in table 1 for the four studies (Egol et al.,<sup>2</sup> Hall et al.,<sup>3</sup> LeBrun et al.,<sup>4</sup> and Vives et al.) that were included in Fig. 2 there were 76 COVID-19 positive patients from a pooled cohort of 552 patients with a hip fracture, therefore the prevalence may be 13.8%. The authors clarification of this issue may aid other readers to interpret their results.

Furthermore, the authors presented data in table 1 relating to the rate of COVID-19 according to sex, which was interesting and may not have been fully highlighted in the results and discussion sections. When pooling the data from table 1 for the four studies (Egol et al.,<sup>2</sup> Hall et al.,<sup>3</sup> Kayani et al.,<sup>5</sup> and LeBrun et al.<sup>4</sup>) that reported the rate of COVID-19 according to sex, male patients were significantly more likely to contract COVID-19 relative to female patients (odds ratio 1.55, 95% CI 1.07 to 2.25,  $p = 0.019$ , chi square test)

with 44.4% ( $n=60/135$ ) of male patients being positive for COVID-19 compared to only 34.0% ( $n=264/777$ ) of patients negative for COVID-19. Expanding on the potential reasons for this may be of interest to the readership of the Journal and the sex difference may also be associated with the higher mortality rate the authors demonstrated in those patients that were COVID-19 positive.

### References

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