

English

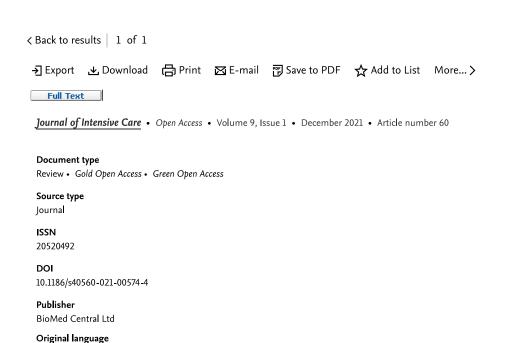
View less ^

Search Sources Lists SciVal >

? 🗘

Create account

Sign in



The story of critical care in Asia: a narrative review

Phua J. a, b, Lim C.-M.c, Faruq M.O.d, Nafees K.M.K.e, Du B.f, Gomersall C.D.g, Ling L.g, Divatia J.V.h, Hashemian S.M.R.i, Egi M.j, Konkayev A.k, Mat-Nor M.B. m

Show additional authors $\checkmark \sqsubseteq$ Save all to author list

- ^a FAST and Chronic Programmes, Alexandra Hospital, National University Health System, Singapore, Singapore
- ^b Division of Respiratory and Critical Care Medicine, Department of Medicine, National University Hospital, National University Health System, Singapore, Singapore
- ^c Department of Pulmonary and Critical Care Medicine, Asan Medical Center, University of Ulsan College of Medicine, Seoul, South Korea
- ^d General Intensive Care Unit, Emergency and COVID ICU, United Hospital Ltd, Dhaka, Bangladesh View additional affiliations ✓



Abstract

Author keywords

Indexed keywords

Sustainable Development Goals 2021

SciVal Topics

Citations

Metrics

Cited by 0 documents

Inform me when this document is cited in Scopus:

Set citation alert >

Related documents

Development of critical care medicine in India

Kulkarni, A.P., Zirpe, K.G., Dixit, S.B. (2020) Journal of Critical Care

International Critical Care - From an Indulgence of the Best-Funded Healthcare Systems to a Core Need for the Provision of Equitable Care

Lumb, P.D., Adler, D.C., Al Rahma, H. (2021) Critical Care Medicine

Performance evaluation of a multinational data platform for critical care in Asia

Pisani, L., Rashan, T., Shamal, M. (2021) Wellcome Open Research

View all related documents based on references

Find more related documents in Scopus based on:

