To the Editor,

Chronic obstructive pulmonary disease (COPD) is associated with a significant, over five-fold increased risk of severe COVID-19 infection. Patients with a history of COPD should be encouraged adopt more restrictive measures for minimizing potential exposure to SARS-CoV-2 and contact with suspected or confirmed cases of COVID-19. Clinicians should also carefully monitor all COPD patients with suspected infection and, finally, it may be advisable to consider COPD as a variable in future risk stratification models.

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Declaration of competing interest

None declared.

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Fig. 1. Forest plot demonstrating association of Chronic Obstructive Pulmonary Disease with severe COVID-19 disease.

Table 1

Characteristics of included studies.

| Study               | Setting       | Sample Size | Outcomes                                      | Severe patients | Non-severe patients |
|---------------------|---------------|-------------|-----------------------------------------------|-----------------|---------------------|
| Ren et al., 2020    | China         | 1099        | Admission to ICU, MV, death                    | 172 (15.7%)     | 926 (84.3%)         |
|                     |               |             |                                               | 52 (40–65)      | 65 (41–58)          |
|                     |               |             |                                               | 42% (34–57)     | 42% (28–68)         |
| Study               | Setting       | Sample Size | Outcomes                                      | Severe patients | Non-severe patients |
| Young BE et al., 2020 | Singapore   | 18          | Treatment, ICU Care, Death                    | 6 (50%)         | 6 (50%)             |
|                     |               |             |                                               | 64 (63–65)      | 64 (63–65)          |
|                     |               |             |                                               | 36% (35–55)     | 36% (35–55)         |
|                     |               |             |                                               | 102 (73.9%)     | 102 (73.9%)         |
|                     |               |             |                                               | 51 (37–62)      | 51 (37–62)          |
|                     |               |             |                                               | 48% (31–56)     | 48% (31–56)         |
| Guan W et al., 2020 | China         | 41          | ICU Care                                      | 13 (31.7%)      | 28 (68.3%)          |
|                     |               |             |                                               | 49 (41–61)      | 49 (41–61)          |
|                     |               |             |                                               | 15% (34–57)     | 32% (28–68)         |
|                     |               |             |                                               | 28 (68.3%)      | 28 (68.3%)          |
|                     |               |             |                                               | 49 (41–61)      | 49 (41–61)          |
| Liu W et al., 2020  | China         | 78          | Admission to ICU, MV, Death                    | 11 (14.1%)      | 67 (85.9%)          |
|                     |               |             |                                               | 66 (51–70)      | 67 (85.9%)          |
|                     |               |             |                                               | 36% (34–57)     | 36% (34–57)         |
|                     |               |             |                                               | 37 (32–41)      | 37 (32–41)          |
|                     |               |             |                                               | 52% (41–63)     | 52% (41–63)         |
| Liu Y et al., 2020  | China         | 12          | Respiratory Failure, MV                      | 6 (50%)         | 6 (50%)             |
|                     |               |             |                                               | 64 (63–65)      | 64 (63–65)          |
|                     |               |             |                                               | 50% (48–52)     | 50% (48–52)         |
|                     |               |             |                                               | 6 (50%)         | 6 (50%)             |
|                     |               |             |                                               | 6 (50%)         | 6 (50%)             |
|                     |               |             |                                               | 17% (15–20)     | 17% (15–20)         |
| Wang D et al., 2020 | China         | 138         | Clinical Variables, MV, Death                 | 36 (26.1%)      | 102 (73.9%)         |
|                     |               |             |                                               | 66 (57–78)      | 102 (73.9%)         |
|                     |               |             |                                               | 39% (37–41)     | 39% (37–41)         |
|                     |               |             |                                               | 51 (48–54)      | 51 (48–54)          |
|                     |               |             |                                               | 48% (46–50)     | 48% (46–50)         |
| Young BE et al., 2020 | Singapore   | 18          | Treatment, ICU Care, Death                    | 6 (33.3%)       | 102 (73.9%)         |
|                     |               |             |                                               | 56 (47–73)      | 102 (73.9%)         |
|                     |               |             |                                               | 67% (55–79)     | 67% (55–79)         |
|                     |               |             |                                               | 73% (62–83)     | 73% (62–83)         |

* Age data presented as median (IQR). MV – Mechanical Ventilation, ICU – Intensive Care Unit.