



Veterinarian's perceptions of animal euthanasia and the relation to their own mental health

Patrícia Soares Deponti^{1*}  Antonise Mariely Jaguezeski²  Dheiny Hellen Venturini Pulgatti³ 
Julio Cesar Mendes Soares⁴  Marcelo da Silva Cecim⁴ 

¹Programa de Residência em Área Profissional da Saúde, Universidade Federal de Santa Maria (UFSM), 97105-900, Santa Maria, RS, Brasil. E-mail: patriciasoaresdeponi@hotmail.com. *Corresponding author.

²Departamento de Bioquímica Toxicológica, Universidade Federal de Santa Maria (UFSM), Santa Maria, RS, Brasil.

³Departamento de Pós-graduação em Área da Saúde, Universidade Federal de Santa Maria (UFSM), Santa Maria, RS, Brasil.

⁴Departamento de Clínica de Grandes Animais, Universidade Federal de Santa Maria (UFSM), Santa Maria, RS, Brasil.

ABSTRACT: *Ethical and moral issues surround the practice of animal euthanasia, which often damages the veterinarian's mental health, leading to psychological problems and even suicide. This study aimed to evaluate veterinarians' perceptions about euthanasia and the possible implications of the practice for their mental health and seek to identify gaps in the training of these professionals. Data collection occurred by applying an online questionnaire sent to veterinarians working in the Brazilian territory. Among the 243 participants, 78% said they did not have classes that broadly addressed the practice of animal euthanasia and dysthanasia during undergraduate disciplines; in addition, 71% claimed that they did not address subjects such as medical ethics, psychology, mental health, and verbal communication. The vast majority (90%) considered not trained to deal with patient death, and 67% have already questioned whether the procedure was the best alternative. The presence of sadness after performing euthanasia was frequent among participants. Small animal clinicians were more susceptible to the presence of this feeling when compared to a veterinarian from other areas. Most veterinarians (86%) believed that the practice of animal euthanasia poses risks to the performer's mental health, and 89% claimed that it influences their mental health. 17% of the participants were using controlled medications during the research period. So, given these findings, it is evident that animal euthanasia negatively affects the mental health of those who perform it. Measures are needed to minimize the impacts arising from the practice, aiming to improve this population's health and well-being.*

Key words: *ethics, euthanasia, mental health, veterinary medicine.*

Percepções do médico veterinário a respeito da eutanásia animal e a relação com sua saúde mental

RESUMO: *A prática da eutanásia animal é circundada por questões éticas e morais, o que resulta, muitas vezes, em prejuízo à saúde mental do veterinário, podendo levar ao desenvolvimento de problemas psíquicos e mesmo ao suicídio. O presente trabalho teve como objetivo avaliar as percepções do médico veterinário a respeito da eutanásia e as possíveis implicações da prática à sua saúde mental, além de buscar identificar lacunas acerca do tema na formação destes profissionais. A coleta dos dados ocorreu mediante aplicação de questionário online encaminhado a médicos veterinários atuantes no território brasileiro. Dentre os 243 participantes, 78% afirmaram não ter tido durante a graduação disciplinas que abordassem de forma ampla a prática da eutanásia e distanásia animal; além disso, 71% alegaram que conteúdos como ética médica, psicologia, saúde mental e comunicação verbal não foram tratados. A grande maioria (90%) considera não ter sido preparado para lidar com a morte de seus pacientes e 67% já questionaram se o procedimento era o melhor a se fazer naquele momento. A presença de tristeza após realização de uma eutanásia apresentou-se de forma frequente entre os participantes. Os clínicos de pequenos animais mostraram-se mais suscetível à presença deste sentimento quando comparados aos veterinários de outras áreas. A maior parte dos médicos veterinários (86%) acredita que a prática da eutanásia animal pode oferecer riscos a saúde mental do realizador e 89% afirmam que a mesma pode ter influência sobre sua saúde mental. Sendo que, 17% dos participantes estavam fazendo uso de medicamentos controlados durante o período da pesquisa. Diante desses achados, evidencia-se que a prática da eutanásia animal repercute negativamente na saúde mental de quem a executa, sendo necessárias medidas que minimizem os impactos advindos da prática, visando melhoria na saúde e bem-estar desta população.*

Palavras-chave: *ética, eutanásia, saúde mental, medicina veterinária.*

INTRODUCTION

Veterinary medicine is the only area of health where professionals can recommend

and perform the euthanasia of their patients. The practice of animal euthanasia is a veterinarian's sole responsibility and is regulated according to the Brazilian Constitution via Resolution N^o.1000, of

May 11, 2012 (CFMV, 2012), being indicated when the quality of life of an animal becomes compromised to the point that its death is preferable: quick, painless and without suffering (SELTER et al., 2022), or even in situations of risk to public health (CFMV, 2016). Therefore, as it is fundamental to animal health and welfare, decision-making and recommendations related to euthanasia should be the exclusive responsibility of the veterinarian.

