

Dr. Karagiannidis Germany

- Created a High-care and Low-care system to be able to expand ICU beds – which has made it possible to have enough beds for everyone
- Had 3,000 ICU patients in the 1st wave (53% mortality; highest in those >80; 34-72%), but 6,000 in the 2nd wave (51% mortality, even with greater use of non-invasive ventilation).
- Arrival of B117 variant has led to the 3rd wave and 4,700 ICU patients (responsible for 90% of cases). Has caused more severe disease vs the original strain, leading to the lowest # of ECMO beds available to date (170). Younger patients.
- Same co-morbidities as other countries
- High rates of mortality in those who fail NIV
- Females have lower mortality (OR 0.63)
- Coagulopathies, liver disease and cancer are associated with the worst outcomes
- High rates of burnout in all ICU staff, with 30% of ICU RNs wanting to leave their jobs

Dr. Chacko India

Limitations:

- Only 2.3 ICU beds / 100,000 (likely one of the lowest rates in the world per capita) concentrated in 7 states
- Only 0.8 doctors / 1,000
- Limited ICU resources, with only 48,000 ventilators
- Inequity of access to healthcare

Changes made:

- Created new ICUs, Handmade PPE, Revamped ventilation systems, Handmade ventilators
- Created a COVID command center
- Staff support systems to prevent burnout

Overall:

- Similar treatments given as the rest of the world
- Avoided NIV up front, but embraced it over time
- NIV successful in over 2/3rds of patients irrespective of ARDS severity
- Overall mortality 33%
- Low rates of infections in staff

Dr. Onn Israel

Stats:

- 8 ICU beds per 100,000
- 2,000 ventilators and 80 ECMO
- 59% of the population has been vaccinated = Only 120 patients on ventilators currently

Interesting points:

- Created new ventilators, but didn't have to use them due to purchased ventilators = 5,000 ventilators
- Government instituted shut-downs, which helped control the spread in areas which complied
- High death rate likely promoted people signing up for vaccination

Take aways:

- Trust only evidence-based medicine
- ECMO can save some patients whom would not otherwise survive
- Buy vaccines for the whole population as early as possible! And negotiate early delivery by barter system (data).

Unanswered Questions

- Do intubated COVID-19 patients have higher rates of secondary bacterial infections as compared to other ARDS patients?
- Does the B.1.1.7 variant cause more severe disease and higher mortality, in younger patients in particular?
- How best to prevent burnout in our healthcare personnel?