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THE IMPORTANCE OF ANIMAL MODELS IN RESEARCH

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A debate on the significance of animal research for drug development in humans has recently arisen in *The British Medical Journal* (Cohen, 2018; McLeod, 2018). The discussion originated from the results of a large trial in South African infants to test a new vaccine, MVA85A, to improve the prevention of tuberculosis. The vaccine failed to corroborate the positive results of animal studies (Tameris et al., 2013). Fiona Godlee, editor in chief of the journal, claimed that there are compelling evidences that preclinical studies provide too often results that are not confirmed in clinical trials. "This is not an attack on the development of new vaccines, which are more needed now than ever. Nor is it an attack on the use of animals in research for drug development. This story is about the urgent need to improve the integrity of animal research—its reliability, reproducibility, analysis, reporting, and interpretation—to increase the chances that it translates into real improvements to human health" she says (Godlee, 2018). This interpretation gives me the possibility to fuel the debate, as a veterinarian, highlighting that in some cases, as in tuberculosis, preclinical tests using laboratory animals are not the suitable models to study human diseases but there are other animal models that offer more reliable information to elaborate scientific hypothesis to be further corroborated in clinical studies (Buddle et al., 2016).

The 2017 Nobel Prize in Physiology or Medicine was awarded to Jeffrey C. Hall, Michael Rosbash and Michael W. Young. Based on studies using *Drosophila melanogaster* as their model, they discovered the molecular mechanisms which control circadian rhythms. This seminal improvement in our understanding of the circadian adaptation has considerable implications for human health and represents an elegant example highlighting the importance of using suitable *in vivo* models as crucial instruments in the advancement of scientific knowledge.