

SURVEY OF THE LEVEL OF OCCUPATIONAL STRESS IN BRAZILIAN VETERINARIANS

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ABSTRACT: The aim was to analyze the level of occupational stress among Brazilian veterinarians working in private hospitals and veterinary clinics by applying the Work Stress Scale. This is a quantitative, descriptive survey carried out using an anonymous questionnaire, with a total of 212 veterinary respondents from all over Brazil. Based on the results obtained, the means and standard deviation were analyzed using SPSS version 26 statistical software and Excel spreadsheets. A total of 167 valid responses were considered, revealing that veterinarians have a medium to high level of stress, describing a critical situation in relation to the mental health of this class of worker. The conclusion is that veterinarians are subject to a high risk of developing stress and that the most susceptible are recent graduates and those who work more than 40 hours a week.

KEYWORDS: Stress. Mental health. Work. Veterinary Medicine.

INTRODUCTION

Occupational stress can be briefly defined as the psychological suffering associated with experiences at work (PASCHOAL and TAMAYO, 2004).

Veterinary medicine is considered to be a profession with a high risk of developing occupational stress compared to other health and non-health professions. Factors such as long working hours, increasingly demanding clients, ethical and moral stress and exposure to euthanasia are factors that increase responsibility, pressure and stress in the profession (DOW *et al.*, 2019). In this way, veterinarians and other workers whose activities depend on a high degree of responsibility end up giving up the leisure and rest that the body and mind need to restore themselves, factors that contribute to the development of occupational stress (GENUÍNO *et al.*, 2010; FINK and NESTLER, 2018).

Occupational stress has been studied more intensively in recent years and it has been observed that sufferers of this condition basically go through three phases that mark its evolution: the alarm phase, resistance and exhaustion (PRADO, 2016). The alarm phase is like a rapid response by the body, and the changes observed include tachycardia and dyspnea. In the resistance phase, the body tries to adapt to the constant stressful situation, symptoms include: mental exhaustion, muscle tremors, discouragement, irritability and emotional instability (TANURE *et al.*, 2014). In the exhaustion phase, the adaptation mechanisms fail, causing damage to health, reduced work capacity, predisposing to early retirement, suicide and Burnout syndrome (PRADO, 2016; TANURE *et al.*, 2014).

There is a growing trend in scientific concern about occupational stress due to the relationship with the illness and suffering caused to workers as a result of their work (PRADO, 2016; GIANASSI and OLIVEIRA, 2014). It's no different in veterinary medicine, which has aroused the interest of researchers and the number of studies has increased in recent years. In Brazil, this scenario is intensifying due to the number of veterinary doctors graduating every year, with a ratio of 0.7 per 1000 inhabitants (WOUK, 2021). As a result, there is increased competition, professional devaluation and stress. This has currently been the subject of deliberation regarding the quality of teaching at veterinary schools in Brazil (CFMV, 2023).

The scarcity of research in Brazil motivated this study in order to obtain information on the Brazilian scenario in relation to the global context. The aim of this study is to list the elements that cause work-related stress in Brazilian veterinarians who work in private practice in veterinary hospitals and clinics throughout Brazil.

MATERIAL AND METHODS

The aim of this survey was to measure the levels of occupational stress in veterinarians working in private practice in veterinary hospitals and clinics in the following areas: small and large animal clinic and surgery, anesthesiology, diagnostic imaging and veterinary clinical laboratory throughout Brazil. The questionnaire was administered to a sample of 212 veterinarians between September and October 2021. The questionnaire was administered anonymously using "Google Forms" in which the participants were not

identified either collectively or individually.

The Work Stress Scale [WSS] validated by Tamayo and Paschoal initially consisted of 31 items and a sample of 437 workers from different public and private organizations. Likert (1932) developed an unified scale that made it possible to identify the meaning and intensity of the attitude using the same instrument. From that time until today, measurement in this format has been the most widely accepted among researchers and market professionals (SANCHES *et al.*, 2011). Thus, validation using statistical techniques is the name given to the set of procedures used to give greater credibility to the measurement process (LIKERT, 1932).