QUAIN (2021) illustrates in his manuscript the privilege that it is for the veterinarian to be able to end animal suffering. However, he reinforces that it is a double-edged sword because, as already observed by authors longer ago, the practice of euthanasia can lead to psychological damages due to the high level of stress caused to the professional involved (MEEHAN & BRADLEY, 2007; PULZ et al., 2011; PLATT, 2012; HARTNACK et al., 2016; SIMPSON et al. 2020; ZANI et al., 2020).

Although studies involving the euthanasia impact on companion animals are common (MEEHAN & BRADLEY, 2007; NETT et al., 2015; SELTER et al., 2022), recent studies have also given importance to the euthanasia of large animals and production animals, and showing displeasure and psychological impact also to veterinarians in these areas (EDWARDS-CALLAWAY et al., 2020; SIMPSON et al., 2020; WAGNER et al., 2020). Emotional issues and dilemmas experienced by veterinarians have been the subject of studies (PLATT et al., 2012; GYLES, 2014; NETT et al., 2015; MOISÉS et al., 2018; BEST et al., 2020; ZANI et al., 2020), given the concern on mental health. The performance of euthanasias, in addition to long working hours, strong attachment and empathy for patients, lack of recognition in the profession, high levels of anxiety, depression, and suicidal thoughts of veterinarians compared to the general population (BARTRAM et al., 2009; BEST et al., 2020), in addition to the high rate of suicides related to this class of professionals (PLATT, 2010; DEBBIE, 2015; NETT et al., 2015) reinforce this concern.

Euthanasia is one of the main stressors in the work environment, predisposing to psychological disorders, such as Burnout Syndrome (FRANK, 2018), being undeniable the psychological impact caused by it. (MOISÉS et al., 2018; PLATT, 2012; PULZ et al., 2011). For example, a recent study demonstrated the economic impact in the US due to Burnout Syndrome among veterinarians: 2 billion annually in lost revenue due to emotional exhaustion, measured through turnover and reduced working hours (NEILL et al., 2022).

However, studies that analyze the existence of a direct relationship with the executor's mental health are scarce. Thus, the objective of this study was to evaluate veterinarians' perception and the impact of euthanasia on their own mental health and to identify gaps in professional training needed to better support veterinarians performing euthanasia.

MATERIALS AND METHODS

Participants and procedure

No individual identifying information was collected, and the data collected was not identified to the participant. The study's target population was veterinarians working in Brazil who have or had contact with animal euthanasia in their work routine and was performed through an online questionnaire made available between January and February 2021.

Means of dissemination and collected data

The research was qualitative/quantitative type. The questionnaire consisted of 35 mostly objective multiple-choice, numerical and verbal questions, some on a Likert scale, made available through Google Forms and disseminated digitally (WhatsApp, Facebook, and Instagram). Personal and professional information was requested, contact and perceptions about animal euthanasia, professional training, feelings related to the practice, emotional issues, as well as knowledge and presence of feelings related to Burnout Syndrome were requested (Table 1).

Statistical analysis

Microsoft Excel[®] software tabulated the data according to their absolute (N) and relative (%) frequencies. Subsequently, the variables of interest were categorized and analyzed descriptively and parametrically. In order to know which statistical analysis to perform, whether Parametric or Non-Parametric, a Shapiro-Wilk test was performed, asking if the data followed a normal distribution, $P > 0.05$. As the data of the analyzed variables follow a normal distribution, a one-way ANOVA took place when comparing more than two groups, using Duncan's multiple range test as post hoc. When comparing only two variables, the t-test was performed. (SPSS for Windows 8.0, SPSS 1998, Chicago, IL). Differences between groups are significant when $P < 0.05$.

RESULTS

In 243 responses obtained, 182 (75%) were female, and 61 (25%) were male. The age group

Table 1 - Information collected through the questionnaire made available during the research period.

