Morning Brief :
Scientific Review

(13 May 2020)

The purpose of the Morning Brief is to **summarise** and present key information, research articles and other relevant publications pertaining to critical care and COVID-19. We aim to prioritise information, articles and publications released in the preceding 24-48 hours

Stellenbosch University Research Response Team

Content of the brief

- Global Statistics
- South African Statistics
- Topic: Brief paper reports

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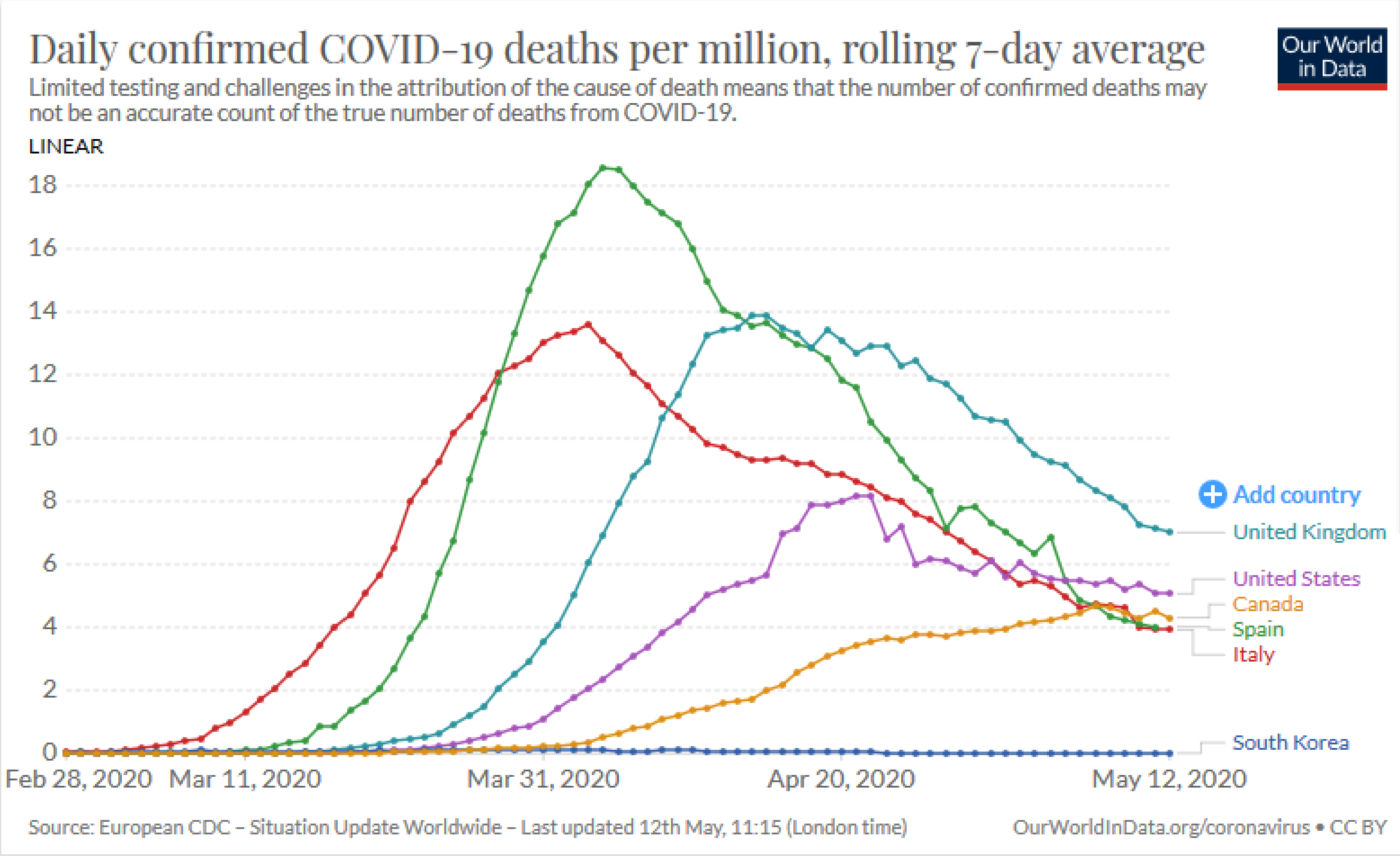
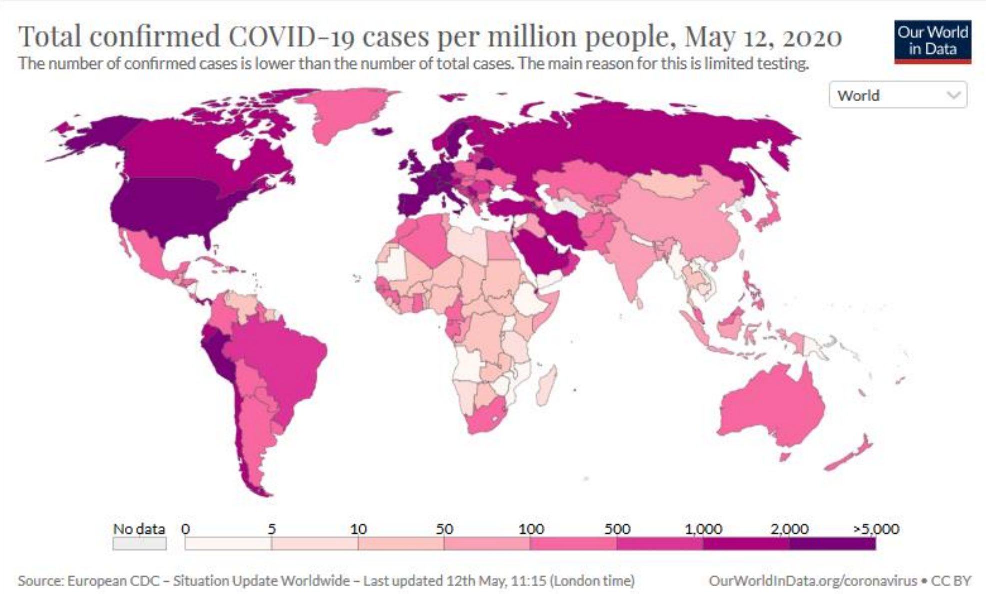
Global Statistics