The factor analysis of the WSS revealed the existence of a single factor which, after eliminating items with a fator load below 0.45, was made up of 23 items and obtained a Cronbach's alpha coefficient equivalent to 0.91. The WSS has satisfactory psychometric characteristics and can contribute both to research on the subject and to the diagnosis of the organizational environment. It is an alternative for work applied in organizations that can direct measures aimed at the quality of life of workers (PASCHOAL and TAMAYO, 2004).

The questionnaire applied in this survey was made up of 23 items, in which the answer to each question had to be chosen from 5 alternatives, according to the Likert scale (1932): 1- Strongly Disagree; 2- Disagree; 3- Partly Agree; 4- Agree; 5- Strongly Agree. The questionnaire applied to the veterinarians consisted of questions that investigated the greatest stressors in their work routine according to their view. In addition to the WSS, the interviewees answered a short questionnaire about their age, gender, position held and total working hours.

First of all, a survey was carried out of all the results obtained from the WSS and then an analysis of the mean and standard deviation was carried out using the *Statistical Package for the Social Sciences* [SPSS] Version 26 and Excel spreadsheets, which enabled the degree of stress of those assessed to be identified. By analyzing the results, the stress levels were classified according to the interviewees' perceptions and the cut-off points, as shown in Table 1.

Cutting points	Perceptions	Stress Level
1,00 - 2,00	Strongly disagree and disagree	1. Low
2,01 - 2,99	I partly agree	2. Medium
3,00 - 5,00	I totally agree and agree	3. High

Table 1 - Classification of cut-off points in the analysis of averages

Table 1 shows that in the averages between 1.00 and 2.00 the interviewees disagree with the statements and the level of stress is classified as low. Between 2.01 and 2.99, where respondents partly agree with the statements, the stress level is medium, and between 3.00 and 5.00, where they agree with the statement, the stress level is high.

RESULTS

The WSS was applied to 212 veterinarians throughout the country, and 167 valid responses were considered, since 45 respondents did not fit the delimitations imposed in the survey. Table 2 shows, respectively, the means in descending order, the standard deviation for each statement on the scale and the stress level classification.

N°	Affirmatives	Average	Standard Deviation	Stress Level
10	I get in a bad mood because I have to work for so many hours at a time	3,92	1,232	High
12	I get irritated by discrimination - favoritism in my work environment	3,55	1,352	
9	I feel uncomfortable having to carry out tasks that are beyond my capacity	3,53	1,383	
23	It bothers me that my superior avoids giving me important responsibilities	3,46	0,929	
14	I get in a bad mood because I feel isolated in the organization	3,41	1,368	
2	The kind of control that exists in my job irritates me	3,39	1,231	
1	The way tasks are distributed in my area has made me nervous	3,38	1,279	
5	I feel irritated by the lack of information about organizational decisions	3,26	1,202	
8	I feel uncomfortable when my superior treats me badly in front of my coworkers	3,25	1,454	
21	I feel irritated that my supervisor covers up my good work in front of other people	3,19	1,493	
18	The competition at work has put me in a bad mood	3,17	1,388	
11	I feel uncomfortable with the communication between me and my superior	2,98	1,531	Medium
19	The lack of understanding of what my responsibilities are in this job has caused irritation	2,97	1,503	
3	The lack of autonomy in carrying out my work has been exhausting	2,96	1,263	
15	I get annoyed at being undervalued by my superiors	2,93	1,315	
16	The few prospects for career growth have left me distressed	2,90	1,455	
6	I feel uncomfortable with the lack of information about my tasks at work	2,90	1,455	
20	I've been nervous about my superior giving me contradictory orders	2,83	1,311	
7	The lack of communication between me and my coworkers makes me angry	2,81	1,485	
17	I've been uncomfortable working on tasks below my skill level	2,80	1,368	
4	I've been annoyed by my superior's lack of confidence in my work	2,77	1,485	
22	Insufficient time to do my workload makes me nervous	2,63	1,315	
		2,54	1,430	
13	I've been annoyed by the lack of training for professional development	2,47	1,361	Low
	General	3,09	1,3536	

Table 2 - Classification of Means and Standard Deviation.

