

Małgorzata GOLEMAN , Kamila KASZYCKA , Wanda KRUPA ,
Piotr CZYŻOWSKI 

THE INFLUENCE OF SELECTED FACTORS ON THE WELFARE OF SPORTING DOGS – A SURVEY STUDY

Department of Animal Ethology and Wildlife Management, University of Life Sciences in Lublin, Poland

Abstract. Cessation of use predispositions consistent with breed characteristics might be a source of constant frustration and behavioural disorders for the dog. Therefore, a lack of typical activity for a breed significantly reduces the level of well-being and negatively affects the quality of life. Aware owners of working-breed dogs are trying to fulfil their needs through activities offered by different dog (cynological) sports. However, some opinions state that dog sports might impair their well-being due to intensive training and competitions. The goal of this study was an assessment of the living conditions and the level of welfare of the dogs actively participating in dog sports, based on their owner's declarations. The research material was gathered from a survey among dog sports competitors and people associated with dog sports but not practising them. Five hundred fifty respondents, including 407 active dog sports competitors, participated in the study. It was hypothesized that taking an active part in dog sports and their discipline impacts the owner's awareness of the need to ensure a high level of welfare of the sporting dogs. The relationship between the sports discipline and the variables that determined the level of well-being was determined. Surveys have shown that in the opinion of people practising cynological sports, sports dogs are provided with a high level of welfare, although the percentage of people who gave such an answer depends on the dog sport practised.

Key words: competitor, cynological sports, sport dog, welfare.

INTRODUCTION

Domestication of dogs was associated with humans benefiting from its presence. Dogs warned them about the danger approaching the farmyard, helped during hunting, transporting cargo, and later also with grazing farm animals and many other areas of human activity. The relationship between humans and dogs was dependent on many factors, but usually, in exchange for its work, the dog was receiving food and human care (Wojtaś et al. 2018). The turn of the 19th and 20th centuries was associated with a change in the perception of the role of dogs, which resulted in the intensive development of breeds and forming cynological organisations that were supervising the breeding, registration and setting the standard for many dog breeds. Dog's role in human life has majorly changed throughout the last few de-

cares. The development of civilisation and technology reduced the necessity of using dogs for their original purpose. Nowadays, only a few specimens are used as hunting, guarding, sledding, or herding dogs.

At present, dogs are mostly companion animals, and their original utility has been replaced by different forms of activity, which quickly turned into dog sports. Dog sports frequently help fulfil the dogs' basic needs, and they need owner involvement due to the change in the living environment. The cooperation required while preparing a dog for competitions might significantly impact the relationship between an owner and an animal (Strychalski et al. 2016).

A growing interest in animal welfare in recent years has caused significant changes in the definition of their proper living conditions. The nature of the human-animal relationship and the emotional status of animals are gaining more and more attention (Mellor et al. 2020). The aspect of the well-being of a domestic dog is particularly challenging due to the significant variety of living conditions and different opinions of the owners regarding the appropriate way to take care of the dog and meet its species' needs.

A precise determination of the general living conditions that would ensure a high level of well-being can be highly problematic, as well, in the context of high breed diversity. Breed characteristics were consolidated to use their predispositions best to support human functioning. Cessation of use predispositions consistent with breed characteristics can be a source of permanent frustration and behavioural disorders in dogs. The lack of breed typical activity decreases the level of welfare significantly and negatively impacts the quality of life (Essner et al. 2022).

Owners of working-breed dogs are trying to fulfil their needs through the activities offered by different forms of dog sports. The research of Zilocchi et al. (2016) shows that dogs training agility have a statistically significant lower tendency to aggression than other dogs. A possible explanation is better intra-species socialisation undergone by dogs participating in competitions and more frequent contact with other dogs during sporting events. However, there are opinions that using animals for sport negatively impacts their welfare due to excessive workload, training methods or injuries (Lercier 2019).

Dog sports may generate injuries, and training demands proper physical and physiological conditions. Does that mean dog sports competitors exploit their dogs and disturb their welfare? Definitely no, because dog sports are based on a dog's instincts, drive, and willingness to work with humans. In many sports, it is also crucial to consider both breed and individual predispositions. At the same time, it should be remembered that the wide range of requirements in individual dog sports requires attention to various factors ensuring the well-being of dogs. Based on their owner's declarations, this study aimed to assess the living conditions and the level of welfare of the dogs actively participating in dog sports.

