

PROFILE IDENTIFICATION OF CANICROSS PRACTITIONERS AND THEIR DOGS IN BRAZIL

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ABSTRACT: The study analyzed the profile of Canicross practitioners in Brazil. A semi-structured questionnaire consisting of 33 questions was used: seven related to the handler and 26 to the dogs. *Results:* Of the total handlers, 53.3% are women, 64% have practiced the sport for at least 5 years and 52.3% trained with a personal trainer. Of the dogs, 62.6% were females, 60% were between one and four years old and the Mixed Breeds were the majority with 34.6%; as for the health of the animals, 80% of the handlers stated that they did not carry out veterinary monitoring aiming at the Canicross. 6.6% of the animals had sports-related injuries and 80% of these cases received veterinary treatment. It was clear that handlers know strategies to prevent and / or treat injuries caused by the sport, however this is not reflected in dogs. The unprecedented nature of the work will help handlers, veterinarians and sports lovers to draw up protocols so that dogs can practice Canicross safely.

KEYWORDS: Lesion; Running; Handler; Sport.

IDENTIFICAÇÃO DO PERFIL DOS PRATICANTES DE CANICROSS E SEUS CÃES NO BRASIL

RESUMO: O estudo analisou o perfil dos praticantes de Canicross no Brasil. Foi utilizado um questionário semiestruturado composto por 33 questões, sendo sete relacionadas ao condutor e 26 aos cães. Resultados: Do total de manipuladores, 53,3% são mulheres, 64% praticam o esporte há pelo menos 5 anos e 52,3% treinam com personal trainer. Dos cães, 62,6% eram fêmeas, 60% tinham entre um e quatro anos e os sem raça definida eram a maioria com 34,6%; quanto à saúde dos animais, 80% dos tratadores afirmaram não realizar acompanhamento veterinário visando o Canicross. 6,6% dos animais tiveram lesões esportivas e 80% desses casos receberam tratamento veterinário. Ficou claro que os tratadores conhecem estratégias para prevenir e/ou tratar lesões causadas pelo esporte, porém isso não se reflete nos cães. O caráter inédito do trabalho ajudará tratadores,

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veterinários e esportistas a traçarem protocolos para que os cães possam praticar Canicross com segurança.

PALAVRAS-CHAVE: Lesão; Corrida; Handler; Esporte.

IDENTIFICACIÓN DEL PERFIL DE LOS PRACTICANTES DE CANICROSS Y SUS PERROS EN BRASIL

RESUMEN: El estudio analizó el perfil de los practicantes de Canicross en Brasil. Se utilizó un cuestionario semiestructurado compuesto por 33 preguntas, siendo siete relacionadas con el conductor y 26 con los perros. Resultados: Del total de manejadores, 53,3% son mu-lheres, 64% practican el deporte hace por lo menos 5 años y 52,3% entrenan con trai-ner personal. De los perros, 62,6% eran hembras, 60% tenían entre uno y cuatro años y los sin raza definida eran la mayoría con 34,6%; en cuanto a la salud de los animales, 80% de los manejadores afirmaron no realizar acompañamiento veterinario con vistas al Canicross. El 6,6% de los animales presentaron lesiones deportivas y el 80% de estos casos recibieron tratamiento veterinario. Quedó claro que los cuidadores conocen estrategias para prevenir y/o tratar lesiones causadas por el deporte, sin embargo esto no se refleja en los perros. El carácter inédito del trabajo aju-dará a cuidadores, veterinarios y deportistas a trazar protocolos para que los perros puedan practicar Canicross con seguridad.

PALABRAS CLAVE: Lesión; Correr; Manejador; Deporte.

1. INTRODUCTION

Canicross is a cross-country race practiced by the man-dog pair or even by man-dog-dog and they are interconnected by an elastic guide and vest for better absorption of the traction performed by the dog (Merchant, 2019; Carter and Hall, 2018). It is a very common sport in Europe and originates from Siberia where dogs have been used to pull sleds since 2000 BC (Carter and Hall, 2018; Costes, 2010). Originally the Canicross emerged as an off-season training for sled dogs, but nowadays it has become an independent sport (ISDVA; IFSS).

