Editorial

2020: A challenging but extraordinary year for science

The past year marked the lives of many people around the world, not just those whose freedom was restricted or suffered the loss of a loved one, but all humanity. The COVID-19 pandemic produced by SARS-Cov-2 has shown once again that the constant expansion of the world's population and the degradation of ecosystems expose us to new threats. This situation is far from new, and what is more worrying is that it has been predicted for some time by the scientific community[1,2], which highlights the concern about the influence of science and evidence over decision-making. A concern that will remain once the pandemic has been controlled, and the rhythm of daily life has once again silenced the warning signs that today keep the world in suspense.

While coronaviruses have sparked interest among researchers, in December 2019 there were no scientists studying COVID-19, which is logical considering that no one knew about the disease. However, while these words are being written, nearly 90,000 scientific articles related to COVID-19 have been published and can be read on PubMed[3]. This is a reflection of the capacity of modern science to rapidly redirect efforts, allowing the establishment of faster and more efficient diagnostic tools that allow effective epidemiological control measures and adequate treatments, as well as methods to determine the health, social and cultural impact of the current pandemic.

This effort by society and the scientific world is unparalleled in the history of humanity and despite the fact that there is still much to do, we can say that it has paid off. Currently, it is possible to make the diagnosis in minutes, to know which of the different variants is the one that was contracted, and from these data to obtain a detailed vision of the origin and evolution of the disease. Every day more laboratories announce the approval of effective and safe vaccines by regulatory entities, which immediately begin to be used by governments in vaccination plans, focusing on the groups with the highest exposure and risk. Without going any further, two of the first vaccines to be approved for massive use in humans are mRNA vaccines. This technology had never been used before in a vaccine program, demonstrating unparalleled development capacity and allowed the first of these vaccines to enter phase 1 clinical trials only 66 days after the SARS-Cov-2 genome was known.

An important part of these scientific achievements have been recognised by the general population, and if there is something that we must highlight from the current situation, it is the new appreciation that general society has of science beyond the dissimilar results in the control of COVID-19 in different countries. However, this new evaluation has proven to be part of a two-sided coin, and just as there is a growing interest and appreciation for science, there is no less population that distrusts scientific results, a situation that only increases the challenges current and future that we have as scientists and humanity in general. The scientific community in general (scientists, scientific societies, government institutions, publishers, etc.), must accept part of the responsibility for this perception and misinformation which show that we must work to bring forward and humanise scientific work, because sharing our work and experience is now an essential task in the

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1 Cheng VC, Lau SK, Woo PC, Yuen KY. 2007. Severe acute respiratory syndrome coronavirus as an agent of emerging and reemerging infection. *Clin Microbiol Rev* 20, 660-694. https://doi.org/10.1128/CMR.00023-07

2 Fan Y, Zhao K, Shi ZL, Zhou P. 2019. Bat Coronaviruses in China. Viruses 11, 210. https://doi.org/10.3390/v11030210

3 https://pubmed.ncbi.nlm.nih.gov/?term=covid+19&sort=date

scientific career. In addition, we have to embrace the challenge of working together with the authorities, who must be open to the evidence and realise that science is an important (although not the only one) input on which to base decisions that will have an impact on thousands, if not millions of lives.

Another important lesson from this and other future emerging disease-related episodes is that the role of veterinary science should not be underestimated. Veterinary professionals constitute a workforce that provides crucial knowledge for public services that ensure the prevention and control of pandemics[4]. The increasing interaction between wild and domestic animals due to the expansion of agriculture and degradation of natural habitats in various parts of the world will continue to pose new and constant challenges to global health either for humans and animals. This scenario will require leadership from veterinary professionals and scientists dedicated to animal health, food safety, public health, ecology, and the various areas of biomedicine, in order to prevent future episodes as dramatic as those of this year 2020 that so much suffering has and will continue to cause in the near future.

Editorial Committee
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[4] Fathke RL, Rao S, Salman M. 2020. The COVID-19 pandemic: A time for veterinary leadership in one health. One Health 11, 100193. https://doi.org/10.1016/j.onehlt.2020.100193