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Ethical and scientific considerations when making decisions to euthanise companion animals

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Abstract

Euthanasia is a highly controversial issue in human society. In the field of veterinary medicine, there are guidelines that are intended to assist with the decision-making around euthanasia and reduce the possible ethical and moral conflicts involved with these situations. In this review, we have collected the existing information that allows veterinarians to better understand the factors surrounding the practice of euthanasia. Specific literature on topics such as the pathophysiology of pain in animals, clinical situations that could lead to a decision to euthanise an animal, possible ethical and moral conflicts, the management of emotions by animal tutors, etc. This article provides a general and practical overview of this potentially complex issue for the benefit of students, veterinarians, and the general public from both an ethical and medical point of view, and covers the fundamental concepts and notions that can facilitate decision-making concerning the euthanasia of animals. Ethical practices in veterinary medicine and the correct application of animal welfare principals are central to making such decisions responsibly.

Key words: *euthanasia; companion animals; one health; animal welfare; minimal damage; justice*

Introduction

Close relationships have existed between humans and pet animals (hereafter: companion animals) for countless years. Among the theories espoused for the existence of these bonds are biophilia, attachment and social support (Díaz-Videla, 2020). Some people think of their companion animals as if they were children, thus identifying them as members of a multispecies family. In

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addition, dog owners (hereinafter: tutors) often do not regard themselves as owners but instead as mothers or fathers (Huang-Hickrod and Schmitt, 1982; Stephens and Hill, 1996; Cohen, 2002; Greenebaum, 2004). Some controversy has always been associated with the recognised ability of animals to communicate with people, though there is robust evidence that dogs can do so due to their evolutionary history and the domestication of this species. There is concrete evidence that dogs can understand human emotions, gestures and actions, and of how these animals have formed a part of human culture (Benz-Sw et al., 2020; Strakova et al., 2020). As in all social relationships, there may be a preference of the companion animal for one of the family members, which is generally the person who spends more time with it outdoors (Carlone et al., 2019). These relationships also involve decision-making about the health and wellbeing of the animal, e.g., keeping it alive due to the importance of the friendship with its tutor, notwithstanding the occurrence of ailments and illnesses, versus ending that suffering through euthanasia. These situations always place tutors and veterinarians in a series of personal, professional, moral and ethical conflicts (Cabrejo, 2016).

The application of euthanasia in animal patients with intolerable and incurable suffering, understood as the act of inducing a calm and easy death without stress or pain, requires the use of well-constructed medical criteria (Vanda-Cantón, 2003). It is ultimately a task to be performed by a veterinarian, but is not a decision that is made unilaterally. The views of the tutors, as providers of care and affection, should also be taken into account, as they have good knowledge of the companion animal's temperament (Sivula and

Suckow, 2018). The veterinarian has a responsibility to provide all relevant information to the tutor to enable joint decision-making and this must be done in a clear, honest, and well-argued manner with no pressure by the veterinarian, and that generates emotional support. In effect, these deliberations should be made in a way that fosters trust and peace of mind so that the best decision is being made at such a painful and confusing time for the people involved. Unfortunately, there is little training for the professionals involved in animal care to communicate bad news and provide support to the tutor (Henao-Villegas, 2017; Nickels and Feeley, 2017).

The concept of animal welfare

Donald Broom (2011), considered by some to be the father of animal welfare, defines this concept as "the ability of the animal to adapt to the environment, regardless of the fact that sometimes this environment does not meet the optimal conditions for development and survival of that individual". The World Organization for Animal Health (OIE) defines it as "the physical and mental state of an animal in relation to the conditions in which it lives and dies" and considers the possibilities that the animal has to be healthy, comfortable, well fed, safe, and not suffering pain, fear or anguish, among other freedoms (OIE, 2019). As a result of zootechnical practices with animals destined for human consumption, a particular interest in the subject of animal welfare began in Europe and has since spread worldwide promoting the compassionate treatment of animals and the recognition of their status as sentient beings. It is important clarify that animal welfare to is considered a science that is in a state of

permanent evolution (Kleinfeldt, 2017; Crespo-Santiago, 2019). Hence, there is a certain degree of ignorance or apathy in relation to properly applying the five domains it postulates (Pettorali, 2016).