MATERIAL AND METHODS

The research material was obtained through a survey among active dog sports participants and people who train with their dogs but do not participate in competitions. An original questionnaire containing 58 questions was sent directly to handlers of dogs practising dog sports. The form was also made available in thematic groups on one of the social networking sites.

Questions have been divided into the following sections:

1. About the owner: age, place of residence.
2. About the dog: breed, gender, reproductive status, current age, age of starting training.

3. How the dog is kept: where the dog lives daily, the amount of time spent with the dog, the frequency of relaxing walks and contact with dogs.
4. Sport: sport discipline practised, taking into account the level of advancement, participation in competitions, number of training sessions and the number of “entries” in one training session and their time, use of warm-up and cool down, use of a regeneration break.
5. Dog’s emotional state: during training, competitions and regeneration breaks.
6. Nutrition and veterinary care: diet, supplementation and its scope, prevention of endo- and ectoparasites, preventive screening.

Finally, questions were asked about assessing the dog’s level of well-being during training and regeneration breaks, and an opinion was asked about the well-being of dogs practising cynological sports.

Five hundred fifty respondents participated in the study, including 407 active cynological sports competitors. The form was completed separately for each dog; some dogs practised more than one type of dog sport. Dog sports disciplines represented by at least 15 dogs were selected for detailed statistical studies, and those were: agility – 149 dogs, IGP (Internationale Gebrauchshundeprüfung) – 77 dogs, frisbee – 81 dogs, obedience 108 – dogs, herding – 78 dogs, flyball – 23 dogs, nosework – 43 dogs, rally-O – 17 dogs.

It was hypothesized that practising dog sports and their discipline influence the guardians’ awareness of the need to ensure a high level of well-being of sports dogs. The relationship between the type of sport practised and the variables that determined the level of well-being was determined based on the following questions:

- my dog’s level of well-being,
- level of dog welfare in sports,
- whether you provide a warm-up and cool-out,
- whether you provide a recovery break,
- whether you provide a special diet,
- whether you provide supplementation,
- whether you perform periodic tests,
- whether your dog has had sports-related injuries.

The relationship between these features was determined using the chi-squared test of independence. The values of the chi-squared test, the p-value and, in the case of significant relationships, the phi value, which characterizes the strength of the assessed relationship, are provided. Statistical calculations were performed using the Statistica 13.1 program.

RESULTS

40% of surveyed owners answered the question “Do sports dogs have a high level of welfare?” affirmatively, 39.3% could not give a clear answer, and 20.7% had the opinion that sporting dogs do not have high welfare. The opinions of people who practice dog sports with their dogs and those who do not declare such activity are summarized in Fig. 1 regarding the high level of well-being provided to sports dogs.

There was no statistical relationship between the opinions of people practising dog sports and those not practising sports on ensuring a high level of well-being for sports dogs.