The first official Canicross race in the United Kingdom was held in 2000 and, in 2002, the first world championships were held in Ravenna, Italy (ICF, 2017). In the USA and Scandinavia, in particular, Canicross is a well-established sport (ABCAES). According to ICF (ICF, 2017), this modality is practiced on dirt paths and there may be mud and obstacles and the distance varies from two to eight kilometers according to the category and equipment used in the Canicross are a belt attached to the handler's waist, an elastic band and the vest on the dog. The belt must be attached to the elastic guide whose function is to cushion the impact and to attraction chest vest also known as harness or harness (Carter and Hall, 2018).

Since the first official race, the number of increases has been increasing each year. At the European Canicross Championship that took place in Chevetogne-Belgium between 16 and 21 October 2019, there were more than 800 participants in 21 categories (ICF, 2017). In Brazil, according to the Brazilian Association of Canicross and Similar Sports (Lafuentes and Whyte, 2018), 28 competitors divided into four categories participated in the Brazilian Canicross Championship held in Santa Branca-SP in March 2020. This greater Brazilian adhesion to the sport must translate in injury prevention, especially in dogs. Some studies on the subject have already been carried out, but most of them are about race dogs (ABCAES; Vera, 2010).

According to Costes (2010) and Jendro et al. (2018) any healthy dog older than one year can be used to practice Canicross, both for leisure and competition, regardless of its size or breed. However, the most common is to use medium-sized dogs, between 20 and 35 kg, like Mixed Breeds, Labradors, Siberian Husky and Border Collie (ABCAES). Aiming at animal welfare, at the time of the race, sick, undisciplined dogs, pregnant or lactating females and disabled dogs are not able to participate in the race; in these cases, a veterinarian may be called in to assess the animal's health (Gibson, 2020; Costes, 2010).

The availability of information about injuries in dogs practicing Canicross is limited, however, according to Steiss (Steiss, 2002), athlete dogs are more susceptible to injuries such as myopathies for example. In racing dogs, like Greyhounds, fractures are the most common injuries (Knight, 2018). It is important to note that the intensity of racing is different from Canicross, so a sport-specific study can be valuable (Roonet, Gaines and Hyby, 2009). The growing interest in Canicross as well as the concern with the safety and well-being of dogs demands more knowledge about the practitioners of this sport in Brazil. Knowing the profile of athletes, the care and injuries to which they are submitted can help veterinarians and physical education professionals to develop a better training cycle pleading performance and injury prevention.

2. MATERIAL AND METHODS

A descriptive study was carried out in the period between 07/16/2020 to 08/11/2020 with Canicross athletes from the states of Goiás, Minas Gerais, Rio Grande do Sul, Rio de Janeiro, São Paulo and Distrito Federal (capital of Brazil); aged between 15 and 60 years and their respective dogs. Before starting the study, the athletes were

informed about all the procedures and their participation was conditioned to the electronic signature of the consent form and / or informed consent form (ICF). The project was approved by the Human Research Ethics Committee of the Federal University of Lavras (CAAE: 32769220.5.0000.5148).

The sample was composed of Canicross athletes from Brazil, where they were identified and selected in official social media groups, without having a pre-established number of samples, since there is no data on the number of Canicross practitioners in the Brazil.

The tool used to assess the athletes' profile was a semi-structured online questionnaire, developed on the Google forms platform, composed of 33 nominal questions, which can be subjective or objective, seven related to the driver and 26 related to dogs, as shown in Figure 1. In regarding the handlers, the questions were based on the competitor's identification such as age, sex, previous preparation for sports practice, presence of injuries and how these injuries were treated. In the area of dogs, in addition to characterization (such as age, gender and race) and preparation for sport, animal welfare was also addressed. The athletes were able to answer the questionnaire more than once, according to the number of dogs that practice Canicross with them. The percentage of each question was calculated to describe the data, all calculations were made using Excel software (Microsoft Corporation in the USA and / or other countries) (Oliveira et al. 2023).

Figura 1. Semi-structured online questionnaire

PART ONE: IDENTIFICATION OF ANIMAL AND HANDLER

Handler

1. Age: less than 15 years; between 15 and 20 years; between 20 to 30 years; between 30 to 40 years; between 40 and 50 years; over 50 years
2. Gender: Female; Male; Prefer not to say.
3. How long have you been practicing Canicross? Less than 1 year; from 1 to 5 years; from 5 to 10 years; over 10 years
4. In addition to Canicross, do you practice another activity or training? If so, which ones? How long have you been practicing?
5. Are your training sessions accompanied by a Personal Trainer? Yes or No.
6. Have you ever been injured? Yes or No. If so, what kind of injury?
7. Did you have any treatment for this injury? Yes or No. If so, which ones?