To provide for the needs of any animal species, guidelines for care will include death at the right time. For this reason, a method must be used that minimises suffering that may be caused in cases where euthanasia is required (OIE, 2019). The principle of animal freedoms promulgated by the OIE has some critics who find it too generic and difficult to guarantee. An example of this is freeing the animal from fear and anguish at the time of death (Solano and Rivadeneira, 2015; Mellor, 2016; Pettorali, 2016). It was for this reason that a paradigm shift was proposed so that freedoms would be replaced by domains, with actions that foster animal welfare and could be easily understood by non-expert personnel. In this way, instead of freedom from pain and illness or freedom from fear and anguish, "prevention" or "rapid diagnosis and treatment" have been proposed, ensuring conditions that avoid the mental suffering of the animal (Mellor, 2016). Mellor (2017) proposes to apply a model of five domains: nutrition, environment, health, behaviour and mental state, with a significant focus on subjective experiences known as effects, which contribute to an animal's overall wellbeing. On the other hand, universities in Australia and New Zealand have developed an online portal called the One Welfare Portal, where information on key topics in animal welfare and ethics, and their interaction with human and environmental welfare, can be accessed (McGreevy et al., 2020).

Respecting an animal means being informed about its needs and desires with regard to nutrition, exercise, health care, and socialisation. The humananimal relationship comes with clear relationships in terms of power and responsibilities on the part of whoever exercises that power (Stephens and Hill, 1996; Benz-Sw et al., 2020). It is necessary to protect animals from manmade dangers (such as traffic accidents, for example) and to have the generosity of spirit not to adopt an animal if its needs cannot be met. Some situations such as the restriction on tenants with companion animals or legislation around the possession of dogs trained in attack or fighting, among other reasons, have triggered the abandonment of animals, which is becoming a particular problem in the United States (Stephens and Hill, 1996; O'Reilly-Jones, 2019). Domestic violence against animals is also an issue and veterinarians play an important role in preventing this (particularly as educators of care and respect for vulnerable non-humans). Moreover, although this role has only been considered in the past two decades, it is not yet widely accepted (Monsalve et al., 2017). One of the orientations of "One Welfare" points to the worldwide of crime and violence, reduction particularly against the vulnerable (children, women and the elderly). In this regard, animal and human abuse sometimes occur simultaneously (García-Pinillos et al., 2015; Herbert-Garrido, 2020). Indeed, animals are often good indicators of human health or abuse. There is evidence showing that people who mistreat animals generally also abuse or mistreat human beings. Identifying episodes of animal abuse inflicted by children and adolescents is vital to prevent future antisocial behaviours (García Pinillos et al., 2015; Longobardi and Badenes-Ribera, 2019).

The assessment of pain in animals

Pain, as well as other sensations, is a natural mechanism of survival or manifestation of animal needs. The underlying mechanisms are mediated through the nervous system and their recognition by the veterinarian allows these needs to be met and the wellbeing of the companion animal to be ensured (Chible, 2016). All personnel involved in animal euthanasia must be trained to identify manifestations of pain or animal suffering and also be trained in observing the physiological responses of vertebrate animals (Crespo-Corcoles et al., 2011). A painful response begins with the activation of the nociceptive system that receives the stimulus and is translated in different ways such as: vocalisation, pheromone release, panting, salivation, pedalling, tachycardia, perspiration, and sometimes muscle spasms or paralysis (Muñoz et al., 2011). Nociception corresponds to a neuronal process through which potentially damaging events for tissues are encoded and processed, provoking protective motor and vegetative responses. Pain has several levels, the first is nociception, the second is pain as such, which generates memory to avoid future adverse situations, and the third is a cognitive-evaluative mechanism to assess the damage and decide on the subsequent behaviours (Vanda-Canton et al., 2020).

Pain scales designed for assessments in humans have been adapted for veterinary use, and most are used to determine postoperative pain. The evaluation of pain in animals is subjective and complex and the veterinarian must be able to recognise it early to establish effective treatment (Noreña-Tobón, 2018; Parra, 2019). Scales to classify pain are very useful and can be unidimensional or multidimensional. The first of these were simple in design and were based on visual examinations. The second group of scales are more complex and evaluate different aspects that an animal with pain can express (Clark et al., 2002; Daeninck et al., 2016). Only the most used in the clinic are mentioned in this review and are described below.