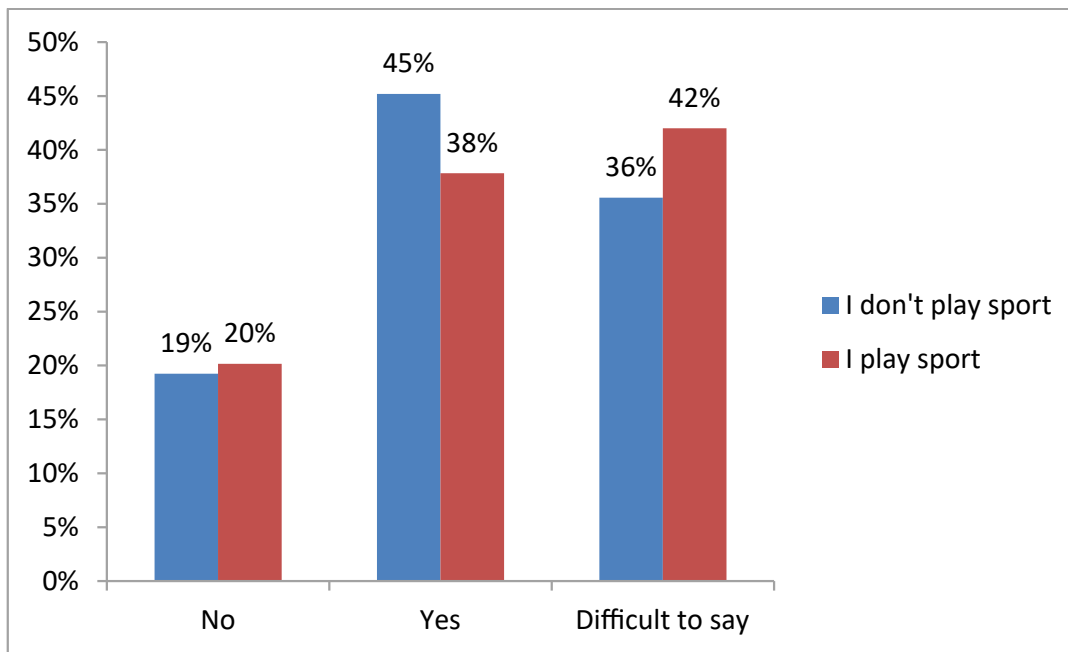


Fig. 1. The impact of practising dog sports with your dog on the answer to a question: do you think all sporting dogs have a high level of welfare?

However, the share of people practising dog sports (n = 407) and declaring that they ensure a high level of well-being for their dogs was 99.5% (n = 405), and only two people could not give a clear answer.

However, significant relationships were observed in ensuring the well-being of sports dogs in the opinions of people practising selected dog sports (Fig. 2).

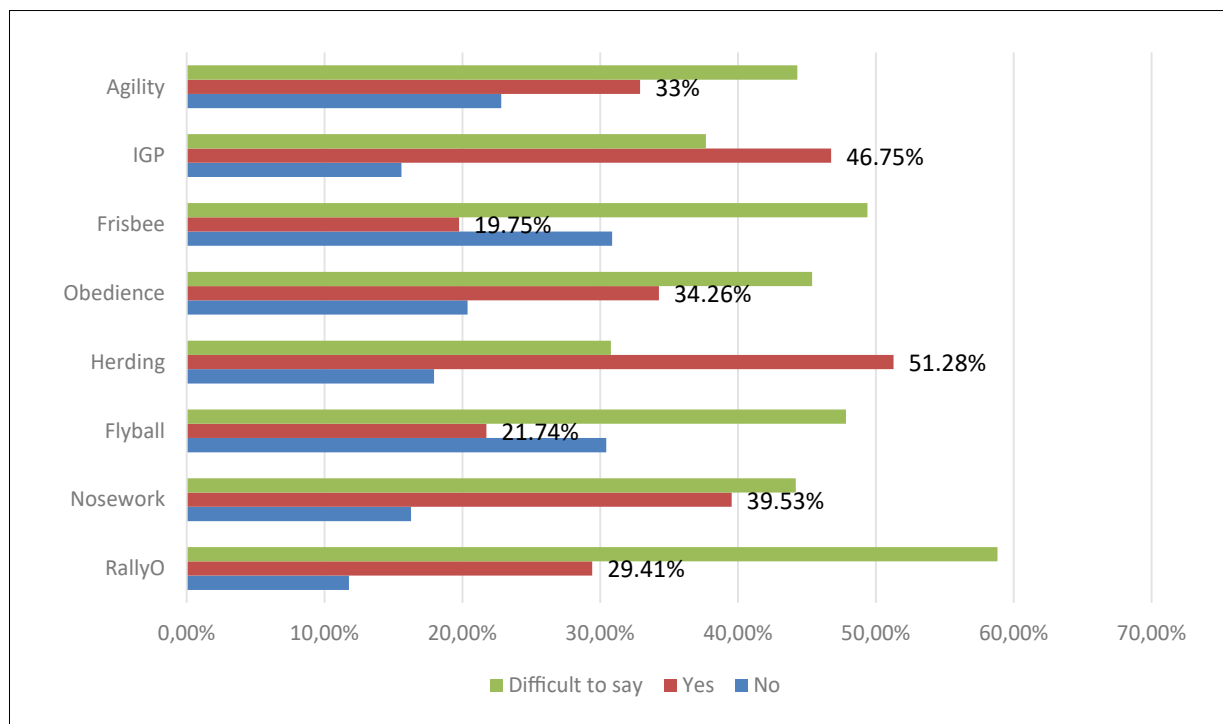


Fig. 2. Opinions of people practising selected sports on the level of welfare of sports dogs

The worst opinion regarding the level of well-being of dogs in cynological sports was held by people practising frisbee, and these were statistically significant relationships ($\chi^2 = 16.1236$; $df = 2$; $p = 0.0003$; $\phi = 0.1993$). On the other hand, the best opinion about the level of well-being of sporting dogs had people who train and take part in herding trials, and these were also statistically significant relationships ($\chi^2 = 7.6836$; $df = 2$; $p = 0.0214$; $\phi = 0.1375$). Among people practising the other analyzed dog sports, no statistically significant relationships existed in the answers provided.