Authors > Keywords >

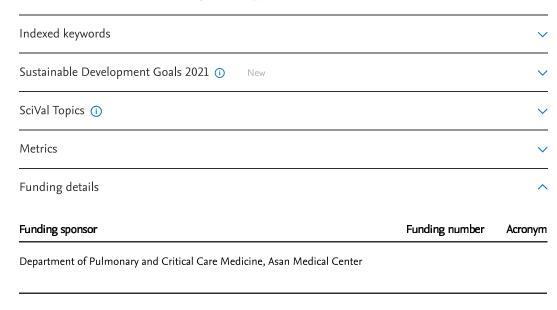
Abstract

Background: Asia has more critically ill people than any other part of our planet. The aim of this article is to review the development of critical care as a specialty, critical care societies and education and research, the epidemiology of critical illness as well as epidemics and pandemics, accessibility and cost and quality of critical care, culture and end-of-life care, and future directions for critical care in Asia. Main body: Although the first Asian intensive care units (ICUs) surfaced in the 1960s and the 1970s and specialisation started in the 1990s, multiple challenges still exist, including the lack of intensivists, critical care nurses, and respiratory therapists in many countries. This is aggravated by the brain drain of skilled ICU staff to high-income countries. Critical care societies have been integral to the development of the discipline and have increasingly contributed to critical care education, although critical care research is only just starting to take off through collaboration across groups. Sepsis, increasingly aggravated by multidrug resistance, contributes to a significant burden of critical illness, while epidemics and pandemics continue to haunt the continent intermittently. In particular, the coronavirus disease 2019 (COVID-19) has highlighted the central role of critical care in pandemic response. Accessibility to critical care is affected by lack of ICU beds and high costs, and quality of critical care is affected by limited capability for investigations and treatment in low- and middle-income countries. Meanwhile, there are clear cultural differences across countries, with considerable variations in end-of-life care. Demand for critical care will rise across the continent due to ageing populations and rising comorbidity burdens. Even as countries respond by increasing critical care capacity, the critical care community must continue to focus on training for ICU healthcare workers, processes anchored on evidence-based medicine, technology guided by feasibility and impact, research applicable to Asian and local settings, and rallying of governments for support for the specialty. Conclusions: Critical care in Asia has progressed through the years, but multiple challenges remain. These challenges should be addressed through a collaborative approach across disciplines, ICUs, hospitals, societies, governments, and countries. © 2021, The Author(s).

Author keywords

Asia; Critical care; Culture; Epidemiology; Intensive care unit

 \square All



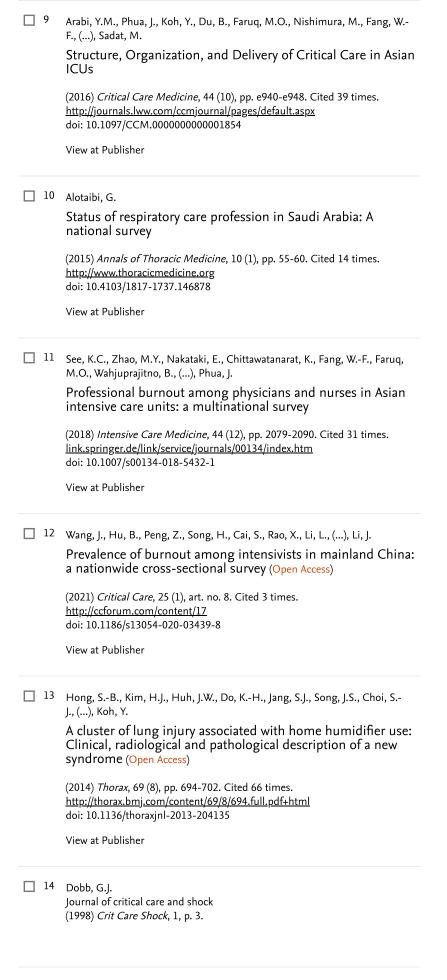
Funding text

We thank Dr. Dong Kyu Oh and Dr. Soo Han Kim from the Department of Pulmonary and Critical Care Medicine, Asan Medical Center, Seoul, for helping to compile and summarise the data from returned questionnaire surveys. We also thank the national critical care societies for sharing their stories with us.

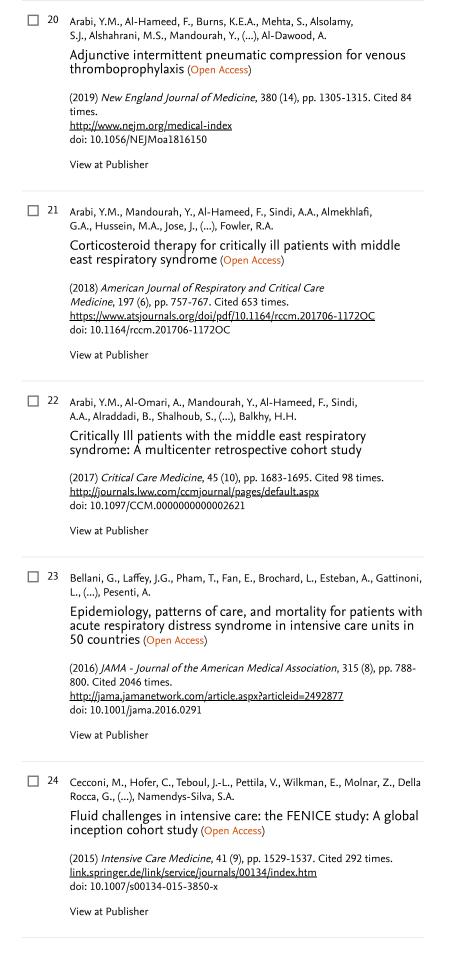
References (87) View in search results format >