-----Personal Information-----
1. Gender: <input type="checkbox"/> feminine <input type="checkbox"/> masculine <input type="checkbox"/> others
2. Age: (open question)
3. Do you have children or not: <input type="checkbox"/> yes <input type="checkbox"/> no
4. Marital status: <input type="checkbox"/> single <input type="checkbox"/> married <input type="checkbox"/> divorced <input type="checkbox"/> stable union
5. City and state where you work: (open question)
-----Professional performance-----
6. Graduation year: (open question)
7. Current area of professional activity: <input type="checkbox"/> small animal clinic <input type="checkbox"/> large animals clinic <input type="checkbox"/> wild/wild animal clinic <input type="checkbox"/> other areas of activity
8. How many years have you been working in this area: (open question)
9. Hours worked weekly: <input type="checkbox"/> less than 20 hours <input type="checkbox"/> 20 to 40 hours <input type="checkbox"/> 40 to 60 hours <input type="checkbox"/> more than 60 hours
-----Contact and perceptions about animal euthanasia-----
10. Performs or has performed animal euthanasia in their work routine: <input type="checkbox"/> yes <input type="checkbox"/> no
11. How often do you perform euthanasia in your work routine: <input type="checkbox"/> weekly <input type="checkbox"/> fortnightly <input type="checkbox"/> monthly <input type="checkbox"/> sporadically
12. How much do you consider your level of knowledge about animal euthanasia: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> 8 <input type="checkbox"/> 9 <input type="checkbox"/> 10 (1 knowledge restricted to 10 broad knowledge);
13. How do you see the practice of animal euthanasia: <input type="checkbox"/> as something necessary for animal welfare <input type="checkbox"/> as something necessary, but difficult to accomplish <input type="checkbox"/> like something common <input type="checkbox"/> as something that generates sadness and doubt
-----Professional training and knowledge-----
14. During graduation, he had disciplines that addressed issues such as medical ethics, psychology, mental health or verbal communication: <input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> I do not know how to answer
15. During graduation, did you have any discipline that addressed the practice of euthanasia and animal dysthanasia broadly: <input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> I do not know how to answer
16. Knows the difference between euthanasia and dysthanasia: <input type="checkbox"/> yes <input type="checkbox"/> no
17. Was properly prepared during graduation to deal with the death of his patients: <input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> I do not know how to answer
-----Feelings associated with euthanasia-----
18. Feelings that were already present after performing the euthanasia of a patient: <input type="checkbox"/> anguish <input type="checkbox"/> discomfort <input type="checkbox"/> sadness <input type="checkbox"/> insecurity <input type="checkbox"/> frustration <input type="checkbox"/> indifference
19. Have you ever felt guilty after performing euthanasia: <input type="checkbox"/> yes <input type="checkbox"/> no
20. Have you ever had doubts about whether euthanasia was the best for your patient: <input type="checkbox"/> yes <input type="checkbox"/> no
21. Have you had to ask another professional to perform the procedure because you did not feel comfortable doing it: <input type="checkbox"/> yes <input type="checkbox"/> no
22. You feel free to raise the issue of euthanasia with your clients and recommend it: <input type="checkbox"/> yes <input type="checkbox"/> no
23. Knows how to deal with the grief of his clients in the face of the departure of their pet: <input type="checkbox"/> yes <input type="checkbox"/> no
24. How often do you feel sad after performing euthanasia: <input type="checkbox"/> never <input type="checkbox"/> occasionally <input type="checkbox"/> often <input type="checkbox"/> most of the time
-----Emotional issues-----
25. Feel free to talk about your professional anxieties to other co-workers: <input type="checkbox"/> yes <input type="checkbox"/> no
26. Receives the emotional support needed to deal with the death of their patients in the workplace: <input type="checkbox"/> yes <input type="checkbox"/> no
27. Knows that the practice of euthanasia can put the mental health of the practitioner at risk: <input type="checkbox"/> yes <input type="checkbox"/> no
28. Knows that Veterinarians are the professionals who commit suicide the most in Brazil and other countries: <input type="checkbox"/> yes <input type="checkbox"/> no
29. Believes that euthanasia can influence your mental health: <input type="checkbox"/> yes <input type="checkbox"/> no
30. Did or is being followed up by a mental health professional: <input type="checkbox"/> yes <input type="checkbox"/> no
31. Are you using any controlled medication: <input type="checkbox"/> yes <input type="checkbox"/> no
-----Burnout syndrome-----
32. Do you know what Burnout Syndrome is: <input type="checkbox"/> yes <input type="checkbox"/> no
33. How often are you experiencing the following physical symptoms: headache, lack of energy, exhaustion, muscle pain, insomnia, gastrointestinal upset, lack of appetite, and depression: <input type="checkbox"/> ever <input type="checkbox"/> often <input type="checkbox"/> sometimes <input type="checkbox"/> rarely <input type="checkbox"/> never/almost never
34. How often have the following psychological symptoms occurred: lack of concentration, lack of attention, memory impairment, lack of care for their patients, delays and increased absence from work, clinical errors, team conflicts, isolation, and low self-esteem: <input type="checkbox"/> ever <input type="checkbox"/> often <input type="checkbox"/> sometimes <input type="checkbox"/> rarely <input type="checkbox"/> never/almost never
35. How often do you have these behavioral symptoms: irritability, aggression, frustration, intolerance, lack of confidence, apathy, and neglect: <input type="checkbox"/> ever <input type="checkbox"/> often <input type="checkbox"/> sometimes <input type="checkbox"/> rarely <input type="checkbox"/> never/almost never

ranged from 23 to 69, with most respondents (57%) between 20 and 30 years. The predominant profile of veterinarians in this research was women aged up to 30 years, single and without children. The study population

was distributed in 13 Brazilian states, representing 50% of the national territory and 82 municipalities.