The following two questions concerned using a warm-up before training and competition and cooling the dog out after training/competition (Fig. 3, 4).

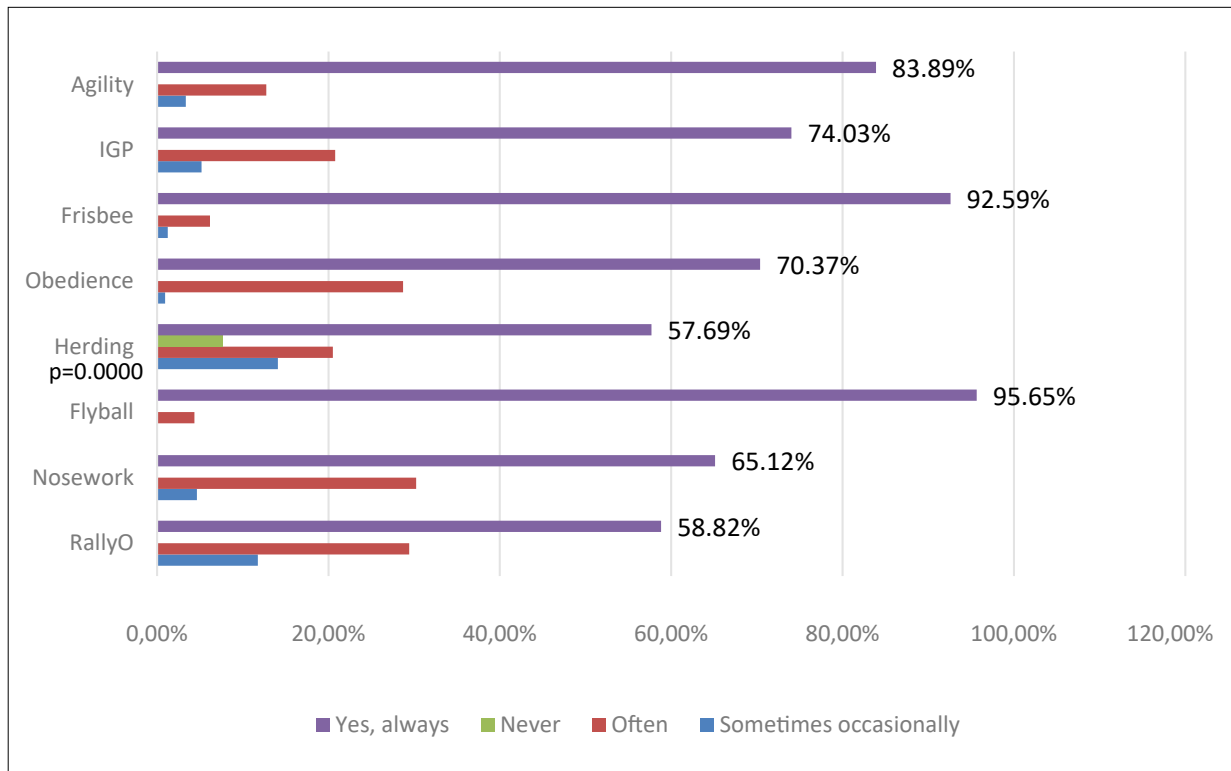


Fig. 3. The use of warm-up by competitors of selected dog sports

During the analysis of the responses of dog sports competitors, it can be noticed that 75.7% of selected competitors use a dog warm-up before training/starting – this is standard practice in sports such as flyball or frisbee. The responses of people who practice agility with their dogs were somewhat surprising, with “only” 83.89% of competitors declaring they are using a warm-up before training. In the case of herding training, the fewest competitors declared using a warm-up (57.69%); also, only in this discipline of dog sport did the owners choose an answer never (7.60%), and these were statistically significant relationships ($\chi^2 = 46.5425$; $df = 3$; $p = 0.0000$; $\phi = 0.3386$). This answer can be explained by a herding dog’s specific type of work, where it moves naturally, consistent with its anatomical structure. Usually, walking the dog to the meadow takes a few minutes, during which the dog moves freely, and it can also be treated as part of a warm-up.

59% of players use cool-down after training – much less than warm-up. Like a warm-up, a cool-out is often used by frisbee and flyball players. No statistically significant dependencies were noted in the responses of people practising the analyzed dog sports (Fig. 4).