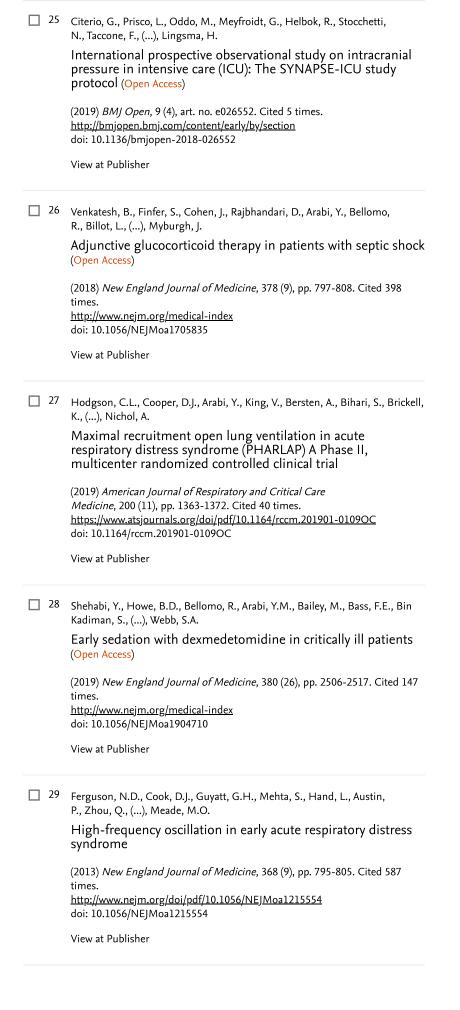
Export 🖶 Print 🖾 E-mail 🕝 Save to PDF Create bibliography

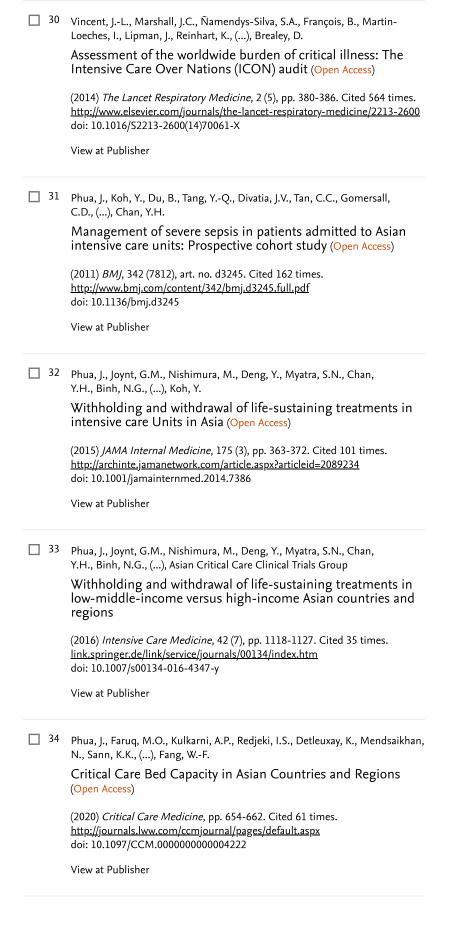
	Bowring, P. What is "Asia"? (1987) Far Eastern Econ Rev, 135, p. 7. Cited 9 times.
_ 2	Department for General Assembly and Conference Management (2021) <i>United Nations</i> https://www.un.org/dgacm/en/content/regional-groups
<u> </u>	World Bank country and lending groups (2021) <i>The World Bank</i> https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-worldbank-country-and-lending-groups
□ 4	Adhikari, N.K.J., Fowler, R.A., Bhagwanjee, S., Rubenfeld, G.D. Critical care and the global burden of critical illness in adults (Open Access) (2010) The Lancet, 376 (9749), pp. 1339-1346. Cited 657 times. http://www.journals.elsevier.com/the-lancet/doi: 10.1016/S0140-6736(10)60446-1 View at Publisher
5	Lumb, P.D., Adler, D.C., Al Rahma, H., Amin, P., Bakker, J., Bhagwanjee, S., Du, B., (), Williams, G. International Critical Care - From an Indulgence of the Best-Funded Healthcare Systems to a Core Need for the Provision of Equitable Care (2021) Critical Care Medicine, pp. 1589-1605. http://journals.lww.com/ccmjournal/pages/default.aspx doi: 10.1097/CCM.0000000000005188 View at Publisher
☐ 6	Wunsch, H. The outbreak that invented intensive care (2020) <i>Nature</i> . Cited 7 times.
7	Tan, B.H. (2015) Supporting life: the journey of intensive care in Malaysia Malaysian Society of Intensive Care, Kuala Lumpur
8	Prayag, S. ICUs worldwide: Critical care in India (Open Access) (2002) Critical Care, 6 (6), pp. 479-480. Cited 25 times. doi: 10.1186/cc1544 View at Publisher