The vast majority of participants (83%) graduated in Veterinary Medicine between 2006 and

2021. Regarding the area of professional activity, 67% (163) worked in a small animal clinic, 11% (28) in a large animal clinic, 6% (14) in a wild animal clinic, and 16% (38) in other areas of action (animal nutrition, reproduction, clinical laboratory), but with the previous contact with the practice of euthanasia, and 80% had worked in the area in question for less than ten years. As for the weekly workload, 17% (40) of the veterinarians worked more than 60 hours a week, 49% (119) between 40 and 60 hours, 28% (69) between 20 and 40 hours, and 6% (15) less than 20 hours week hours.

The practice of animal euthanasia was present in the daily lives of 99% of respondents. Of these, 59% (143) performed it sporadically, 16% (38) monthly, 12% (30) every two weeks, and 13% (32) at least once a week. As for the level of mastery of the subject, on a scale where 1 is no or very little knowledge, and 10 is extensive knowledge of the subject, 81% rated their knowledge with a grade greater than 6 (group average 8.28). Regarding perceptions about the practice of animal euthanasia, 64% (156) of veterinarians saw it as necessary but challenging to be performed, 31% (75) as a necessary animal welfare practice, and 5% (12) as a procedure that generates sadness and doubt. Among the participants, 63% stated that they felt free to recommend euthanasia; on the other hand, 47% reported that they had already needed the help of other colleagues to perform the procedure as they did not feel comfortable performing it.

The majority of participants (90%) believed they were not prepared during the undergraduate course to deal with the death of their patients. Similarly, 78% of the participants said they did not have classes that broadly addressed the practice of animal euthanasia and dysthanasia (prolonging an individual's life, or slow death, with excess pain and anguish), justifying the fact that 62% did not know the difference between these concepts. Among the participants, 71% claimed that they did not have subjects that addressed issues such as medical ethics, psychology, mental health, and verbal communication during the training course in veterinary medicine.

Figure 1 describes the frequency with which destructive feelings (indifference, insecurity, anguish, discomfort, frustration, and sadness) occurred. The result says that these occurred more frequently in women than men ($P < 0.05$). Also, veterinarians from small animal clinics were more sensitized than in other areas of expertise ($P < 0.05$).

The presence of sadness after performing euthanasia was frequent among participants ($P < 0.05$), with no significant difference between genders

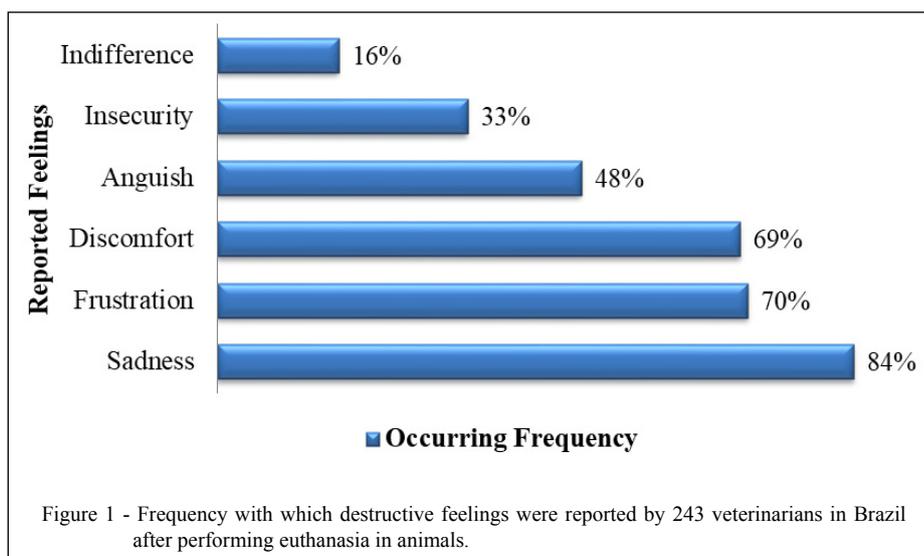
($P > 0.05$). The veterinarians' age shows a weak negative correlation ($R = -0.08$): as age increases, the frequency of the feeling of sadness tends to decrease. Also, small animal clinicians are more susceptible to sadness after euthanasia than veterinarians from other areas ($P < 0.05$).