Accessed at 17:54 on 12 May 2020
Source: https://ourworldindata.org

South African Statistics

Accessed at 20:55 on 12 May 2020
Source: sacoronavirus.co.za

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Articles of Interest

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THE LANCET

CORRESPONDENCE | ONLINE FIRST

Hyperinflammatory shock in children during COVID-19 pandemic

Shelley Riphagen • Xabier Gomez • Carmen Gonzalez-Martinez • Nick Wilkinson • Paraskevi Theocharis

Published: May 07, 2020 • DOI: https://doi.org/10.1016/S0140-6736(20)31094-1

Case series

- London, UK
- Ages 4 – 14 years
- 6/8 Afro-Caribbean descent
- 5/8 boys
- 7/8 above 75th percentile for weight
- 4 known Covid-19 exposure
- all PCR negative, no other pathogen identified in 7/8 (adenovirus and enterovirus in 1)
- 1 tested positive after discharge, 1 died and tested positive at post-mortem
- 7/8 mechanical ventilation for cardiovascular stabilisation

“During a period of 10 days in mid-April, 2020, we noted an unprecedented cluster of eight children with hyperinflammatory shock, showing features similar to atypical Kawasaki disease, Kawasaki disease shock syndrome,1 or toxic shock syndrome (typical number is one or two children per week).”

“As this Correspondence goes to press, 1 week after the initial submission, the Evelina London Children's Hospital paediatric intensive care unit has managed more than 20 children with similar clinical presentation, the first ten of whom tested positive for antibody (including the original eight children in the cohort described above).”

Riphagen, S et al., Hyperinflammatory shock in children during COVID-19 pandemic, The Lancet, May 07, 2020
DOI:https://doi.org/10.1016/S0140-6736(20)31094-1

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EID Journal > Volume 26 > Early Release > Main Article

Disclaimer: Early release articles are not considered as final versions. Any changes will be reflected in the online version in the month the article is officially released.

Volume 26, Number 7—July 2020

Online Report

Evidence Supporting Transmission of Severe Acute Respiratory Syndrome Coronavirus 2 While Presymptomatic or Asymptomatic

Nathan W. Furukawa , John T. Brooks, and Jeremy Sobel
Author affiliations: Centers for Disease Control and Prevention, Atlanta, Georgia, USA

On This Page

Case reports of familial clusters with transmission from asymptomatic individuals, although community exposure not excluded in most of these

Evidence of low cycle thresholds (high viral loads) in asymptomatic and presymptomatic individuals and positive viral cultures, but transmission not proven in these studies

Public health implications

- Lower case fatality rate
- Transmission
- Testing

Rapid review

1 database searched

No quality assessment reported

Furukawa NW, Brooks JT, Sobel J. Evidence supporting transmission of severe acute respiratory syndrome coronavirus 2 while presymptomatic or asymptomatic. Emerg Infect Dis. 2020 Jul [*date cited*]. https://doi.org/10.3201/eid2607.201595

Retrospective cohort study, Singapore, N = 182

In age < 60

- BMI > 25 associated with pneumonia on CXR (p-value 0.017) and O_2 requirements (OR 6.32, 95% CI 1.23 – 32.34)

ACCEPTED MANUSCRIPT

Association of higher body mass index (BMI) with severe coronavirus disease 2019 (COVID-19) in younger patients FREE

Sean Wei Xiang Ong, Barnaby Edward Young, Yee-Sin Leo, David Chien Lye

Clinical Infectious Diseases, ciaa548, https://doi.org/10.1093/cid/ciaa548

Published: 08 May 2020 **Article history** ▾

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Ong, SWX et al., Association of higher body mass index (BMI) with severe coronavirus disease 2019 (COVID-19) in younger patients; *Clinical Infectious Diseases*, , ciaa548, https://doi.org/10.1093/cid/ciaa548