- a) Canine Glasgow Scale: Measures acute post-operative pain and is the best validated assessment tool in dogs because of the consistency of the results among different operators. The test includes an assessment of posture, comfort, vocalisation, attention to the wound, response to the presence of people, mobility and response to touch (Hellyer et al., 2013). There is a widely used short form of this tool which uses a multimodal behaviour-based scale and is intended only for dogs with acute pain (Murrell et al., 2008).
- b) Canine Melbourne Scale: This is a multimodal tool that assesses postoperative pain in dogs through behavioural analysis and also incorporates physiological data such as heart rate, respiratory rate, pupil size and temperature (Firth and Haldane, 1999).
- c) Feline Glasgow Scale: This is a multimodal tool for evaluating acute pain in cats and uses psychometric principles and a three-point facial scale to refine the understanding of the tool, which in previous tests worked well for classifying pain in cats (Reid et al., 2017).
- d) Feline Botucatu Scale: This tool was at Sao Paulo State University (Brazil). It is a reliable method and can sensitively assess postoperative pain in cats with oophorosalpingohysterectomy. It relates behavioural observations to reliable clinical pain measurement parameters (Brondani et al., 2011).

e) Feline Colorado Scale: Although there is no 'gold standard' system for pain assessment in cats, this scale is the easiest to use. It begins with an observation of the animal in a cage, followed by an assessment of its response gentle palpation of a wound or painful region. Among the advantages of this method is the provision of specific descriptors for individual behaviours, thereby reducing variability between observers (Maddison and Murrell, 2015).

In the context of pain assessment and management in animals, it is imperative to consider the basic principles of bioethics, specifically those related to minimum harm, and the principle of justice. Regarding the former, the ancient expression attributed to Hippocrates, primun non nocere, i.e., " first do no harm", is a reminder that any intervention can cause considerable and avoidable damage. In other words, the safety of the patient comes first, and doctors must be committed to this (Aliaga-Gutiérrez, 2019). The latter is related to the basic aim of protecting the weak and vulnerable from harm, with the understanding that animals have the right to lead a prosperous life and humans should help to foster this (Haynes, 2016).

Definition of euthanasia

The term euthanasia comes from the Greek "eu" (good) and "thanatos" (death) *i.e.*, meaning "good death" or "death without pain". It refers to the fact that death must occur in a humane way, minimising fear, anguish, anxiety and stress. In addition, it must be quick, easy, safe and calm in order to instil confidence in the animal and its tutor (Heiblum and Tejeda, 2007). Avoiding pain and distress requires the use of techniques that cause immediate loss of consciousness followed by cardiac and respiratory arrest, resulting in loss of brain function and death (Cooney, 2020). The veterinarian must exercise his right to conscientious objection and thus not practice euthanasia in cases where a tutor or any person wants to justify the death of the animal for reasons other than a terminal and painful illness (Henao-Villegas, 2017).

Factors associated with euthanasia

One of the potentially most difficult and challenging situations that a tutor can face is making the decision to euthanise an animal, due to the possible uncertainty around therapeutic cruelty and suffering versus the possibility of achieving a moderately comfortable life through palliative care. The evaluation criteria for a good quality of life are also perceived differently for each species of animal, for each tutor, and for each veterinarian. Hence, frequent and effective communication between tutors and veterinarians is vital to ensuring fewer disagreements about when euthanasia should occur (Hetts and Lagoni, 1990). Dealing with the emotional bond that the tutor has with a companion animal is one of the main problems that the veterinarian faces and at no time should the tutor be coerced into granting a permit that could later cause a conflict (Crespo-Corcoles et al., 2011). The death of these beloved animals can often result in great sadness and pain that is comparable to the loss of a child, spouse, or a close friend. Whenever possible, some relief is provided through farewell rituals and affectionately accompanying the animal until the last moment (Stephens and Hill, 1996). It must be remembered however that the decision to perform euthanasia rests with the veterinarian. The tutor has the responsibility to provide his consent to proceed and will be the one who lives with this decision (Crespo-Corcoles et al., 2011).