Fifty nine percent of the participants felt guilt after performing euthanasia. The proportion of doubt is even more remarkable, where 67% have already questioned whether the procedure was the best for the patient at that time. As for mental health issues, 69% of the participants felt free to talk about their professional anxieties to other co-workers. However, 81% claimed not to receive the emotional support necessary to deal with the death of their patients in the workplace. The vast majority (86%) believed that the practice of animal euthanasia could pose risks to the executor's mental health, and 89% believed that it could influence their mental health. Furthermore, 87% of participants said they were aware of the high suicide rate among veterinarians, 17% of participants were using prescription drugs during the survey period, and 44% were currently, or have been, under follow-up with a mental health professional.

As for Burnout Syndrome, 86% of the participants said they knew its concept. Figure 2 reveals the frequencies with which signs of Burnout Syndrome were present in the veterinarians participating in this research (physical symptoms, psychological symptoms, and behavioral symptoms). However, when making a correlation between the frequency of euthanasia and the manifestation of these symptoms, there was no statistically significant correlation ($P > 0.05$).

DISCUSSION

This work sought to verify veterinarians' perceptions regarding animal euthanasia and how it has been experienced in the work routine, and if it can be related to discontent, stress, anguish, mental health problems, and even Burnout Syndrome. The high rate of suicide and mental problems among veterinarians is worrying, as it is being a problem that grows exponentially and draws the attention of the international scientific community. This is the first work in Brazil to discuss in depth the impact of animal euthanasia on the mental health of veterinarians. As the issue starts to be an extremely relevant topic that involves ethical, emotional, psychological, and economic issues, the findings of the study contribute to the national and international scientific environment, filling gaps in knowledge about the topic.



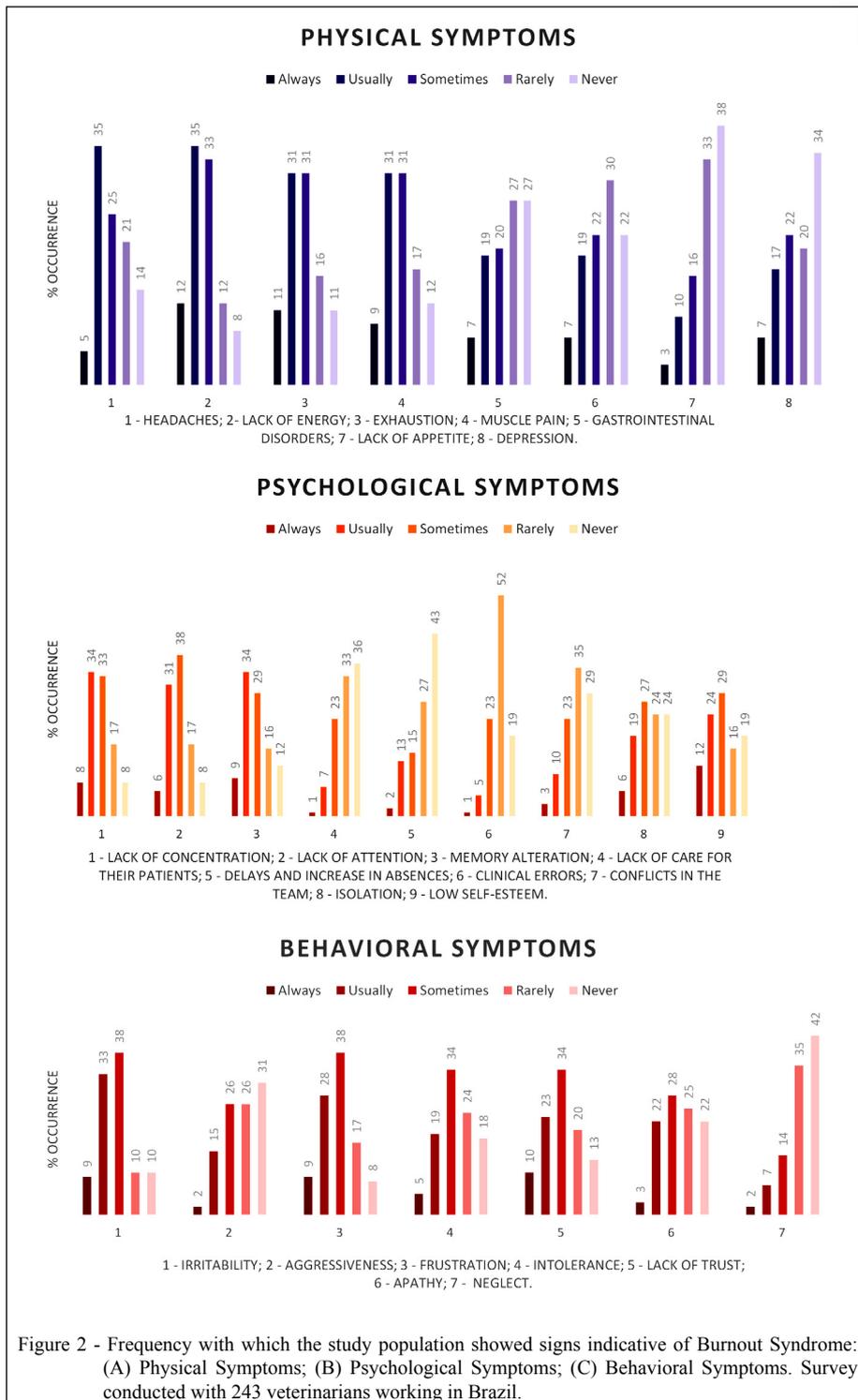
The distribution of study participants was relatively homogeneous in Brazilian territory, considering its large size. At the same time, we recognize that it is a conservative sample given the number of licensed professionals in Brazil. Furthermore, the predominance of female veterinarians who responded to the questionnaire reflects the current academic scenario, as also verified by BEST et al. (2020), who, in a similar study carried out in Canada, had almost 70% of their sample composed of female veterinarians. Another data in alignment is the majority percentage of professionals working in the small animal clinic, which in that study was 73.3% (BEST et al., 2020).