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Retrospective record review

Israel, N = 162

14% ICU admission

3% mortality overall

20% mortality rate in severe disease

IMAJ • VOL 22 • MAY 2020

Clinical Characterization of 162 COVID-19 patients in Israel: Preliminary Report from a Large Tertiary Center

Edward Itelman MD[1,4]*, Yishay Wasserstrum MD[1,4]*, Amitai Segev MD[1,4], Chen Avaky MD[1,4], Liat Negru MD[1,4], Dor Cohen MD[1,4], Natia Turpashvili MD[1,4], Sapir Anani MD[1,4], Eyal Zilber MD[1,4], Nir Lasman MD[1,4], Ahlam Athamna MD[1,4], Omer Segal MD[1,4], Tom Halevy MD[1,4], Yehuda Sabiner MD[1,4], Yair Donin MD[1,4], Lital Abraham MD[1,4], Elisheva Berdugo MD[1,4], Adi Zarka MD[1,4], Dahlia Greidinger MD[1,4], Muhamad Agbaria MD[1,4], Noor Kitany MD[1,4], Eldad Katorza MD[2,4], Gilat Shenhav-Saltzman MD[1,4]* and Gad Segal MD[1,3,4]*

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Table 1. Patient characteristics according to disease severity

	Overall	Mild	Moderate	Severe	*P* value*
N	162	92	44	26	
Age, mean ± standard deviation	52 ± 20	47 ± 22	57 ± 15	61 ± 14	**0.001**
Male, n (%)	105 (64.8)	48 (52.2)	36 (81.8)	21 (80.8)	**0.001**
Body mass index, kg/m^2	27.3 (23.9–31.2)	27.1 (23.6–30.9)	29.0 (24.3–33.4)	26.9 (25.5–31.0)	0.394
Obesity, mean ± standard deviation	31 ± 19.1	14 ± 15.2	13 ± 29.5	4 ± 15.4	0.121
Ischemic heart disease, n (%)	12 (7.4)	5 (5.4)	3 (6.8)	4 (15.4)	0.228
Hypertension, n (%)	49 (30.2)	18 (19.6)	18 (40.9)	13 (50.0)	**0.002**
Chronic renal failure, n (%)	2 (1.2)	0(0)	1 (2.3)	1 (3.8)	0.224
Diabetes, n (%)	30 (18.5)	11 (12.0)	11 (25.0)	8 (30.8)	**0.040**
Chronic obstructive pulmonary disease, n (%)	2 (1.2)	1 (1.1)	0(0)	1 (3.8)	0.364
Epilepsy, n (%)	1 (0.6)	0(0)	1 (2.3)	0 (0)	0.259
Smoking, n (%)	11 (8.9)	6 (9.4)	2 (5.3)	3 (13.6)	0.535

All data are presented in the form of median (interquartile range) unless otherwise specified
*Bold indicates significance

Folic acid	12.4 (9.6–20.4)	18.2 (11.3–22.0)	12.9 (9.7–16.4)	9.6 (6.5–12.3)	**0.005**

Itelman, E et al. Clinical Characterization of 162 COVID-19 patients in Israel: Preliminary Report from a Large Tertiary Center, IMAJ, Volume 22, Number 5, May 2020 Coronavirus (COVID-19)

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ICU admission 119 (39.0%)

≥65 years, 53.8% were admitted to an ICU ($p<0.001$)

92 (30.2%) patients received IMV, 77.3% of those admitted to an ICU

48/281 with outcome data died (17.1%)

Case fatality among patients aged 18–49 years, 50–64 years, and ≥65 years was 3.4%, 9.8%, and 35.6%, respectively ($p<0.001$).

Among patients without high-risk conditions:

22.5% were admitted to the ICU,

15.0% received IMV

5.1% died while in the hospital

The estimated percentage of deaths among patients who received ICU care ranged from 37.0%, assuming all remaining ICU patients survived, to 48.7%, assuming all remaining ICU patients died.

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Morbidity and Mortality Weekly Report (MMWR)

CDC

Characteristics and Clinical Outcomes of Adult Patients Hospitalized with COVID-19 — Georgia, March 2020

Weekly / May 8, 2020 / 69(18);545–550

On April 29, 2020, this report was posted online as an MMWR *Early Release.*

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Retrospective record review

Gold JA, Wong KK, Szablewski CM, et al. Characteristics and Clinical Outcomes of Adult Patients Hospitalized with COVID-19 — Georgia, March 2020. MMWR Morb Mortal Wkly Rep 2020;69:545–550. DOI: http://dx.doi.org/10.15585/mmwr.mm6918e1external icon.

This summary was prepared by Dr E Maasdorp as part of the daily brief to the TBH ICU team.