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49. Challenges of future vets – the impact of the killing of animals during education on veterinary students' wellbeing

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Abstract

End-of-animal life (EOL) situations are a common phenomenon in veterinary practice. These EOL situations can lead to distress for the veterinarian when an ethical dilemma or conflict arises. This distress can have an impact on the personal and professional well-being of veterinary professionals. Such distress may already be present when veterinary students gain their first experience with ending an animal's life in an educational setting. To study this claim, we set up an explorative study focussing on: (1) how veterinary students experience the ending of an animal's life during an obligatory course; and (2) the impact of their experience on their wellbeing. Qualitative data were gathered via semi-structured interviews with twelve students. Template analysis was used to determine themes within the interview transcripts. The data reveal that students' previous experiences with EOL situations were predominantly influenced by the student's perspective on the motive of the owner, the bond with the animal, and the procedure. Students shared that their experience with ending an animal's life during the course was mainly influenced by the health status of the animal, the bond with the animal, the procedure, and the learning environment. We observed that depending on the dynamic of these aspects a positive or negative impact on the well-being of the student is noticed during or shortly after the course. Based on this study we have more knowledge on what factors affect a student's experience with an EOL situation and how this can affect the student's well-being. These insights can be of added value in developing or evaluating veterinary education on EOL situations.

Keywords: veterinary ethics, end-of-animal life, moral distress

Introduction

Veterinarians face end-of-animal life (EOL) situations frequently. Both the decision-making process and the act of ending animals' life, may come with (ethical) questions. One can think of questions such as how to deal with the conflicting interests of the animal and the animal owner. In some cases, these questions result in an ethical conflict or dilemma for the veterinarian. Previous research shows that facing EOL-related ethical issues is stressful for veterinary professionals and has negative implications for the personal and professional well-being of the veterinarian (Batchelor and McKeegan, 2012). Veterinary students encounter EOL situations as well. An important difference with practitioners is that students are part of a formalized curriculum and learn under supervision. As such, the formal responsibility is assigned to the supervisor. Still, moral distress can be present in veterinary students who are confronted with the ending of animal lives. Herzog *et al.* (1989) showed that veterinary students' reaction to euthanasia of animals varies. Where some students claimed that they could cope with their emotions when euthanising an animal, others were struggling with it. Students indicated that the context in which euthanasia was performed influenced their moral evaluation. Ending the life of an unwanted healthy animal was unethical in the students' perspectives, whereas killing an incurably ill animal was seen as humane. Morris (2012) showed that euthanasia was identified as presenting some of the most challenging

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aspects of the internship by most veterinary students. Regarding ethical decision-making, signs of stress such as feelings of guilt and frustration were reported. Although moral distress is present in veterinary students, it remains unclear what aspects underly this moral distress in an educational setting. We, therefore, set up an explorative qualitative study focussing on: (1) how veterinary students experience the EOL during an obligatory course; and (2) the impact of their experience on their wellbeing.

Materials and methods

Study design

A study was performed, over two months (summer 2021) in which master's students in veterinary medicine were experiencing an EOL situation as part of an obligatory course in the Master's program of the Faculty of Veterinary Medicine of Utrecht University. For reasons of feasibility, only students with a specialization in the healthcare of companion animals were included. The study comprised of a questionnaire and a semi-structured interview in the week before the course (*intake interview*) and a semi-structured interview in the week after the course (*post-interview*), i.e. each student was interviewed twice.

EOL situation

During the obligatory course, students learn to relate pathophysiological processes in mammals to the course of clinical signs and gross findings at post-mortem examination. For this purpose, diseased weaner piglets from a field farm are purchased and brought to the University. Clinical signs are followed up for four days and, on day four, the students end the life of the piglet under the teacher's supervision. Piglets are treated in case of pain or to ensure survival to day four. Pigs may be euthanised before day four, in case the predefined humane endpoints (HEP) are reached and survival is no longer contributing to the learning objectives. As each student is directly involved in the ending of an animal's life in this course, it is possible to interview students about their personal experiences in a standardized educational setting. The course design and the related impact on animal welfare have been ethically evaluated and approved by the local Animal Review Board and – based on their advice, licensed by the Netherlands Central Authority for Scientific Procedures on Animals (CCD) (ref. number AVD1080020171006).