Criteria for euthanasia

There is always a degree of difficulty when deciding to euthanise an animal. Some cases appear to be so serious that euthanasia emerges quickly as the only viable intervention. However, there can sometimes be options for therapeutic resolution even in these cases. By contrast, some cases that appear not to be so medically serious can sometimes satisfy the criteria for the consideration of euthanasia (Leary et al., 2020). The diseases in such instances can include metastatic malignant neoplasms, cardiovascular disease, urogenital or digestive disorders without possible resolution, reduced mobility without the possibility of improving with mechanical prosthetic supports (such as wheelchairs), and other situations in which, although they have been described as causes of death, it is necessary to determine that there is no other viable solution to ensure the animal's wellbeing. These other situations can include urinary and faecal incontinence, confusion, sleep disturbance, weakness, weight loss, anxiety and anorexia (Marchitelli et al., 2020). Generally, a combination of factors leads to the decision to euthanise. Malignant neoplasms with a poor prognosis and an advanced clinical status are a good example of a situation where there can be certainty that euthanasia is the most appropriate intervention to avoid prolonged suffering of the animal (as long as there is diagnostic support from histopathology, imaging and appropriate paraclinical tests). In cases that could undergo palliative treatment, the prognosis must be clearly established and informed consent given, so that the tutor can understand which option is most appropriate for the wellbeing of the animal (Leary et al., 2020). Nonmedical conditions such as the financial capacity of the tutor may also be related to this decision. One study has found that people with low incomes are more likely to opt for prompt euthanasia by their veterinarian, while people with higher incomes more frequently considered prolonging the life of their companion animal through palliative care (Shibly et al., 2014; Spitznagel et al., 2020).

Evaluation of euthanasia methods according to their effect

There are various methods of administering euthanasia, some more accepted than others. According to the clinical situation, the veterinary surgeon must have timely and sufficient support, under the premise of respecting the quality of life of the animal and avoiding its suffering as much as possible. At the time of choosing the method, aspects such as ease of handling the animal and avoiding stressful situations should be considered, as well as providing safety for the animal and all of the people involved in the procedure (Cabrejo, 2016; Leary et. al., 2020). The veterinarian must provide a professional service, informing the tutor of the different options and recommending the method that he considers most appropriate for euthanasia. Throughout this process, the doctor must be supported by the tutor through informed consent, to make the best decision together.

The method must be painless, fast, easy to administer, economical, effective and must not interfere with the most common

Table 1. Euthanasic agents

Advantage	Disadvantage
(RM) Pentobarbital 20%	
Does not cause pain, generates a quick death. Does not require pre-euthanasia drugs	Difficulty for peripheral cannulation due to the poor condition of the animal. Dog bite risk for technician.
(AM) Pentobarbitone solution 20%	
Useful in animals with difficulty for peripheral cannulation. No dog bite risk for technician. Painless treatment.	Requires application precision. Long latency period. Require pre-euthanasia drugs unless animal is unconscious.
(AM) Thiopental – Propofol	
Painless treatment. Rapid unconsciousness. Does not require pre-euthanasia drugs.	Large amounts are required. The drug has high price. Can only be used intravenously (IV).
(AM) Pentobarbital 20% (intracardiac)	
It is a fast-acting drug.	Requires application precision. Requires pre-euthanasia drugs because only used on unconscious animals
(CM) Potassium chloride (post general anaesthesia)	
It is an easily available drug. It is not toxic to scavengers.	Rippling of muscle and colonic spasms after application. Require pre-euthanasia drugs
(CM) Magnesium sulphate (post general anaesthesia).	
It is an easily available drug. It is not toxic to scavengers.	Muscle spasms, vocalisation, seizures. Require pre-euthanasia drugs
(CM) Sevoflurane-Isoflurane (can require secondary methods)	
Useful in small animals (rodents) or with difficulty for peripheral cannulation. Easy to adapt an anaesthesia chamber.	May be irritating to some animal species. Can be flammable (review the method of carcass disposal).

(RM) Recommended method, (AM) Acceptable method, (CM) Conditioned method. From: Leary et. al., 2020 AVMA Guidelines for the Euthanasia of Animals: 2020 Edition.

post-mortem tests. Known euthanasia methods are listed in Table 1 along with their current classifications as acceptable, conditionally acceptable or unacceptable (Allende, 2017; Sivula and Suckow, 2018).

