



SARS-COV-2 AND ANIMALS: SYSTEMATIC REVIEW ABOUT ANIMALS' INFECTION AND POTENTIAL OF HUMAN TRANSMISSION

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RESUMO

SARS-COV-2 and animals: systematic review about animals' infection and potential of human transmission **ABSTRACT** The SARS-CoV-2 that causes COVID-19 in humans has zoonotic tendencies, which potentially provoke cross-species transmission, resulting in zoonotic overflow/spillover and/or spillback. Accordingly, the aim was to analyse the scientific evidence regarding SARS-CoV-2 animal infections and potential human transmission. A systematic review was carried out following the PRISMA guidelines, searching for original articles in the PubMed/Medline, Google Scholar and LILACS, using the descriptors "SARS-CoV-2 AND animals". The results show studies that examined the viral susceptibility of about thirty animal species when induced naturally and/or experimentally by the virus. The gold standard test used for SARS-CoV-2 diagnosis, RT-PCR, was performed on the upper airway and rectal swab samples in the most studies. Possible animal-human transmission was observed in the mink & hamster species. Overall, there have been more reports of human contamination to other species than human retransmission from the pathogen. The natural infection of the virus was discovered in domestic dogs & cats, wild cats, deer, minks, rabbits and hamsters. Moreover, cats were deemed particularly susceptible to the virus, as demonstrated by the natural infection results of the domestic, and wild/exotic cats. Several animals, including the African Green Monkey and rabbits, manifested high levels of viremia, respiratory secretions, and fecal excretions of infectious virus conducive to environmental/aerosol transmission. It is still inadequately documented the essential aspects of such processes, such as, the animals' involvement in viral mutations, the emergence of new variants/lineages and the role of the animal host species. Consequently, the scientific evidence corroborates the need for greater investment in research that investigates and identifies the role of the animal species in the COVID-19 cycle, globally, especially in impoverished and/or developing regions. Additionally, epidemiological surveillance through extensive sequencing of the viral genomes of infected animals and humans can reveal the SARS-CoV-2 transmission routes and anticipate appropriate prophylactic strategies. Eventually,

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vaccination of the animal species will be an essential measure to mitigate the potential threat to 'One Health'. Resumo - apresentação oral

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