15	Divatia, J.V., Jog, S. Intensive care research and publication in India: Quo vadis? (Open Access) (2014) Intensive Care Medicine, 40 (3), pp. 445-447. Cited 6 times. link.springer.de/link/service/journals/00134/index.htm doi: 10.1007/s00134-013-3199-y View at Publisher
16	Hashmi, M., Beane, A., Taqi, A., Memon, M.I., Athapattu, P., Khan, Z., Dondorp, A.M., (), Haniffa, R. Pakistan Registry of Intensive CarE (PRICE): Expanding a lower middle-income, clinician-designed critical care registry in South Asia (Open Access) (2019) Journal of the Intensive Care Society, 20 (3), pp. 190-195. Cited 13 times. http://inc.sagepub.com/doi: 10.1177/1751143718814126 View at Publisher
17	Ma, P., Du, B. Critical care research in mainland China: More needed on the international stage (Open Access) (2013) Intensive Care Medicine, 39 (4), pp. 768-770. Cited 3 times. doi: 10.1007/s00134-013-2853-8 View at Publisher
18	Lee, B.H., Inui, D., Suh, G.Y., Kim, J.Y., Kwon, J.Y., Park, J., Tada, K., (), Koh, Y. Association of body temperature and antipyretic treatments with mortality of critically ill patients with and without sepsis: Multi-centered prospective observational study (Open Access) (2012) Critical Care, 16 (1), art. no. R33. Cited 134 times. http://ccforum.com/content/16/1/R33 doi: 10.1186/cc11211 View at Publisher
19	Park, D.W., Egi, M., Nishimura, M., Chang, Y., Suh, G.Y., Lim, CM., Kim, J.Y., (), Koh, Y. The association of fever with total mechanical ventilation time in critically III patients (Open Access) (2016) Journal of Korean Medical Science, 31 (12), pp. 2033-2041. Cited 4 times. http://www.jkms.org/Synapse/Data/PDFData/0063JKMS/jkms-31-2033.pdf doi: 10.3346/jkms.2016.31.12.2033 View at Publisher