Pharmacological methods

Before proceeding to euthanise an animal, it is recommended to have an intravenous line available that allows patient control in the event of an adverse reaction

to a drug and prior sedation that avoids stressful events for the animal (Robertson, 2020). There are many known methods of euthanasia, but not all provide sufficient elements that will avoid pain or suffering. Table 1 summarises the commonly used medications. Some cannot be used acceptably without prior general anaesthesia because they generate pain and cardiac arrest in a conscious animal. Example of this include potassium chloride (KCl) or magnesium sulfate (MgSO4), which are administered intravenously (Leary et al., 2020). Among the most used pre-euthanasia medications is acepromazine. An oral or buccal transmucosal administration is recommended for this agent, i.e., it should not be swallowed but spread slowly or in small amounts. Its bioavailability by the oral route is low. Gabapentin (antiepileptic) is used orally in cats to reduce stress and anxiety prior to euthanasia. Its smell and taste are not strong and it is easy to ingest. Melatonin has very good results as a calming agent in dogs and pentobarbital powder accelerates the onset of sedation and anaesthesia (Robertson, 2020).

Methods of enhancing the euthanasia experience

Because euthanasia is a very sad event, it is recommended to create or transform the spaces in which it will be carried out by using soft lighting, relaxing music and even adding pheromone diffusers for dogs and cats. Some recommendations involve having a different area where the tutor waits while the instruments, the animal and the space are being prepared, and then allowing the tutor to enter the procedure room. Complying with all the recommendations described, the presence of the tutor at these events is beneficial for a more com-

passionate closure. It reduces the suffering of the animal which could otherwise feel abandoned by allowing the tutor to accompany it until the last moment as a sign of gratitude for the time they have shared (Young-Mee et al., 2010; Cooney, 2020; Shearer, 2020). Once the animal has died, it is very carefully examined. An animal under deep anaesthesia or one that is seriously ill may appear dead upon superficial examination due to a visible lack of breathing or movement and this is not enough therefore to declare death. The lack of reflexes (spinal, glossopharyngeal and consensual among others) should be clinically verified, with the help of precise tools, in addition to the absence of respiratory and cardiac sounds for several minutes. In cases of doubt, a state of rigor mortis can be expected (Hendrick et al., 1990; Martínez-Roldan et al., 2015). It is important to be certain of the death of the animal before handing it over to his family, preventing it from showing secretions through natural orifices, salivation or muscle reflexes (myoclonus) since these quite normal post-mortem events could confuse untrained personnel (including the family) about the possibility that the animal is still alive or has suffered during the euthanasia procedure. The movements may be involuntary or may occur after moving the cadaver by mechanical extension of the spinal roots or direct compression of the spinal cord. Although the pathophysiological mechanism for their presentation is not completely clear, it is known that they are responses originating in the spinal cord (Martínez-Roldan et al., 2015). It has also been proposed that neuronal interconnections, "central generators" of the spinal cord, could be involved in the generation of involuntary movements (mainly described in brain-dead humans), however, there are no well-documented studies that demonstrate these phenomena (Saposnik et al., 2009; Leary et al., 2020; Shearer, 2020).

Another controversial aspect of euthanasia in animals lies in the disposition of the corpse as many tutors will relate their religious beliefs to the death of their companion animals, even thinking about their life after death. A study carried out in the United Kingdom of the epitaphs and the designs of animal tombstones since the 19th century has revealed the direct expression of some of these beliefs. Some animal clinics even provide a chaplain service for spiritual help during the grieving process (Cooney, 2020; Touringny, 2020). More recently, the cremation of animal corpses has become popular and a service is even provided for the tutors through a family funeral plan. In Western cultures, there are still diverse perceptions regarding the meaning of death. In Latin American countries, strong Judeo-Christian influences have led to acceptance of this concept as something distant from one's own understanding and thus when facing the loss of someone close, it is difficult to understand it as a process that is part of life itself (Caycedo-Bustos, 2007; Bonilla, 2015). In this sense, human-animal studies should focus on humans as animals (biologically speaking) and their relationship with other species, taking into account that originally in human-animal interactions, animals were seen as providers of resources, emotions and protection (Díaz-Videla et al., 2015). In contrast to the feelings of some tutors who strive to give a proper farewell to their companion animal, there are others who dispose of corpses in an inappropriate manner, making it necessary to establish a legal framework that punishes this type of act. Under no circumstances should euthanized animal corpses be abandoned to the environment. In addition to the bioethical and legal reasons against this, the barbiturates used for euthanasia would be highly toxic to any wildlife that might feed on these corpses (Heiblum and Tejada, 2007; Leary et al., 2020).