Dog

1. Age: 1 to 4 years, 4 to 8 years, over 8 years
2. Gender: Male; Female
3. Breed: SRD, Pointer, Whippet, Siberian Husky, Border Collie, Jack Russel, German Shepherd, Others
4. Weight: between 1 kg and 5 kg; from 5 kg to 10 kg; from 10 kg to 20 kg; from 20 kg to 30 kg; over 30 kg
5. Coat color: Predominantly white; Predominantly Brown; Predominantly Black; Predominantly gray
6. Hair: Short or Long
7. Is the dog neutered? Yes or No.
8. Do you have veterinary follow-up aiming at the practice of Canicross? No; Yes. If so, which ones?
9. Do you supplement with joint protectors? Yes; No
10. Has the dog's diet changed as a result of playing sports? Yes or No. If so, was the change guided by a veterinary nutritionist? Yes or No.
11. Do you do any kind of preparation with the dog? Yes or No. If so, which ones?
12. Does the dog do any type of muscle strengthening with a veterinary professional? Yes or No. If not, why? I don't think it's necessary; I think it's important but I don't have the financial means; I would like to do it but I don't find a professional
13. Does the dog have any previous orthopedic problems? Yes or No. If so, which ones?
14. Has the dog been injured while practicing Canicross? Yes or No. If so, what injury?
15. Did you have any kind of treatment? Yes or No. If so, what treatment?
16. Does the dog interact with the family? Yes or No
17. Does the dog sleep indoors or in a kennel? Yes or No
18. Do you have children at home? Yes or No
19. Is the dog isolated or does it have other contact animals?

PART TWO: CANICROSS

1. How did you find out about Canicross? Friend, internet, vet, others.
2. How long have you been practicing Canicross? Less than 1 year; between 1 year and 3 years, over 3 years.
3. How many times a week does the training? 1, 2, 3; more than 3.
4. In what period? Morning; Evening; Night.
5. How many kilometers are covered per week? 1 to 3 km, 3 to 5 km, 5 to 10 km, More than 10 km
6. Is the practice of Canicross for leisure or competition? If it is by competition, does the team travel to carry out the tests? Yes or No. If so, what were the cities?

3. RESULTS

3.1 Characterization of Handlers

In the characterization of handlers (table 1), it was observed that the majority of practitioners are aged between 30 and 40 years (36%), 53.3% are women and 64% have practiced Canicross for at least five years, 8% between one and five years and 28% less than a year. 48% found out about Canicross through friends, 46.6% through internet or television, 4% through veterinarians and only 1.3% had contact with the sport after participating in lectures on the topic.

As for the practice of another physical activity, 86.6% of the handlers stated that they perform another sport; of those who claimed to practice another sport, 72% chose anaerobic exercises, 66.6% aerobic and 8% stretching. 52.3% were monitored by a physical education professional and 49.3% had already been injured. Among the most cited injuries, the majority occurred on the knee (20%) and 89.1% of the practitioners sought medical help for the treatment of the injuries.

The activity period in Canicross was also evaluated; 25.3% of people answered that they had been training for more than three years while 74.6% stated that they practiced Canicross between one and three years. The most frequent frequency was twice a week (37.3%) and in the morning (64%). The average mileage traveled by practitioners was between five and ten kilometers with 32%. Most also practice Canicross just for leisure (66 people) and 44% of participants travel to compete.

All handlers stated that the dogs had good interaction with the family; 85.3% of the dogs slept indoors, 69.3% interacted with other dogs and only 22.6% interacted with children.

Table 1. Age of Canicross practitioners, damaged areas and treatment.

