

Best teaching practice on animal welfare

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Teaching animal welfare in Veterinary Schools is a very recent phenomenon, particularly in Latin America. In fact, animal welfare started to be part of veterinary curricula in Latin America approximately from the year 2000, following the global trend of increasing the teaching of animal welfare in veterinary students after 1995. The need for animal welfare courses in veterinary education is clear and was stated in the last OIE Global Conference on Veterinary Education, since education (as well as capacity building) is crucial for the improvement of animal welfare, especially in developing countries, according to global organisations such as OIE and FAO.

The core topics that may be included in animal welfare courses have been widely discussed and include animal behaviour, physiology of stress and pain, evaluation of animal welfare, ethics related with the use of non-human animals, and notions of common dilemmas arising from the use of animals for human benefits, including intensive animal farming and biomedical research.

One of the difficulties of teaching animal welfare is the multidisciplinary nature of this subject; therefore a broad group of lectures is needed with expertise on areas as diverse as ethology, physiology, ethics, animal production and economy, to name a few. To promote a proper integration of the knowledge, related courses have to be well coordinated through use and evaluation of the curriculum to ensure incorporation of an animal welfare course while avoiding repetition of topics. In addition, the lectures of related subjects must be aware of the contents and with updated knowledge on topics regarding the ability of animals to suffer. This is probably an area where the knowledge among veterinary professors varies considerably and they may need better education in this area themselves.

Another relevant challenge is to define and assess competencies, including for animal welfare topics. Practical teaching tools should be widely applied, such as field activities, video-analysis, role playing, preparing essays and ethical debates. Such tools should have clear guides and have scientific data to support their use. Finally, animal welfare lectures also should encourage a critical way of thinking regarding the current methods of animal use, and decision-making exercises considering animal welfare implications.

Key words: Teaching, competencies, animal welfare, animal behaviour

Introduction

Teaching animal welfare in Veterinary School is a very recent phenomenon. The first lecture for veterinarians was in 1986 at Cambridge Veterinary School in the United Kingdom (Broom, 2005). Since that time, courses in Veterinary Schools have been implemented beginning in European Universities. In Latin America, animal welfare lectures started to be part of veterinary curricula approximately from the 2000, except in Mexico and Argentina where started in 1993 and 1994 respectively (Hewson et al., 2005; Gallo et al., 2010). In this paper we analyse the need for teaching animal welfare and methodologies to improve the learning process considering the current ethical concerns of veterinary students.

Why and how to teach animal welfare in Veterinary Schools

The need for animal welfare courses in veterinary education is clear and was stated in the last OIE Global Conferences on Veterinary Education since education is crucial for the improvement of animal welfare, especially in developing countries (Huertas et al., 2014) according to global organisations such as OIE and FAO (FAO, 2008). Nevertheless, we could point out four main reasons why an animal welfare course should be taught: change of attitude from people/Veterinary student to animals, ethical concerns about sentient beings, new knowledge, and new legislations for animal protection.

Recently, veterinary students have been markedly influenced by animal rights movements and indicate strong resistance to the use of animals in any sense. Their views, in some way, are supported by a long tradition of inadequate practices exploiting animals, and the lack of knowledge that there are opportunities for improvement by implementing science-based good animal welfare practices. Consequently, there is also an increasing ethical concern using animals in teaching, research and farming. The Three Rs (3Rs) concept: **replacement** (i.e. methods which avoid or replace the use of animals in research), **reduction** (i.e. use of methods that enable researchers to obtain comparable levels of information from fewer animals, or to obtain more information from the same number of animals) and **refinement** (i.e. use of methods that alleviate or minimise potential pain, suffering or distress, and enhance animal welfare for the animals used), in relation to science are guiding principles for more ethical use of animals in testing. These principles are not new, however recently professors and researchers have become more aware of them. Additionally, traditional animal use resulting in harm or death has been replaced now by many non-harmful alternatives, including computer simulations, high quality videos, "ethically-sourced cadavers" such as from animals euthanised for medical reasons, preserved specimens, models and surgical simulators, non-invasive self-experimentation, and supervised clinical experiences (see figure 1 and 2) with excellent results in the learning process (Knight, 2007). We acknowledge that, however, besides improving the learning process, the main advantage of using non-harmful alternatives to animals is the coherence between animal welfare in theory and practice, which make sense to students.

Also, Guatteo et al. (2012) have proposed another ethical concepts “Three Ss approach” regarding painful farming practices: **Suppress, Substitute, Soothe; Suppress** any source of pain that brings no obvious advantage to the animals or the producers, as well as sources of pain for which potential benefits are largely exceeded by the negative effects; **Substitute** a technique causing pain by another less-painful method and in situations where pain is known to be present, systemic or local pharmacological treatments should be used to **Soothe** pain.

Regarding new knowledge that has to be updated, some examples are physiological indicators to assess stress response and emotional state such as heart rate variability, acute phase protein and oxytocin and protocols to assess welfare at group level (i.e. Welfare Quality®). Animals are also protected by law in many countries. Finally, new legislation drives the need of knowledge of animal welfare to apply the law in a better way.

The core topics that may be included in animal welfare courses have been widely discussed and include animal behaviour, physiology of stress and pain, evaluation of animal welfare, ethics related with the use of non-human animals and notions of common dilemmas arising from the use of animals for human benefits including intensive animal farming and biomedical research. Lecturers can find guides for implementing their syllabus using resources such as “Concepts in Animal Welfare” (de Boo & Knight, 2005).

Nevertheless teaching animal welfare has several difficulties. First of all the multidisciplinary nature of this subject; therefore a broad group of lectures is needed with expertise on areas as diverse as ethology, physiology, ethics, animal production, economy, to name a few. This point implies a coordinated effort from the Directors of Veterinary School, thus Directors play a key role promoting a transversal education on animal welfare. In addition, the lecturers of related subjects must be aware of the contents and with updated knowledge on topics regarding the ability of animals to suffer. This is probably an area where the level of knowledge among veterinary professors varies considerably and they may need better education themselves.

Another relevant challenge is to define and assess competencies including those for animal welfare topics. Practical teaching tools should be widely applied, such as field activities, video-analysis, role playing, preparing essays and ethical debates. Such tools should have clear guide and have scientific data to support their use. The development of the called “soft abilities” are relevant in this lecture such as communicational skills, since students will have to deal with stockmen and farmers that use traditional practices and students have to be able to change their attitudes and behaviours. Finally, animal welfare lectures should also encourage critical thinking regarding the current methods of animal use and decision-making exercises considering animal welfare implications.

Conclusions

To teach animal welfare for Veterinary students is a need for updating knowledge, enhancing ethical argument regarding animal use and helping to understand and apply animal protection laws to general public.

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Figure 1. Model of dairy cow to train dairy cow clinical exploration. Photo Universidad Mayor



Figure 2. Equine model for clinical exploration. Photo Universidad Mayor.