Management of abandoned or free-roaming dogs

The abandonment of companion animals is a worldwide problem and even occurs in developed countries such as France, where high rates of abandonment are reported, especially in the summer, possibly because the laws against animal cruelty and abandonment are not enforced (Bockman, 2020). In this same context, a study carried out in Fortaleza (Brazil) determined that the large presence of stray animals is due to both abandonment and the low number of sterilised animals (De Faria et al., 2013). In these cases, the bioethical principles of minimum harm and justice are lacking and the animals often end up in shelters where overcrowding and the consequent spread of infectious diseases (including the risk of zoonoses) often occur. These circumstances will ultimately precipitate the difficult decision to euthanise some of them. In several countries, controlling the overpopulation of stray animals (mass killing) can be carried out using lethal methods such as the application of chemical agents, such as sodium pentobarbital. This differs from the application of euthanasia to help animals with terminal illnesses that cause unbearable pain. The effective solution to the problem of street dogs and cats are education programmes to prevent the abandonment of animals together with sterilisation programs, the scope of which will be observed in the long term (Valencia, 2012). Mass killing is included in article 7.6.1 of the OIE Terrestrial Animal Health Code (OIE 2021, Kachani et al., 2014).

The experience of euthanasia in veterinary hospitals

The ways in which euthanasia procedures are carried out in a veterinary hospital depend significantly on the policies of that establishment, making it imperative to harmonise them with appropriate ethical practices. Formerly, this was done using models that were relatively distant from current animal welfare policies but the global rise of "One Welfare" has changed this trend (Cooney, 2020; McGreevy et al., 2020). A veterinary hospital will use its technical experience and carefully assess all of the medical evidence on the possibility of curing the animal before the taking the decision to euthanise. The human capacity to prolong life has created an urgency to reflect on the need to do this for animals. Interest in palliative care for companion animals is on the rise but there is still little research in these areas (Goldberg, 2016). A shelter or asylum (hospice) intended to provide palliative care to terminally ill animals will focus on minimising suffering during illness, and providing as much comfort and quality of life as possible (Shanan and Shearer 2017; Carter, 2020). Most tutors are now aware of the different forms of palliative care, with euthanasia being the last option. Medical alternatives such as pain management, infection control, and delaying the progression of malignancy will now typically be considered first (Cooney, 2020). In addition, some university hospitals already have significant experiences providing thanatology and social work services to bereaved tutors. For example, the Hospitals of the Universities of Pennsylvania, Tufts, Michigan, Florida and California Davis, among others, have established direct support lines to provide such services (Stephens and Hill, 1996).

On site euthanasia

For a companion animal, a good death includes having the experience of safety during the last moments of its life, supported by its tutor, which is followed by a painless death moment. Home euthanasia has been practiced for many years as past veterinary care was commonly done on farms or at the home of the tutor. The animal can thereby be kept safe and calm in its family environment with other animals and/ or with tutors (Schuurman, 2016; Cooney, 2020). Currently, veterinarians are more sensitive to the care required at the end of an animal's life and a growing number of these professionals have in fact focused their practice on this type of medicine, creating networks of auxiliaries such as physiotherapists, acupuncturists, nutritionists, and social workers. Hospice and palliative care could, in the coming years, become a recognised and certified veterinary specialty (Heuberger and Pierce, 2017).