Recruitment process and study participants

Students were invited to participate in the current study four weeks before the actual course during an introductory lecture on the rotation program at the farm animal health unit. After an in-person presentation, each student received an e-mail invitation with an information letter about the study and an informed consent form. Participation was voluntary and written consent was provided by all participants before the interviews. We strived for saturation of the data by interviewing ten to fifteen students. In total twelve students participated.

Questionnaire and semi-structured interviews

Before the intake interview students received questionnaires via Qualtrics™ survey software (Version July 2021, Provo, UT, USA). The questionnaire focused on: (1) demographics including gender and birth year; and (2) multiple choices questions regarding previous experiences with EOL situations in their personal and professional lives. Shared information was used during the intake interview. Of the twenty-four interviews seven were held via video conferencing due to Covid-19 restrictions, and the remaining seventeen were held in person. Interview questions were not shared with the candidates. The interview guide of the *intake interview* focused on: (1) the students' previous experiences with euthanasia; (2) their

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opinions on the role(s) a veterinarian should take in EOL situations; and (3) and the impact students expected of ending the life of a sick animal on their well-being. The interview guide of the *post-interview* focused on: (1) the student's experience with ending the life of the piglet during the course; and (2) potential changes in their opinion on the role(s) a veterinarian should take in EOL situations. Before the start of the interview, the candidate's approval for recording the interview was asked. With the oral and written consent of the candidate, the interview started using open-ended questions. The interview approach was conversational.

Data analysis

Audio files were transcribed with Amberscript™ (Version August 2021, Amsterdam, The Netherlands). All transcripts were reviewed by the second author to ensure accuracy. Any information related to a specific person was replaced by a non-identifiable descriptor. Transcripts were explored for themes using template analysis in NVivo™ qualitative analysis software (Version Release 1.5.1, QSR International Pty Ltd. (2021)). In this form of thematic analysis, the use of hierarchical coding is emphasized but balances a highly structured process of analysing textual data with the flexibility to adjust to the needs of a study (Brooks *et al.,* 2015). A coding template for both the intake and the post-interview was developed to explore the transcripts. To define an initial coding template, open coding was used by the first author to create codes based on a subset of the transcripts. The created codes were revised and refined based on subsequent transcripts during an iterative reflective process between the authors. After this iterative reflective process, the finalized coding template was applied to the full data set. In the intake-interviews ten themes were identified. Seven themes were detected in the post-interviews. All quotes were translated and slightly edited for readability.

Results

Demographics

Of the twelve participating students, nine were female and three were male. All respondents were born in the late 1990s.

Intake interviews

Regarding the student's previous experiences, five themes were identified: (1) the motive of the owner; (2) bond with the animal; (3) procedure; (4) time; and (5) context of the euthanasia. The motive of the owner, bond with the animal, and the procedure appeared to be of main influence on the student's previous experiences and will therefore be discussed.

Students shared various previous EOL situations in which the motive of the owner to end or prolong an animal's life affected their experience. They referred to motives either as 'good' or 'acceptable' or as 'incomprehensible'. The health and welfare of the animal were of great importance to their perception. When the motive was 'incomprehensible' in the student's perception feelings of 'shock' and 'frustration' were reported. 'That was shocking when the dog's owners weren't willing to pay for surgery while a pyometra is easy to solve. That made me realise that these types of owners exist as well.'

A bond between an owner and their animal, or between the student and their animal, influenced the students' experience. A bond made their previous experiences 'more difficult'. Students described feelings of 'sadness' or 'empathic' towards owners. 'I found it difficult when the owners were crying hard. Then I couldn't always hold back my tears. You then see those owners immensely sad. I think that was the hardest part.'