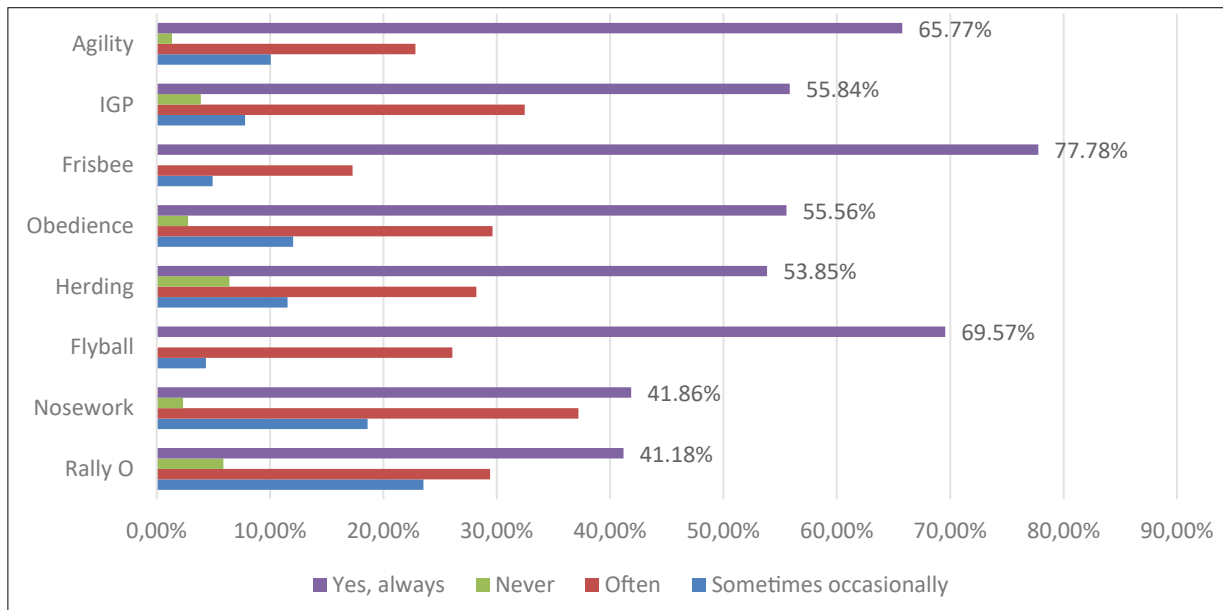


Fig. 4. The use of cool-out by competitors of selected dog sports

The regeneration period is an essential part of working with a sport dog because it enables a more extended rest – not only physical but also physiological, improving dog fitness (Ramos et al. 2021). The study participants’ responses regarding using a recovery break are summarized in Fig. 5.