View at Publisher

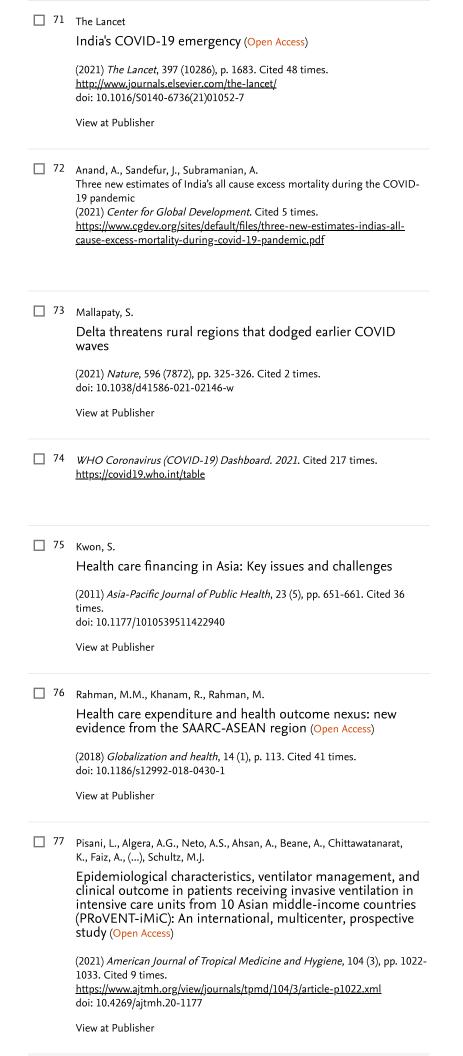
42	Wang, H., Naghavi, M., Allen, C., Barber, R.M., Carter, A., Casey, D.C., Charlson, F.J., (), Zuhlke, L.J. Global, regional, and national life expectancy, all-cause mortality, and cause-specific mortality for 249 causes of death, 1980–2015: a systematic analysis for the Global Burden of Disease Study 2015 (Open Access) (2016) The Lancet, 388 (10053), pp. 1459-1544. Cited 3510 times. http://www.journals.elsevier.com/the-lancet/doi: 10.1016/S0140-6736(16)31012-1 View at Publisher
□ 43	Rudd, K.E., Johnson, S.C., Agesa, K.M., Shackelford, K.A., Tsoi, D., Kievlan, D.R., Colombara, D.V., (), Naghavi, M. Global, regional, and national sepsis incidence and mortality, 1990—2017: analysis for the Global Burden of Disease Study (Open Access) (2020) The Lancet, 395 (10219), pp. 200-211. Cited 830 times. http://www.journals.elsevier.com/the-lancet/ doi: 10.1016/S0140-6736(19)32989-7 View at Publisher
□ 44	Vincent, JL., Sakr, Y., Singer, M., Martin-Loeches, I., MacHado, F.R., Marshall, J.C., Finfer, S., (), Angus, D.C. Prevalence and Outcomes of Infection among Patients in Intensive Care Units in 2017 (Open Access) (2020) JAMA - Journal of the American Medical Association, 323 (15), pp. 1478-1487. Cited 89 times. http://jama.jamanetwork.com/journal.aspx doi: 10.1001/jama.2020.2717 View at Publisher
☐ 45	Fatema, K., Ahsan, A.S.M., Barai, L., Ahmed, F., Haq, J., Faruq, M.O. Bacterial profile and their antibiotic resistance in an ICU of Bangladesh: comparison of four studies from 2004 to 2011 (2016) <i>Bangladesh Crit Care J</i> , 4, p. 79. Cited 2 times.
□ 46	Venkataraman, R., DIvatia, J., Ramakrishnan, N., Chawla, R., Amin, P., Gopal, P., Chaudhry, D., (), Abraham, B. Multicenter observational study to evaluate epidemiology and resistance patterns of common intensive care unit-infections (Open Access) (2018) Indian Journal of Critical Care Medicine, 22 (1), pp. 20-26. Cited 12 times. https://www.ijccm.org/lov/IJCCM doi: 10.4103/ijccm.IJCCM_394_17