The results of the TSE analysis show a total mean of 3.09 and a standard deviation of 1.3536. There were no statements classified as having a low level of stress. Of the 23 statements, 11 were classified as high stress and 12 as medium stress. Question 11 had the highest stress level amongst the medium stress factors: 2.98 and a standard deviation of 1.531. Questions 19, 3, 6, 17 and 22 are related to the employee's dissatisfaction with the tasks themselves, such as distribution, time for execution, autonomy, level of difficulty and clarity in relation to the work to be carried out are also at the medium stress level. Of all the stressors, question 13, which deals with deficiencies in training and professional qualification, was the least stressful, with an average of 2.47 and a standard deviation of 1.361. The high level of stress had 11 statements. Statement 10 is the one with the highest average in the high stress level: 3.92 and a standard deviation of 1.232.

Questions 23 and 21 deal with the employee-superior relationship. Still at the high level are other statements such as questions 12, 9, 14, 2, 1, 5, 8 and 18, which respectively represent discrimination-favoritism, performing tasks beyond one's capacity, grumpiness at feeling isolated, the type of control that exists, distribution of tasks in each area, lack of information about organizational decisions, annoyance at being treated badly by one's superior in front of colleagues and competition in the workplace.

The results obtained from the questionnaire on total weekly working hours show that more than half of the respondents work more than 40 hours a week, while the remaining respondents work 40, 30 and up to 20 hours respectively (Table 3).

Weekly Workload	%
Over 40 hours	40,6
40 hours	26,9
30 hours	22,7
Up to 20 hours	9,8

Table 3 - Weekly working hours of Brazilian veterinarians

The gender distribution of Brazilian veterinarians responding to this survey reveals a higher percentage of female participation compared to male (Figure 1).



Figure 1 - Distribution of Brazilian veterinarians by gender.

With regard to the age of the interviewees, just over half (53.1%) were professionals aged between 21 and 30, 30.8% between 31 and 40, 10.9% between 41 and 50 and 4.7% over 51 (Figure 2).

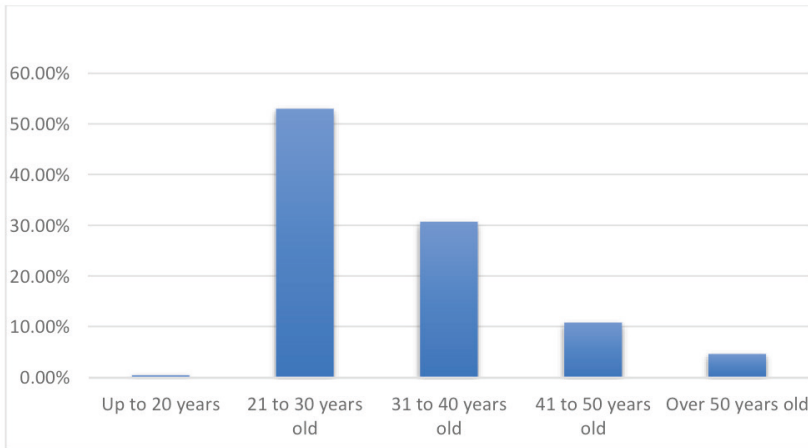


Figure 2 - Age group of Brazilian veterinarians (%).

In the distribution by specialty within the area of veterinary medicine, those working in small animal clinic and surgery are the majority, followed by anesthesiology, Clinical Laboratory, Diagnostic Imaging, Large Animal Clinic and Surgery (Figure 3).

