

Coronavirus, a latent risk of pandemics

by Porfirio Felipe Hernández Bautista*

*Coordinación de Calidad de Insumos y Laboratorios Especializados, Instituto Mexicano del Seguro Social, Ciudad de México 07760, México

Citation: Hernández Bautista PF, Coronavirus, a latent risk of pandemics, ERSJ 2026,1(3) 97-98

Copyright: © 2026 by the authors. Licensee ERSJ, Mexico City, Mexico. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>)

At the beginning of the 21st century, severe acute respiratory syndrome (SARS) appeared in China, serving as the first warning about the risk of coronaviruses. The causative virus was SARS-CoV-1, which was identified in November 2002 in Guangdong province. The most widely accepted hypothesis for the outbreak's emergence was zoonosis caused by wildlife vendors, especially those dealing in palm civets (a mammal similar to felines). The disease subsequently spread to other countries in South Asia. In North America, Canada reported the most cases, while in Europe, patients were few. A controversy arose regarding the delay in reporting the outbreak by the Chinese government, as well as the fact that the WHO envoy, Dr. Calo Urbani, was among the fatalities.

MERS-CoV (Middle East Respiratory Syndrome) was subsequently identified in June 2012 in Jeddah, Saudi Arabia. This novel coronavirus originated from the sputum of a patient with pneumonia. The virus spread to several countries, with a fatality rate of 60%. Phylogenetically, the virus was related to the bat coronaviruses HKU4 and HKU5.

Other human coronaviruses include 229E, OC43, NL63, and HKU1, which occur cosmopolitanly and seasonally. OC43 has been the most frequently reported, although the highest fatality rate, up to 6.4%, has been described for type 229E. According to the Chinese Center for Disease Control and Prevention, on December 29, 2019, four cases of pneumonia were reported at Xinhua Hospital among workers at the local market. Subsequently, on December 31, the World Health Organization was notified of 27 cases of pneumonia of unidentified etiology. This marked the beginning of the emergence of SARS-CoV-2, which spread rapidly worldwide, causing the first pandemic of the 21st century.

In conclusion, coronaviruses have emerged as a persistent global health risk, and along with influenza, have represented the greatest threat to the human population.

You can consult:

1. Fehr, A.R., Perlman, S. (2015). Coronaviruses: An Overview of Their Replication and Pathogenesis. In: Maier, H., Bickerton, E., Britton, P. (eds) Coronaviruses. Methods in Molecular Biology, vol 1282. Humana Press, New York, NY. https://doi.org/10.1007/978-1-4939-2438-7_1
2. de Groot RJ, Baker SC, Baric RS, Brown CS, Drosten C, Enjuanes L, Fouchier RA, Galiano M, Gorbalenya AE, Memish ZA, Perlman S, Poon LL, Snijder EJ, Stephens GM, Woo PC, Zaki AM, Zambon M, Ziebuhr J. Middle East respiratory syndrome coronavirus (MERS-CoV): announcement of the Coronavirus Study Group. J Virol. 2013 Jul;87(14):7790-2. doi: 10.1128/JVI.01244-13. Epub 2013 May 15. PMID: 23678167; PMCID: PMC3700179.
3. Hernández Bautista PF, Cabrera Gaytán DA, Vallejos Parás A, Moctezuma Paz A, Santacruz Tinoco CE, Alvarado Yaah JE, et al. (2024) Respiratory virus behavior: Results of laboratory-based epidemiological surveillance. PLoS ONE 19(10): e0307322. <https://doi.org/10.1371/journal.pone.0307322>