Age (years)	Percentage
20-30	33,3%
30-40	36,0%
40-50	24,0%
> 50	06,6%
Damaged areas	Percentage
Shoulder	4%
Knee	20%
Lumbar spine	5.3%
Feet	10.6%
Hip	1.3%
Ankle	6.6%
Iliopsoas muscles	1.3%
Achilles tendonitis	1.3%
Treatment	Percentage
Physiotherapy	64.8%
Strengthening	54%
Acupuncture	21.6%
Medicines	51.3%
Change of footwear	2.7%
Surgery	2.7%

3.2 Characterization of dogs

In relation to dogs, 62.6% of the animals were females, 60% of the practitioners were aged between one and four years. The mixed breed dogs represented the majority with 34.67%, followed by the Border Collie breed with 29.33% and Siberian Husky and Labrador with 4% each breed. Other breeds that appeared in the survey were: American Staffordshire, Pointer, German Shorthaired Pointer and Golden Retriever with 2.6% each and Beagle, Lhasa Apso, Jack Russel, Australian Cattle Dog, Boxer, Pit Bull, Belgian Shepherd, Hungarian Braco, Dalmatian, Samoyed, Rottweiler and German Shepherd with 1.3% of representatives. Regarding sterilization and weight, 64% of the animals were spayed and 48% weighed between 10 and 20 kg, respectively.

Fifty-two percent of the handlers stated that their dogs were not submitted to veterinary monitoring aiming at the practice of Canicross. Of this total, 45.24% of the handlers claimed that they did not think such follow-up was necessary, 21.43% said they did not find professionals in the area prepared to advise on the sport and 33.33% stated that they did not have the financial means to carry out veterinary visits in order to practice Canicross. Of those who underwent professional follow-up, the veterinarian was the most sought after with 97.22%, followed by the physiatrist and orthopedist 22.22% each like table 2.

Of all dogs, 75 animals, only 20% were submitted to some type of preparation, representing; among the most used techniques, myofascial release (43.75%), massage therapy (25%), stretching (18.75%) and hydrotherapy (12.50%) were mentioned; acupuncture was performed by only 6.25% of dogs. 78.67% of the dogs did not receive supplementation with chondroprotectors, 80% of the dogs did not do muscle strengthening and 58.67% of the dogs did not have dietary changes as a result of sports practice. Only 4% of dogs practiced Canicross with previous orthopedic problems such as back pain, elbow dysplasia and metacarpal ankylosis. 6.6% of the animals were injured during the sport; the diseases mentioned were joint pain (60%) and injuries to the cushions (40%). Of the total number of dogs that were injured during sports, only 20% did not receive care for the treatment of injuries. Of the treatments instituted for joint pain, rest and pharmacological treatment were the only ones mentioned by the handlers (50% each procedure).

Table 2. Percentage of dogs under veterinary care and their specialties.

Specialties	Percentage
Nutritional	2.7%
Clinical	97.2%
Physiotherapist	22.2%
Acupuncturist	5.5%
Orthopedist	22.2%
Cardiologist	5.5%

4. DISCUSSION

It was observed that adherence to sport is still low in the country when compared to some European countries and the United States (USA) (ABCAES; Jendro et al. 2018). This result may be related to the fact that most participants practiced for five years and had known the sport through friends, while abroad, Canicross has been a consolidated sport for at least 20 years (Merchant, 2019; ABCAES).

The age of the handlers did not vary as much as was found in the work of Steele (2007) where it ranged between 15 and 86 years; In this job. According to Andersen (Andersen, 2019), the average age of runners in 1986 was 35.2 years and in 2018 it was 39.3 years, this aging may be related to the longest running career and people are more welcome to run older age. Another notable result was the greater female interest in the sport; while men represented the largest share of participants in other countries, as shown in the works of Jendro et al. (2018), Pérez, García and Barlow (2016) and Steele (2007), in Brazil, women were the majority as found in the studies by Pérez, Granger and Ipython (2007), Braga and Pires [19]. It is known that the female participation in street races has been increasing significantly (2018) and, as presented by Andersen (2019), the short tests (up to five kilometers) are preferred by women; this predilection would justify a greater female presence in the Canicross competitions since the distances vary between two to eight kilometers.

As for physical preparation, although the majority of handlers were accompanied by a personal trainer or performed sports activities as strengthening aiming at training for Canicross, the same did not happen with dogs. It is known that sports performance, as well as injury prevention, is related to a good physical exercise program guided by qualified professionals (Robertson and Robertson, 2013), however, it was observed in

this study that, although handlers performed activities with these goals, the same did not extend to dogs. The percentage of animals that were not subjected to any type of specialized monitoring aiming at the sport was quite high (80%).