	Parajuli, N.P., Acharya, S.P., Mishra, S.K., Parajuli, K., Rijal, B.P., Pokhrel, B.M. High burden of antimicrobial resistance among gram negative bacteria causing healthcare associated infections in a critical care unit of Nepal (Open Access) (2017) Antimicrobial Resistance and Infection Control, 6 (1), art. no. 67. Cited 36 times. http://www.aricjournal.com/doi: 10.1186/s13756-017-0222-z
□ 48	Tran, G.M., Ho-Le, T.P., Ha, D.T., Tran-Nguyen, C.H., Nguyen, T.S.M., Pham, T.T.N., Nguyen, T.A., (), Nguyen, T.V. Patterns of antimicrobial resistance in intensive care unit patients: A study in Vietnam (Open Access) (2017) BMC Infectious Diseases, 17 (1), art. no. 429. Cited 18 times. http://www.biomedcentral.com/bmcinfectdis/doi: 10.1186/s12879-017-2529-z View at Publisher
□ 49	Sudarmono, P., Aman, A.T., Arif, M., Syarif, A.K., Kosasih, H., Karyana, M., Chotpitayasunondh, T., (), Lau, CY. Causes and outcomes of sepsis in southeast Asia: a multinational multicentre cross-sectional study (Open Access) (2017) The Lancet Global Health, 5 (2), pp. e157-e167. Cited 67 times. http://www.elsevier.com/journals/the-lancet-global-health/2214-109x doi: 10.1016/S2214-109X(17)30007-4 View at Publisher
□ 50	Establishing a critical care network in Asia to improve care for critically ill patients in low- and middle-income countries (Open Access) (2020) Critical care (London, England), 24 (1), p. 608. Cited 6 times. doi: 10.1186/s13054-020-03321-7 View at Publisher
□ 51	Irie, H., Okamoto, H., Uchino, S., Endo, H., Uchida, M., Kawasaki, T., Kumasawa, J., (), Nishimura, M. The Japanese Intensive care PAtient Database (JIPAD): A national intensive care unit registry in Japan (2020) Journal of Critical Care, 55, pp. 86-94. Cited 14 times. http://www.elsevier.com/inca/publications/store/6/2/3/1/4/3/index.htt doi: 10.1016/j.jcrc.2019.09.004 View at Publisher
<u> </u>	(2017) Malaysian Registry of Intensive Care. Cited 2 times. Annual report http://www.crc.gov.my/wp-content/uploads/documents/report/mric_report_2017.pdf









□ 78	Abe, T., Kushimoto, S., Tokuda, Y., Phillips, G.S., Rhodes, A., Sugiyama, T., Komori, A., (), Gando, S.
	Implementation of earlier antibiotic administration in patients with severe sepsis and septic shock in Japan: A descriptive analysis of a prospective observational study (Open Access)
	(2019) Critical Care, 23 (1), art. no. 360. Cited 14 times. http://ccforum.com/content/17 doi: 10.1186/s13054-019-2644-x
	View at Publisher
7 9	He, H., Ma, X., Su, L., Wang, L., Guo, Y., Shan, G., He, H.J., (), Zhang, S. Effects of a national quality improvement program on ICUs in China: A controlled pre-post cohort study in 586 hospitals (Open Access)
	(2020) <i>Critical Care</i> , 24 (1), art. no. 73. Cited 5 times. http://ccforum.com/content/17 doi: 10.1186/s13054-020-2790-1
	View at Publisher
□ 80	Council on Scientific Affairs, American Medical Association
	(1996) <i>JAMA</i> , 275, pp. 474-478. Cited 17 times.
 Universit	(1996) JAMA, 275, pp. 474-478. Cited 17 times. 7.; Department of Pulmonary and Critical Care Medicine, Asan Medical Center, y of Ulsan College of Medicine, Seoul, South Korea; email:yskoh@amc.seoul.kright 2021 Elsevier B.V., All rights reserved.

∧ Top of page

About Scopus

What is Scopus

Content coverage

Scopus blog

Scopus API

Privacy matters

Language

日本語に切り替える

切换到简体中文

切換到繁體中文

Русский язык

Customer Service

Help

Tutorials

Contact us

ELSEVIER

Terms and conditions *¬* Privacy policy *¬*

Copyright © Elsevier B.V 对. All rights reserved. Scopus® is a registered trademark of Elsevier B.V.

We use cookies to help provide and enhance our service and tailor content. By continuing, you agree to the use of cookies.

