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Response to “Relationships between dyspnea, oxygenation and prognosis in hypoxemic respiratory failure”

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We thank Dr Shen and Dr Ding [1] for their thorough reading of our manuscript [2] and for having pointed out mistakes in Tables 1 and 2 regarding the ratio of arterial oxygen tension to inspired oxygen fraction ($\text{PaO}_2/\text{FiO}_2$). These mistakes have been corrected [3]. Although there was a trend toward a lower $\text{PaO}_2/\text{FiO}_2$ in the most dyspneic patients, the association between dyspnea and $\text{PaO}_2/\text{FiO}_2$ was not significant. This is not surprising since this absence of significant link between $\text{PaO}_2/\text{FiO}_2$ has been previously reported in intubated patients [4, 5] and in patients receiving non-invasive ventilation for acute respiratory failure [6].

As pointed by Dr Shen and Dr Deng, many inputs and factors contribute to the pathogenesis of dyspnea [7], including respiratory system mechanics and low tidal volume or low level of inspiratory assist in mechanically ventilated patients [4, 5, 8]. There is also a strong association between anxiety and dyspnea [4, 5]. A high inspiratory drive is also associated with dyspnea [9]. Unfortunately, none of these factors has an excellent performance to predict dyspnea in non-communicative patients who cannot self-report dyspnea, reason why observational scales such as the mechanical ventilation—respiratory distress observation scale (MV-RDOS) have been developed to detect dyspnea in this population [10].

Finally, that moderate to severe dyspnea is associated with a higher rate of intubation is a fact [6]. The intubation making decision is complex and relies on many factors. As suggested by Dr Shen and Dr Deng, this decision should not be based on the sole level of dyspnea. However, it might be valuable to integrate the intensity of dyspnea in this decision making process. Future prospective trials may help addressing this important question.

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Author contributions

AB, AD and LB analyzed the data. AD wrote the manuscript. All authors contributed to draft the manuscript or revised it critically for important intellectual content, and approved the final version of the manuscript.

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Availability of data and materials

No datasets were generated or analysed during the current study.



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Declarations

Ethics approval and consent to participate

Not applicable.

Consent for publication

Not applicable.

Competing interests

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