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Students described the procedure mostly as 'smooth' or 'calm'. In case a procedure could not be performed *lege artis* or when animal signs such as gasping were present, students experienced this as 'unpleasant' or 'traumatizing'. The strong emotions of the owners made the situation even more difficult for the student. Some students linked their experiences to their own learning goals. 'When the vet needed to repeat the cervical dislocation, I thought: I must learn this properly so that I don't end up in a similar situation. It was awful to see.'

Regarding the student's expectations, we identified five themes: (1) health status; (2) bond with the animal; (3) procedure; (4) learning environment; and (5) support. Health status and support will be discussed as these themes were predominantly mentioned by the students.

Regarding the health status of the piglet, students expected that it would feel 'more difficult' to end the piglet's life when the piglet could be cured or would be healthy. 'I think, after that week if the piglet is still doing alright or responded to treatment, I will find it more difficult.'

Students described factors that could be supportive: (1) justification; (2) performance; and (3) mental processing. Several students mentioned that a *justification* to end the piglet's life could support them to perform the procedure, even if the piglet might not be terminally ill. On the one hand, students described the educational setting as a justification. On the other hand, some students referred to the fact that the piglet would have died anyway as it was kept for the production of animal products. 'I eat meat, so I would find myself very hypocrite when I would not dare to or be able to kill a piglet, while I can have them on my plate in the evening to eat for my pleasure.' For other students this argument felt 'inequitable': 'It makes it harder when people say: that piglet will die anyway, who cares I don't support animal production and thus find it more difficult to see the goal of killing a piglet now.'

Factors that would be helpful to the students concerning the *performance* were 'knowledge of the procedure' and 'guidance and supervision'. While 'support of peers' and 'support of the teacher' were named as beneficial factors to *mentally process* the procedure.

Post-interviews

Seven themes were identified in the post-interviews: (1) educational goal; (2) animal care; (3) bond with the animal; (4) health status; (5) procedure; (6) learning environment; and (7) emotional processing. The educational goal, bond with the animal, health status, procedure, and learning environment appeared of main influence and will therefore be discussed.

Monitoring an animal, determining the HEP, and relating clinical findings to the pathology were mentioned as relevant contributions to their education. Although ending a life in itself is not an educational goal of the course, some students mentioned that they considered this a step in their development as a veterinarian. Some students shared their doubts about the added value of ending the piglet's life, especially when there were limited signs of illness.

The health status appeared to have a major impact on the student's experience. On the one hand, students took care of piglets with what they defined as 'quite severe clinical signs' such as neurological problems. Most of these students felt like the HEP was reached by the 4th course day and expressed that they found that ending the piglet's life was justified. Part of these students experienced doubts about whether the HEP was not reached earlier that week. These doubts were erased after consultation with a teacher. Students that studied piglets with mild clinical signs described that the HEP was not reached by day 4, but that the HEP would eventually be reached shortly. Variety was seen in how students experienced this: 'In the end, there was no other option for this piglet so eventually, he would have suffered from it,

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now we saved him that suffering. At that moment it was not yet needed to euthanise him in my opinion. Maybe in a later stage, it would have been necessary but not yet at that time.'

Some piglets had very limited clinical signs. Most of the students indicated that not reaching the HEP affected their experience: 'If we found something of which the piglet would have been ill, I would have looked back on it differently. Now I tried to talk it right, as the current housing conditions were better than on the farm. So in that sense, the past days were at least better for the piglet...'

The bond with the animal was linked, by half of the students, to the impact of ending the piglet's life on the student self. Having a bond with the piglet made it or would have made it more difficult to end the piglet's life. Due to that, some students tried to avoid building a bond: 'I tried to avoid bonding with the piglet thinking that it then would be easier to euthanise him, or that it would be a lot more difficult if I would have a bond with him.'

Regarding the procedure, most of the students typified the process as 'calm' or 'smooth'. A minority of the students had a less pleasurable experience due to: (1) procedural adjustments such as puncturing a blood vessel repeatedly; (2) unpleasant animal signs such as gasping; or (3) perceived chaos and time pressure.

Students described that they found support within the group of students when emotions were at stake. The group dynamic formed part of the learning environment for them. Furthermore, students expressed positive feelings about the guidance of teachers. Mainly the discussions with teachers about the HEP and technical elaboration on the procedure contributed to a positive experience. A few students expressed that more attention to the mental aspects of ending an animal's life during the course could have improved their experience.

