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Limitation of life-sustaining treatments in Asian ICUs: theory versus practice

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We thank Wang and Zhong for raising the important considerations on limitation or withdrawal of therapy in the MOSAICS II studies [1]. Although limitation or withdrawal of therapy was not part of the exclusion criteria for MOSAICS II, data on subsequent limitation of therapy or withdrawal of therapy during ICU stay was collected but not previously published [2, 3]. Amongst the 4826 patients included in the MOSAICS II secondary analysis on qSOFA prognostic value, only 5.9% (283/4826) had withdrawal of life-sustaining treatments and 5.9% (287/4826) had withholding of life-sustaining treatments [3]. Even amongst those who died within 28 days, only 11.2% (142/1271) and 10.8% (137/1271) had withdrawal or withholding of life-sustaining treatments prior to death. Overall, low rates of limitation of therapy suggest it may not have significantly biased the conclusions drawn about prognostic value of qSOFA in sepsis.

The Asian Critical Care Clinical Trials group have previously published multiple survey studies on end-of-life

practices in Asian ICUs [4–6]. However, real-life observations on end-of-life practices in MOSAICS II seem discrepant to these survey results. The ACME study reported that 70.2% of Asian ICU physicians would almost always or often withhold life-sustaining treatments and 20.7% would withdraw such treatments for patients with no real chance of recovering meaningful life [4]. The low observed rates of limitation of therapy in MOSAICS II may reflect the perception that limitation of life-sustaining treatment may expose the physician to legal risks [5]. Furthermore, there is significant variations in practice across cultures and income settings. As Wang and Zhong highlighted, Chinese physicians are more likely to consider financial burden when considering limiting life-sustaining treatments [6].

We appreciate the suggestions made by Wang and Zhong and agree that variations in local end-of-life practices may impact clinical research and care of critically ill patients in Asian ICUs. More prospective data are needed to understand the cultural and religious, financial and contextual factors that shape end-of-life practices in ICUs.

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Supplementary Information

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Additional file 1. Contributing centers listed alphabetically per country/region with Lead Investigators and Co-Investigators.

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Author contributions

LL wrote the first draft of the manuscript. AL and JP provided critique of the manuscript and approved it for submission.

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Availability of data and materials

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Declarations**Ethics approval and consent to participate**

The National Healthcare Group Domain-Specific Review Board approved the study (2018/00354), with a waiver informed consent as this was an observational study. In addition this study was approved by institutional review boards according to local regulations at participating ICUs, with most waiving the need for informed consent.

Competing interests

The authors declare no competing interests.

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References

1. Wang M, Zhong L. Reflections on epidemiological investigations of sepsis in the Asian Region. *Crit Care*. 2024;28(1):59.
2. Li A, Ling L, Qin H, Arabi YM, Myatra SN, Egi M, et al. Epidemiology, management, and outcomes of sepsis in ICUs among countries of differing national wealth across Asia. *Am J Respir Crit Care Med*. 2022;206(9):1107–16.
3. Li A, Ling L, Qin H, Arabi YM, Myatra SN, Egi M, et al. Prognostic evaluation of quick sequential organ failure assessment score in ICU patients with sepsis across different income settings. *Crit Care*. 2024;28(1):30.
4. Phua J, Joynt GM, Nishimura M, Deng Y, Myatra SN, Chan YH, et al. Withholding and withdrawal of life-sustaining treatments in intensive care units in Asia. *JAMA Intern Med*. 2015;175(3):363–71.
5. Phua J, Joynt GM, Nishimura M, Deng Y, Myatra SN, Chan YH, et al. Withholding and withdrawal of life-sustaining treatments in low-middle-income versus high-income Asian countries and regions. *Intensive Care Med*. 2016;42(7):1118–27.
6. Park SY, Phua J, Nishimura M, Deng Y, Kang Y, Tada K, et al. End-of-life care in ICUs in East Asia: a comparison among China, Korea, and Japan. *Crit Care Med*. 2018;46(7):1114–24.

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