It is important to emphasize that 45.2% of the people answered that they did not think it was important to have a professional responsible for training the dogs in order to practice Canicross. It is a worrying fact considering that athlete dogs also need adequate training (Zink, 2017; Puerto and León, 2014a; Puerto and León, 2014b) since, according to Lafuentes and Whyte, (2018), Canicross has the potential to injure dogs during specific training and in competition. Pérez, García and Barlow (2016) stressed the importance of preparing the dogs in order to adapt the animals to the physical changes that occur according to the intensity and training period, thus seeking better performance in the tests with less risk of injury. Puerto, Gomez and Mancha (2017) and Coelho and Henrique (2017) pointed out that well-conducted training contributes to the increase in the expectation and quality of life of dogs due to their physiological, psychological and social benefits.

The dog-man combination itself can be harmful to the animal without adequate preparation. According to Robertson and Robertson (2013), the 2-meter-long elastic band used in medium-sized dogs would not cause any problems, since the stretched elastic guide is practically at a 180° angle connecting the man to the dog. However, the same length used in a smaller dog like Jack Russel, for example, would cause greater pressure on the dog's lower back, facilitating injuries in the medium and long term (ABCAES; Oberbauer, Keller and Famula, 2017).

Although the variety of sports and activities performed by dogs makes it difficult to develop a specific fitness program for each modality, the benefits of exercise in the preparation of athlete dogs are widely known, causing interest in the subject to increase dramatically (Zink, 2017; Costes, 2010). An example of this was the development of Fit to Work, which is the planning inherent to each modality, including the assessment of the dog's physical fitness and the elaboration of a basic training program that includes a number of predetermined exercises and progression steps (Fan, Ramos and Otto, 2020). As in human athletes, the canine requires a good team supporting it from all areas: from development, treatment, physical preparation and corrective care (Garrido, 2018; Robertson and Robertson, 2013).

Of the animals that practiced Canicross with some type of injury, only elbow dysplasia was mentioned in this study, contrary to the work of Lafuente & Whyte (2018) who pointed out four animals, out of a total of 160, that presented hip dysplasia (6.4%). Schachner & Lopez (2015) demonstrated that hip dysplasia is the most prevalent orthopedic disease and that elbow dysplasia can be an underreported comorbidity, so its diagnosis would be lower when compared to Hip Dysplasia. It is not possible to determine how this diagnosis of elbow dysplasia was reached since the questionnaire had no questions regarding radiographic examinations.

The occurrence of injuries during Canicross was also shown to be lower when compared to other studies (ABCAES; Oberbauer, Keller and Famula, 2017). Only 6.6% of the dogs were injured during the practice of the sport. The perception of joint pain and injuries to the cushions were the only two points made by 60% of the handlers. This low number of injuries during the practice of Canicross may be related to the intensity of training, since abroad the number of sports events and events is much higher than in Brazil (Jeandro et al. 2018). In relation to veterinary care after trauma, in this study, 80% of dogs received specialized care corroborating the study by Steele (2007), where demonstrated that 96% of handlers sought veterinary care after trauma.

Canicross practice time was also much shorter when compared to studies carried out since, while in Europe, Canicross has had official events since the 2000s (ABCAES), in Brazil, the first championship was in May 2019 at city of Torres-RS (CREFRS).

It was clear to the authors that, although the sport is becoming popular in Brazil, the concern with good training and care with injuries for dogs is almost non-existent when compared to handlers. It is not possible to know whether this gap is due only to the lack of information of the handlers about the importance of such care or whether it is related to the lack of guidance on the subject by veterinarians since this work did not address such topics.

The authors recommend that studies on the knowledge of veterinarians about dog sports be conducted so that these professionals can guide the guardians and effectively identify injuries caused by the sport.

5. CONCLUSIONS

Canicross is a relatively new sport in Brazil and is attracting more and more fans. It became clear that handlers are concerned with the prevention and treatment of injuries

and that these precautions are widely known, however, this is not reflected when it comes to dogs. Most handlers stated that it is not necessary to have a veterinary follow-up aimed at Canicross and this is worrying since every sport without preparation has the potential for injury and with Canicross it would be no different. It is obvious that more studies should be carried out, but the originality of this work was essential for both sports lovers and veterinary professionals to develop strategies so that dogs can practice this sport with much more safety.

COMPETING INTERESTS

The authors declare that they have no conflicts of interest concerning this article.

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