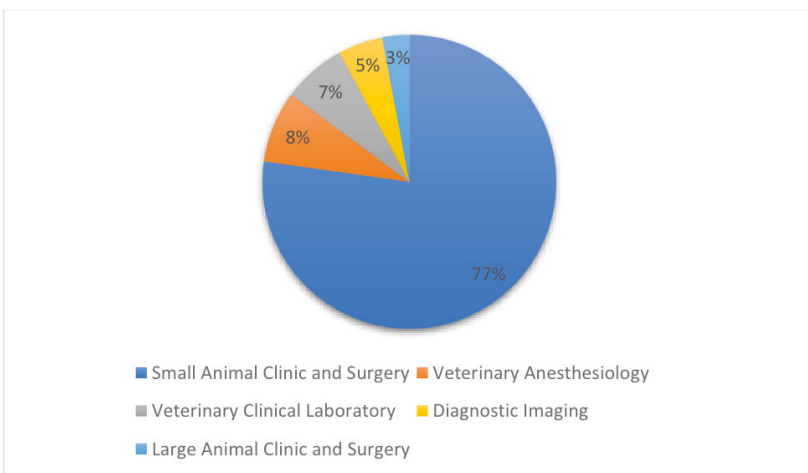


Figure 3 - Distribution by veterinary specialty (%)

DISCUSSION

The choice of veterinarians who work in private hospitals and clinics is explained by the fact that these professionals are subjected to a high level of stress, which can

compromise their emotional state, affecting their concentration, reasoning, reflexes and irritability threshold (BORINE *et al.*, 2012).

The medium level of stress presented a greater number of alternatives, among them the questions relating to the employee-superior relationship: 4, 11, 20 and 15, which relate to a lack of trust, communication, contradictory orders and the superior's lack of appreciation for the employee. Statements 21 and 23 are also related to the employee-superior relationship and are classified as having a high level of stress. They deal with the superior's lack of confidence in distributing important responsibilities and covering up work that has been done well. Statement 11 has the highest average stress level and deals with communication between employee and superior, indicating that there may not be good communication between the two parties, revealing a lack of harmony and damaging the organizational climate.

Recognition and appreciation is a motivator for employees, so when they don't get it they can feel more powerless and develop dissatisfaction with their job. Companies should develop programs aimed at protecting, valuing and promoting workers' health in order to improve quality of life at work (MARCELINO and ARAÚJO, 2015).

Statement 10 has the highest average level of high stress and addresses a sensitive issue: working for many hours at a time. It has been well studied that long working hours can contribute to the onset of occupational stress (SOUZA *et al.*, 2019; BARROS *et al.*, 2021). Studies show that more than half (52%) of the veterinarians interviewed in their survey worked more than 40 hours a week (DOW *et al.*, 2019).

Research on the subject of occupational stress among veterinarians shows that the majority of those interviewed work in their profession with satisfaction and enjoyment. However, they also show the emergence of occupational stress as a result of the exhausting workload, the professional's involvement with the pain and suffering of animals, performing euthanasia and uncertainty about the future of their careers. In this same study, it was discussed that as a consequence of the stress suffered at work, the interviewees resorted to drinking alcohol and inadequate eating habits (FOSTER and MAPLES, 2014).

In this study, the gender distribution of Brazilian veterinarians revealed that 76% of respondents were female and 24% male. In terms of age distribution, the group aged between 21 and 30 accounted for 53.1% of respondents. The development of occupational stress is greater in this group due to the lack of experience and knowledge to deal with the demands of the profession, and these young people dedicate themselves even more to their work, subject themselves to long hours, have less autonomy in the team, are pressured to show results and have less social support (NETT *et al.*, 2015). On the other hand, another study found no statistically significant differences in the development of occupational stress when the variables gender and age were taken into account (ARMAN, 2022).

One of the reasons why veterinarians have an additional differential that makes them more vulnerable to developing occupational stress is the responsibility of authorizing

euthanasia. This situation can involve anticipatory and future moral dilemmas. Anticipatory moral dilemmas include questioning the best decision in relation to the animal, dealing with restrictions on access to treatment, the use of medication, therapies, managing the client's anxieties and demands and the contradiction between the different therapeutic approaches adopted by coworkers and even superiors. Future moral dilemmas involve controlling dissatisfaction and irritation about the team's position and explaining the decision to euthanize to the guardian (ROLLIN, 2011).