As for the weekly workload of veterinarians in this study, we obtained the highest rates between 40 and 60 hours per week. MEEHAN & BRADLEY (2007) obtained similar rates and concluded a positive correlation between occupational stress and the number of hours worked. The same researchers concluded that total working hours of 38 to 40 hours per week were acceptable (MEEHAN & BRADLEY, 2007), which suggests that most of the professionals in our study were overloaded, resulting in harm to their mental health, as will be discussed later. MUSETTI et al. (2020) reported that overload was one of the risk factors for the low quality of life index described by veterinarians in Italy.

Virtually all participants stated that they had already had in their attributions the need to perform animal euthanasia, and almost half said they performed the procedure at least once a month, which configures a high frequency, as it does not represent

the conventional clinical routine. Euthanasia is a tool used in livestock operations to alleviate animal suffering (SIMPSON et al., 2020), and it also provides welfare to companion animals (MEEHAN & BRADLEY, 2007; NETT et al., 2015; SELTER et al., 2022). It is known that carrying out this on a large scale can cause so-called moral stress, and if not adequately controlled, it can cause damage to mental and physical health and well-being, which can lead to the abuse of psychotropic drugs and even suicide (ROLLIN, 2011; NETT et al., 2015; EDWARDS-CALLAWAY et al., 2020). The high incidence of stress and occupational stress linked to euthanasia is a significant concern in animal shelters and veterinary clinics (SCOTNEY et al., 2015). REEVE et al. (2004) also reported that in addition to significantly higher stress levels at work, professionals who practice it have a higher incidence of stress-induced physical illness, work-family conflict, and job dissatisfaction.

Regarding perceptions about animal euthanasia, most veterinarians stated that they were calm when it was necessary to recommend euthanasia, but despite finding it necessary to have difficulty in performing it, even reporting significant discomfort and often needing the help of another professional to perform it. Such conceptions can be explained by the fact that euthanasia involves emotional, psychological and ethical issues (KNELS et al., 2017), at the same time that it confronts the veterinarian with a paradox, because just as they are responsible for taking care of and maintaining life, they can also take it when he deems it necessary (MANETTE, 2004). However, animal euthanasia should be seen as an alternative to



prolonged suffering when there is no prospect of life and not as a clinical failure or giving up (BOTONI et al., 2012). The data obtained regarding veterinarians' difficulty in performing may be related to the gender and time of profession reported in our research.

HARTNACK et al. (2016) study reported the same, in which veterinarians, especially those with less training time and working in the small animal clinic, were more likely to be reluctant to performing euthanasia, especially when for reasons of convenience (cost

of treatment, an animal that attacked a child or the tutor does not want to treat thinking of replacing the animal with another). Another possible relationship is the higher risk of work-related stress and suicidal thoughts in this group of professionals, also verified by HARTNACK et al. (2016) and which will be further clarified below.

