VETERINARY CANNABIS SOCIETY

Cannabis, One Health, and Veterinary Medicine: Cannabinoids' Role in Public Health, Food Safety, and Translational Medicine

Review # 1

Elizabeth Frankenberg *DVM*

Things to consider when reading this article:

- The authors do an outstanding job demonstrating the close relationship between veterinary and human medicine, not only as it relates to public health and food safety, but also in comparison of the numerous shared diseases and the potential comparable therapeutic benefits of cannabis.
- The statistics on the origins of human disease, namely that 75% of new diseases that affect humans originate from animals or products of animal origin, are shocking, and highlight the need for collaboration between health professionals, especially now as we continue to fight the ongoing COVID19 pandemic.
- A good argument is made for avoiding wasted time and resources studying rodent models, by jumping to direct translational studies in species in which specific disease processes naturally occur.
- It is noted, rightfully, that unavoidable species differences in cannabinoid receptor distribution and activity may not translate well between species, and thus provides a potential drawback to the translational medicine model.
- This article asks several important questions for policymakers on how to move forward from a regulatory perspective as it pertains to cannabis-based products.

The big picture:

- We are all connected: “One health” equals human health, animal health, and environmental health, therefore any benefit that cannabis can provide to one, will ultimately benefit all.
- All of these important points are secondary to the urgent need for legislative change, so that veterinarians can utilize cannabis therapeutically, and the scientists can properly study the effects of cannabis in animals in order to relate their findings to a translational medicine model.

Review # 2

Rob Silver *DVM, MS*

Things to consider when reading this article:

- The authors in this paper hypothesize that using the One Health approach in the study and applications of medical cannabis has the potential to provide more clinically-relevant information when investigating the effects of medical cannabis on veterinary species' naturally-occurring diseases that can be used as models for human disease. They argue that artificially-derived experimental models in laboratory animals may not provide results that are as relevant to addressing the actual naturally occurring disease as the naturally occurring disease itself.
- Chagas Disease: Cannabinoids have been shown to inhibit parasitic proliferation, growth and invasion
- Listeriosis: Cannabis essential oils may attenuate the virulence of *Listeria monocytogenes*, which may be a novel strategy to reduce biological contaminants in food.
- Cannabis essential oils including THC have been found to have a pesticide-like affect in repelling insects.

The big picture:

- Pets have shorter lifespans and experience a more rapid progression of diseases which facilitates the study of naturally-occurring diseases in veterinary patients over a much shorter period of time than for naturally-occurring diseases in people
- Overall, the authors make a good point as regards the use of naturally-occurring animal models of disease over the use of laboratory disease models. What is lacking in their analysis, though, is mention of the real-life difficulty in eliminating as many variables as possible in service to the scientific method, for clinical patients that spend most of their time in an uncontrolled home environment. Not an impossible impediment to research but one that demands larger numbers of study subjects and the randomization and blinding of the treatments and measurements to control bias.