Small animal clinic and surgery was the specialty with the highest percentage of respondents, corresponding to 78% of respondents, who revealed high rates of occupational stress. These professionals are often subjected to long working hours, many hours on their feet, give up time off and rest, have high demands from their guardians and low prospects for career growth. A study carried out in the city of Montevideo surveyed the level of occupational stress among veterinarians and students working in small animal clinics in the city and revealed that 3 out of 10 individuals had already experienced some form of Post-Traumatic Stress Disorder symptoms, such as: anxiety, difficulty falling asleep, irritability, lack of concentration and hypervigilance (ARMAN, 2022). While 74.3% reported having suffered some kind of aggression during their professional practice (COVC, 2021).

Financial pressures, competition with other professionals, complaints from clients, team management, demands for updating and the possibility of medical errors all increase stress (NETT *et al.*, 2015). In addition, in Brazil it is common to encounter scenarios such as a lack of resources and infrastructure in the workplace (SOUZA *et al.*, 2019), generating a feeling of frustration and incapacity for professionals who want to perform their job optimally.

In a study carried out in the United Kingdom, it was concluded that veterinary doctors had a suicide rate four times higher than that of the general population (WITTKÉ and BERTRAND, 2016). In the United States, a survey involving 11627 veterinarians found that 31% experienced depressive episodes, 9% developed serious psychosomatic problems, 17% contemplated suicide and 1% attempted suicide (NETT *et al.*, 2015). Women and recent graduates are considered to be more susceptible to psychological distress in the profession and have a high risk of suicide (DOW *et al.*, 2019; WOUK *et al.*, 2022).

In 2022 there were 208,091 veterinarians registered with the Federal Council of Veterinary Medicine (CFMV) in Brazil, 166,119 of whom worked for 214 million Brazilians (WOUK *et al.*, 2022). This high number is directly related to the number of veterinary schools in the country. The Ministry of Education published in 2022 that there are 536 active courses in veterinary medicine. The difference between the number of veterinary medicine courses offered in Brazil is emphasized when comparing it to the number of veterinary schools in other countries. In Brazil, the ratio of veterinary doctors per 1000 inhabitants is 0.7, almost double that of Europe, Canada and the United States (WOUK, 2021).

In March 2023, the CFMV filed a public civil action to prevent the opening of new undergraduate courses in Brazil, claiming that between 2018 and 2021 the Ministry of

Education approved more than 40 Pedagogical Projects for veterinary medicine courses, but none of these courses meet the minimum conditions for operation (CFMV, 2023). The disorganized growth and indiscriminate increase in vacancies for veterinary medicine courses indicate that the demography of veterinary medicine needs to be controlled. The Regional Council of Veterinary Medicine of Paraná (CRMV-PR) reveals that the comparison between the CFMV census showing that the number of trained veterinary doctors jumped from 117,000 in 2017 to 154,000 in 2021, an increase of 23% in three years, is worrying.

When there is an excess of veterinary professionals trained that the market is unable to support, there is an imbalance between supply and demand, which can contribute to the devaluation of the profession and frustration. The number of graduates is increasing at a much higher rate than the number of jobs on offer (WOUK *et al.*, 2022). In Brazil, an average of 12.000 new veterinarians graduate every year (WOUK, 2021).

While on the one hand competitiveness encourages professional improvement, on the other it increases occupational stress levels and can lead to the development of anxiety and stress. This study suggests that more studies should be carried out, especially on the 78% of veterinarians who responded to this survey who work in clinics and surgeries, as they have more contact with their guardians and animals and are therefore more prone to developing stress at work. The Regional Councils of Veterinary Medicine in each state could offer psychological support programs to help veterinarians in their professional journey. In addition to acting effectively in actions to increase the value of the professional in the workplace, fighting for remuneration that is consistent with the veterinary profession and monitoring working hours. It is worth emphasizing the importance of workers seeking psychological help if necessary and setting limits in relation to their employer.

CONCLUSION

This survey revealed that Brazilian veterinarians have a medium to high level of stress, as 11 statements were classified as high between 3.00 and 5.00, and 12 statements were classified as medium, between 2.01 and 2.99. The results show that the biggest cause of stress for veterinarians is the fact that they work long hours at a time. These results show a critical situation in relation to the mental health of this class of professionals and can be explained by the fact that the majority are subjected to conditions conducive to the development of occupational stress, such as being between 21 and 30 years old and working more than 40 hours a week.

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