Veterinary medical professional training lacking in ethics and humanistic, which is generally technical and curative (OLIVEIRA FILHO et al., 2010), can contribute to the veterinarians' lack of preparation in dealing with induced death of patients. This statement was reinforced in this study, as most participants believed that not being prepared in the undergraduate course to deal with the patients' death. Similarly, most participants said they did not have classes that broadly addressed the practice of animal euthanasia and dysthanasia, justifying the fact that most did not know the difference between these concepts, a knowledge gap also verified by authors in other health professions (LIMA & BUYS, 2008; DUARTE et al., 2015; FERREIRA et al., 2018). These studies together show the need to improve issues related to death and grief during the training of these professionals.

Another interesting fact was that some participants claimed that they did not have subjects focused on the human and psychological sciences. On the other hand, subjects such as economics and rural administration are frequent in the curricula, collaborating with the technicist view stated by OLIVEIRA FILHO et al. (2010). However, when evaluating the curriculum of 89 Brazilian schools of veterinary medicine, LESNAU & SANTOS (2013) found that only one addressed content such as death, euthanasia, and mourning, and only one had the discipline of psychology in its curriculum. Thus, the authors agree with LESNAU & SANTOS (2013) when they state that veterinarians are not being prepared to deal with the death of their patients or with family comfort. Thus, educational institutions must be encouraged to include disciplines emphasizing communication and empathy in academic curricula.

Regarding the negative feelings present in people who experience and practice animal euthanasia, they mentioned sadness, impotence, insecurity, compassion, frustration (PULZ et al., 2011), irritability, depression, and hopelessness (EDWARDS-CALLAWAY et al., 2020). This research found a more significant occurrence of many of these feelings in veterinarians - women, especially those working in the small animal clinic. The fact that the women in our study present a greater amount of negative feelings toward the practice of euthanasia may be related to the

fact that they face greater stress and internal conflicts when decision-making is necessary (HARTNACK et al., 2016). In addition, the affective bond established by those who work closely with animals can lead to psychological damage and damage to the life quality when left untreated (EDWARDS-CALLAWAY et al., 2020; MUSETTI et al., 2020).

Our results revealed that the feeling of sadness is frequent after euthanasia and that, as the age of veterinarians increases, the frequency of the feeling tends to decrease, similarly to what was found by HARTNACK et al. (2016). The lack of preparation to deal with death can explain this situation (DUARTE et al., 2015; LESNAU & SANTOS, 2013). The search to heal at all costs means that dysthanasia is often performed to minimize the emotional suffering of the clinician or owner, putting the animal's well-being in check and submitting it to an undignified life. One more proof that veterinarians are not psychologically prepared to perform euthanasia is the data obtained in our study, where most professionals feel guilty after performing euthanasia, and more than half already had doubts if the procedure was the right one for the patient at that time. The veterinarians who perform euthanasia must be technically prepared and understand the reasons for its performance (AMERICAN VETERINARY MEDICAL ASSOCIATION, 2001). The insecurity experienced by veterinarians should not result in an extension of the patient's suffering, as, unlike humans, animals do not have the same understanding of future life or the end of life. In other words, they do not have the insight that enduring negative short-term experiences can lead to the achievement of future goals (ROLLIN, 2011; SELTER et al., 2022).

As for mental health issues, most of the participants feel free to talk about their professional anxieties to other co-workers, which is positive considering the psychic aspect, as mutual support and support in stressful situations was reported as an essential tool to avoid psychological damages (DUARTE et al., 2015; HARTNACK et al., 2016), in addition to offering more excellent safety in medical conduct (HARTNACK et al., 2016). However, it is worrying that most veterinarians claim not to receive the emotional support necessary to deal with the death of their patients in the workplace. Since both small and livestock veterinarians suffer from these short- or long-term impacts, it is crucial to incorporate strategies to deal with moral stress in workplace training. Unfortunately, as SIMPSON et al. (2020) reported, this issue is currently not widely addressed, or even there is no such concern within Brazilian universities (LESNAU & SANTOS, 2013).

The vast majority of participants agree with the idea that the practice of animal euthanasia can pose risks to their mental health, proven fact for numerous studies already mentioned, since animal euthanasia is a stressful and exhausting process for those who perform it, resulting in psychological distress and moral conflicts (MEEHAN & BRADLEY, 2007; ZANI et al., 2020), and even after months or years, the episode is still present in the memory of those who followed or practiced it (PULZ et al., 2011). Furthermore, people directly involved with this practice report higher levels of stress at work and lower satisfaction levels, leading to psychological distress and job turnover (SCOTNEY et al., 2015).

