

COVID-19 RESEARCH NEWSLETTER

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Novel Coronavirus Pandemic: A Global Health Threat (*Turkish Journal of Emergency Medicine* 2020, 20:55-62)

The world is facing one of its worst public health crises in modern history. Coronavirus 2019 (COVID-19) has shown how fragile our global preparedness for infectious diseases is. The world is a small-connected globe with short travel time between its remote parts. COVID-19 has spread globally and swiftly with major impacts on health, economy, and quality of life of communities. Virtually all countries and territories have been affected and the death toll is rising by the day. The status is evolving and costly lessons learned over time are increasing. These lessons are global, as is this virus. They involve different domains of health sciences including virology, public health, clinical, critical care, and disaster management. This review addresses our current knowledge of COVID-19 pandemic from basic virology and transmission, through prevention, infection control, clinical management, and finally disaster management including the recovery period. This review has a multidisciplinary approach, which is needed at this time. After this difficult period passes, we have to carry the lessons we learned for the future so that we can be better prepared. One thing that has clearly emerged from this ongoing crisis is that infectious diseases have no borders and we have to work together, using the one world, one health approach, if we are to minimize the enormous impact such pandemics can cause.

Comparison of some of the features of SARS-CoV-1, MERS-CoV and SARS-CoV-2

	SARS-CoV-1	MERS-CoV	SARS-CoV-2
Year/place of initial outbreak	2002/China	2012/KSA	2019/China
Suspected natural host	bats	bats	bats
Intermediate host	Civet cats?	Camels	?
No. cases (period)	8,096 (Nov.02 to July 03)	2,499 (Jul. 12 to Dec.19)	1,521,809 (Dec. 19 to Apr. 20)
Case mortality rate	9.6%	35%	4.1%
Mode of transmission	Droplets, direct/indirect	Droplets, direct/indirect	Droplets, direct/indirect
Incubation period (days)	2-7 (range 2-21)	2-7 (range 2-14)	2-7 (range 2-14)
Super spreaders	Yes	Yes	Yes
Reproduction number (R_0)	3.0	0.3-0.8	1.4 to 6.5
Genome size (kb)	29.7	30.1	29.8
Main cellular target	respiratory epithelium	respiratory epithelium	respiratory epithelium
Cell receptor	ACE2	CD26/DPP4	ACE2

SARS: Severe acute respiratory syndrome, MERS: Middle East respiratory syndrome, COV: Coronaviruses, CMR: Case mortality rate, ACE2: Angiotensin converting enzyme 2 (as of 9th April 2020).

Research Team: Prof Gulfaraz Khan (Microbiology & Immunology, CMHS), **Dr Mohamud Sheek-Hussein** (Institute of Public Health, CMHS), **Dr Ahmed R. Al Suwaidi** (Pediatrics, CMHS), **Dr Kamal Idris** (Critical Care, Al Ain Hospital), and **Prof Fikri M. Abu-Zidan** (Surgery, CMHS).

If you are interested in sharing your COVID-19 related research, please send your contribution to research.office@uaeu.ac.ae

Editors: Prof. Mohsen Sherif & Dr. Ranjit Vijayan