Having described the themes in detail, we observe that the various aspects of the experience of the students contributed differently to the well-being of the students. Consider the bond a student has with the animal. We observed that students who *did not* form a bond with their animal reported a more positive experience of the course. In contrast, students who *did* form a bond described a more negative experience of the course. For each of the aspects, we found such contrasts: depending on the dynamic within the aspect a positive or negative impact on the wellbeing of the student is observed during or shortly after the course.

Discussion and conclusions

The current study reveals that multiple factors contribute to how students experience an EOL situation in an educational setting. Depending on the dynamic of these aspects a positive or negative impact on the student's well-being is observed during or shortly after the course.

Regarding the decision to euthanize an animal, the data reveals that the motive of an owner and the health status of the animal greatly influence whether the decision to end the animal's life was experienced as justified or acceptable by the students. Previous research accordingly reported the relevance of the moral justification to end an animal's life in the experience of students. Herzog *et al.* (1989) for example reported that killing a healthy animal was viewed by students as unethical and often mentioned as an ethical dilemma. Termination of an animal's life for educational goals was on the contrary evaluated as morally justified. In line with these findings, part of the students in the current study mentioned that the educational goal was a justification to end animal life. The moral justification of ending an animal's life for educational goals could be an example of contextually justified euthanasia as described by Yeates (2010). Bonding with the animal appeared to complicate the student's experience with euthanasia. Part of the students, therefore, tried to avoid building a bond. This finding is in line with Morris (2012) who

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described that students actively tried to avoid attachment to the animal. Euthanizing an animal that a student did not know before made the experience less impactful for the student.

In the post-interview students indicate that the procedure is an important parameter in the evaluation of the act to end an animal's life. This became especially clear when the procedure needed to be adjusted or when unexpected signs such as gasping occurred. Matte *et al.* (2019) documented likewise that providing a 'good death' on a procedural level is of importance to the experience of the veterinarian and the veterinarian's well-being. An interesting observation is that students only mention the relevance of the procedure in the post-interviews. Potentially, students experienced that the procedure does not always go as desired and thus became more aware of the relevance of the procedure in how they experience euthanasia.

Based on this explorative study we have more knowledge on factors that affect how a student experiences an EOL situation and how this can affect the student's well-being. The results cannot be immediately translated to all veterinary students in all contexts because this study included only Dutch students with a specialization in the healthcare of companion animals. As a next step, it would be interesting to include students specializing in the healthcare of farm animals or equine health and compare the current results with their views. Also, studying the impact on students of other EOL situations in the curriculum would be of interest. Nonetheless, the current study aims to function as a building block in taking care of student welfare in developing and evaluating veterinary education in the context of end of life situations.

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References

Batchelor CE, McKeegan DE. Survey of the frequency and perceived stressfulness of ethical dilemmas encountered in UK veterinary practice. Vet Rec. 2012 Jan 7;170(1):19. https://doi.org/10.1136/vr.100262

Brooks J, McCluskey S, Turley E, King N. The Utility of Template Analysis in Qualitative Psychology Research. Qual Res Psychol. 2015 Apr 3;12(2):202-222. https://doi.org/10.1080/14780887.2014.955224

Herzog Jr, H.A., Vore, T.L. and New Jr, J.C. (1989). Conversations with veterinary students: Attitudes, ethics, and animals. Anthrozoös, 2(3), 181-188.

Matte A.R., Khosa D.K., Coe J.B., Meehan M.P. Impacts of the process and decision-making around companion animal euthanasia on veterinary wellbeing. Vet Rec. 2019 Oct 19;185(15):480. https://doi.org/10.1136/vr.105540

Morris, P. (2012). Blue juice: Euthanasia in veterinary medicine. Temple University Press, Philadelphia, USA, 230 pp.

Yeates, J. (2010), Ethical aspects of euthanasia of owned animals. In Practice, 32: 70-73. https://doi.org/10.1136/inp.c516