Most participants declared knowing the high rate of suicides among veterinarians. In a North American study with 11,627 veterinarians, predominantly small animal clinicians, 9% of respondents had severe psychological distress; 31% had already experienced depressive episodes; 17% had experienced suicidal ideation, and 1% had attempted suicide; in addition, 19% of veterinarians were receiving treatment for mental disorders during the research period (NETT et al., 2015). The data of the NETT et al. (2015) are shocking: approximately 1 in 11 veterinarians has had severe psychological problems, and 1 in 6 has experienced suicidal ideation since leaving veterinary school. Our study shows similar results, where a significant portion of the participants were using controlled medications during the research period, and approximately half of them were at the time or had already been followed up by a mental health professional. These data clarify the high rate of suicides described among veterinary medical professionals, which can reach 43%, exceeding, in most cases, the general population (PLATT et al., 2010). In addition, women veterinarians have a higher risk of suicide when compared to men in the same profession (NETT et al., 2015).

When asked about knowing about Burnout Syndrome, most participants of the participants answered yes. According to the International Statistical Classification of Diseases and Related Health Problems (ICD-11) (WHO, 2020), Burnout Syndrome is a phenomenon characterized by a feeling of fatigue or exhaustion; increased mental distance from work, or feelings of negativity related to it, feeling of inefficiency and lack of achievement. It originates from chronic stress in the work environment, being, therefore, an occupational phenomenon (WHO, 2020). As veterinarians are exposed daily to stressful situations, such as long work periods, conflicts with clients, lack of balance between professional and personal life, and the performance

of euthanasia, they are considered a risk group for the manifestation of the syndrome (PLATT, 2012; ZANI et al., 2020). Particularly recent graduates with educational debts as described, who care for companion animals and women (OUEDRAOGO et al., 2021), agreeing with our data and demonstrate the greater risk of these groups developing the syndrome. Given the correlation between Burnout and environmental factors, actions that improve job satisfaction are encouraged, including giving technicians' freedom over their schedules, recognizing their contributions to the team, and providing opportunities for professional development (KOGAN et al., 2020).

The complexity of this syndrome requires diagnosis by mental health professionals. Nonetheless, some signs can serve as a warning, being indicators of Burnout, such as headaches, lack of energy, exhaustion, insomnia, gastrointestinal disorders, lack of appetite, depression, mood changes, apathy, neglect, irritability, frustration, intolerance, lack of confidence, lack of concentration and care for animals and patience with customers, delays and increase in absences, clinical errors, and conflicts in the team (FRANK, 2018). We observed a high frequency of several psychological, physical and behavioral symptoms in the veterinarians in this study. However, there was no correlation between the frequency of euthanasia and a higher incidence of these symptoms, and this may indicate that the euthanasia practice represents occupational stress in this study, regardless of the frequency with which it is performed.

The results of this study reinforce that euthanasia is not just a professional task to avoid the suffering of animals, it is an important decision that, even if ethically recommended, has the potential to impact the psychic, physical, and behavioral health of veterinarians. Finally, a very interesting, complex, and perhaps somewhat discouraging study revealed the relationship between veterinarians' mental health and client (animal guardians) satisfaction: relatively higher satisfaction rates were unexpectedly associated with worse veterinarians' mental health states. In contrast, lower client satisfaction is associated with better mental health scores suggesting greater well-being. This can be explained why veterinarians with high levels of empathy, extreme care, and dedication to work achieve higher levels of customer satisfaction but also experience a higher risk of mental health problems due to emotional burden, exhaustion, and anxiety (PERRET et al., 2020). The circumstances bring us a great reflection: is it worth reaching emotional and psychic exhaustion to obtain customer loyalty and professional recognition?

CONCLUSION

It can be concluded that the practice of animal euthanasia had a negative impact on the mental health of the study population. Most veterinarians recognize euthanasia as necessary but challenging to carry out. The presence of negative feelings arising from the practice is frequent, as is the lack of emotional preparation. Veterinary doctors in Brazil are not being prepared during the undergraduate course to deal with the patients' death, nor with the moral and ethical implications that involve the subject. Measures that minimize the mental impacts caused by euthanasia are essential, such as emotional support within the work environment and training related to the subject. Public agencies should give special attention to the health and well-being of veterinarians, given the high rate of suicide observed and the emotional weaknesses evidenced by this research, as well as seek the reformulation of the curriculum of faculties of veterinary medicine aiming at greater psychological preparation.

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DECLARATION OF CONFLICT OF INTEREST

The authors declare no conflict of interest. Funding sponsors had no role in the study design, collection, analysis, and data interpretation; during the writing of this manuscript, and in the decision to publish the results.

AUTHORS' CONTRIBUTIONS

All authors contributed equally to the conception and writing of the manuscript. All authors critically reviewed the manuscript and approved the final version. The research idea and the application of the questionnaire were from the first author.

BIOETHICS AND BIOSSECURITY COMMITTEE APPROVAL

The research was approved by the Ethics Committee for Research with Human Beings of the Federal University of Santa Maria, protocol number CAAE 41339120.3.0000.5346.

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