The importance of overcoming the stresses involved with practicing animal euthanasia

Many factors combine to create challenges for veterinary medicine, including work-related emotional stress that contributes to a lower quality of life, poor health, and a high rate of suicide among veterinarians (Smeets, 2010; Shibly et al., 2014). The decision to compassionately euthanise an animal is one of the most stressful activities for these practitioners and it is therefore very important that universities include a bioethical approach to these issues. Some teaching centres still do not provide any training of this nature to veterinary students, but universities in the United Kingdom and the United States are now the leaders of educational processes that teach future veterinarians how to face this type of ethical dilemma (Dickinson, 2017; Littlewood et. al., 2021). There are many reasons why healthcare professionals may have suicidal thoughts, but it is not clear why veterinarians would be more likely to be affected. It could be related to poor mental health, aggravated by risk factors such as access to lethal drugs and a culture of acceptance of euthanasia and death (Bee, 2010; Stark and Dougall, 2012; Perret et al., 2020). The emotional impact caused by these phenomena should not be underestimated and is known in psychological science as "compassion fatigue" defined as a phenomenon in which people are traumatised through the process of helping others. This is closely related to burnout and secondary traumatic stress and has both emotional and behavioural consequences (Levitt and Gezinski, 2020). A study in Canada indicated that the mental health of veterinarians was poor compared to the general population, suggesting the need to implement educational programmes aimed at supporting the mental well-being of these professionals (Perret et al., 2020). The English portal "Institute of Animal Technology" recommends several actions to improve the mental health of people involved with the process of euthanising animals in their care in order to let them know that they are not alone and that they will be given all the necessary support in difficult times (IAT, 2015). In summary, a better understanding of the entire euthanasia process is essential to safeguard the mental well-being of veterinarians and others involved in this procedure (Hutton, 2019). Likewise, strategies to support and improve practices related to euthanasia (psychological and thanatological support) are important to strengthen the capacity of the veterinarian, allowing them to provide care in difficult times without being affected in the process.

Final considerations

There is an evolutionary history over thousands of years that relates human beings to domestic animals, in which there are shared main events associated with the migration of people across the world. Companion animals have undoubtedly become members of a multispecies family and any event related to their health is cause for concern to their tutors. There is a global movement for the protection and care of animals that is becoming stronger through platforms such as "One Welfare". In this context, talking about euthanasia becomes one of the main ethical and moral challenges for veterinarians, added to incomplete training on this subject in educational centres. It is vital that university courses discuss the ethical, legal and sociocultural aspects of the way veterinary surgeons relate to the animals in their care and to the decisions made around them, always from the perspective of non-maleficence and justice. It is clear that the decision to euthanise must follow medical parameters and be applied only in very specific and extreme cases. Pre-euthanasia medications should always be used and, depending on the method used, sometimes general anaesthesia. The negative consequences of the veterinarian's decision to euthanise should also not be underestimated. The mental health of these professionals must be supported by psychologists and thanatologists. In the same way, there must be support for tutor from the moment that the decision to euthanise is made, which is also essential for the wellbeing of all those involved in this process.

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Etička i znanstvena razmatranja kod donošenja odluka o eutanaziji kućnih ljubimaca

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Eutanazija je izuzetno kompleksno i odgovorno pitanje i u ljudskom i u životinjskom svijetu. Na području veterinarstva postavljene su smjernice čiji je cilj pomoći u donošenja odluke o eutanaziji i smanjenju moguće moralne dvojbe u donošenju odluke o izvršiti ili ne izvršiti euatanaziju. U ovom članku, prikupili smo valjana rješenja koja pomažu veterinaru bolje razumjeti okolnosti u donošenju odluke o eutanaziji životinje. Posebna literatura o temama poput patofiziologije boli kod životinja, kliničkih situacija koje pomažu u donošenju odluke o eutanaziji životinje, mogućih moralnih dvojbi i dogovora s vlasnikom životinje. Ovaj članak pruža opći i praktični pregled ovog trajno dvojbenog pitanja koje će koristiti studentima, veterinarima i javnosti s moralnog, kao i medicinskog rješenja i pokriva osnovne ideje i pojmove koji mogu olakšati donošenje odluke u svezi eutanazije životinje. Moralne prakse u veterinarstvu i ispravna primjena principa dobrobiti životinje ključne su za odgovorno donošenje odluke.

Ključne riječi: eutanazija, kućni ljubimci, jedno zdravlje, dobrobit životinja, minimalna šteta, pravda