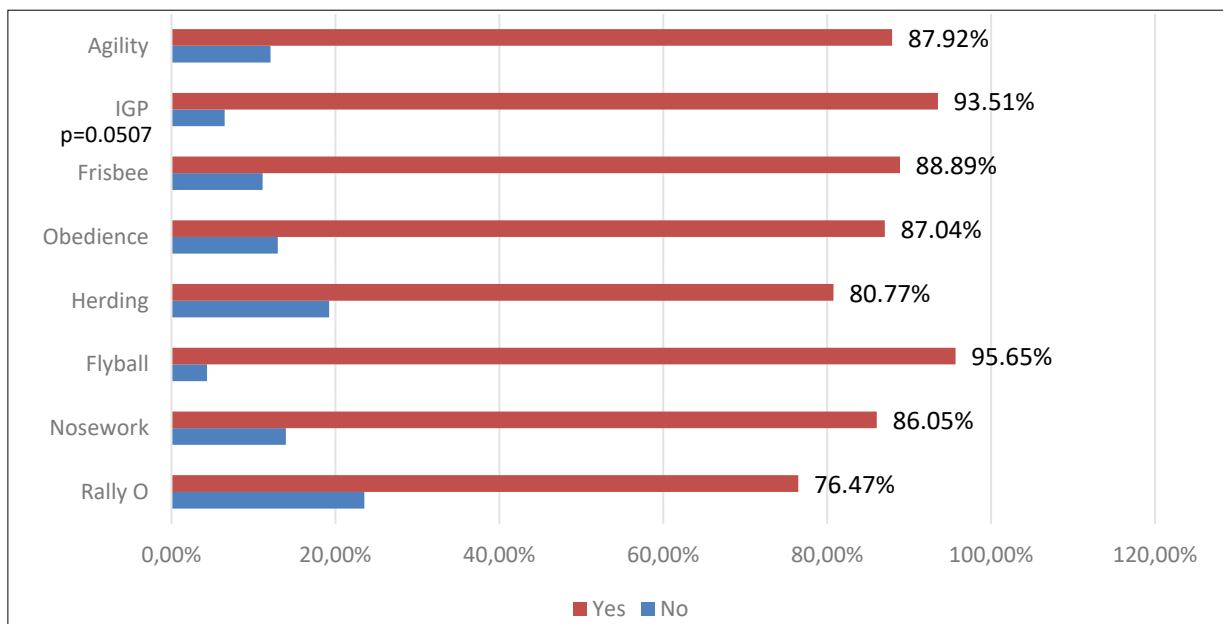


Fig. 5. The use of regeneration breaks by competitors in selected dog sports

During the analysis of dog sports competitors’ responses, 85.6% of players let their dogs take a regeneration break.

The analysis of the responses of people training IGP indicated that 93.51% of players let their dogs take a regeneration break, and these were statistically significant relationships ($\chi^2 = 3.8181$; $df = 1$; $p = 0.0507$; $\phi = 0.0969$) (Fig. 5). The players declared that the length of the regeneration break ranges from 1 to 4 months.

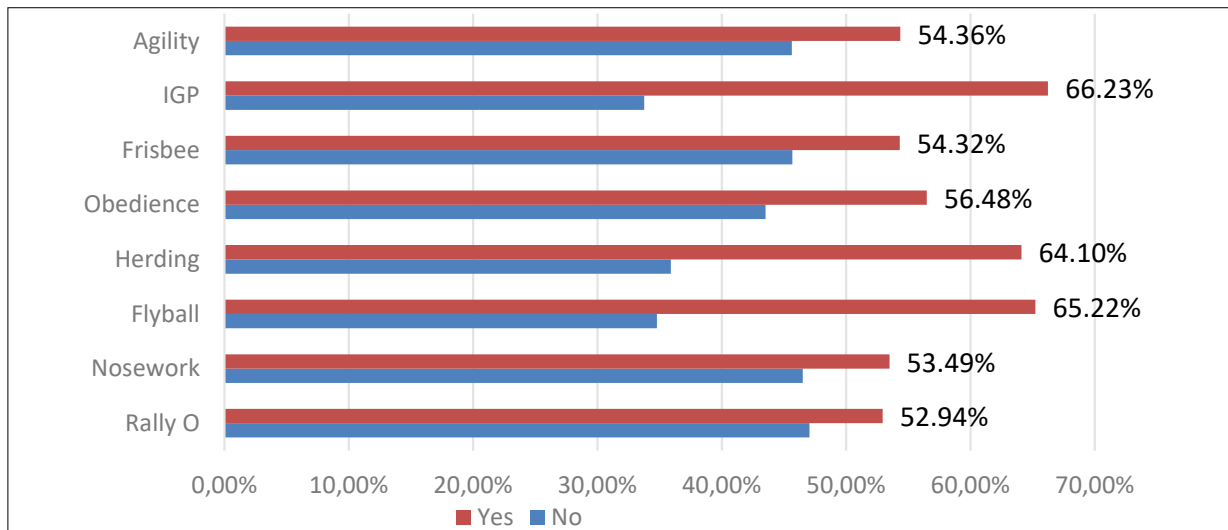


Fig. 6. Use of a special dog diet by competitors in selected dog sports

Sport dogs are often fed following a special diet based on higher calorie density of food by increasing the share of protein and fat as well as mineral and vitamin additives. The analysis of the responses shows that competitors both use commercial dog food and compose their dog meals themselves. 60% of competitors of selected dog sports use a special diet. Most often, these were competitors training IGP (66.23%) and flyball (65.22%) (Fig. 6). The competitors declared different ways of feeding their sports dogs: 41.2% of them fed their dogs dry commercial dog food, 17.7% fed their dogs both dry and wet dog commercial food, 15.4% declared mixed feeding with dry commercial food and BARF (Biologically Appropriate Raw Food) and 15% BARF (10.7% declared other types of feeding).

Supplementation is closely related to nutrition. As many as 87.2% of competitors use supplementation in their sports dogs. Most players using supplements (91.30%) compete in flyball with their dogs (Fig. 7). Statistical analysis of competitors' opinions in selected dog sports did not reveal any significant relationships.

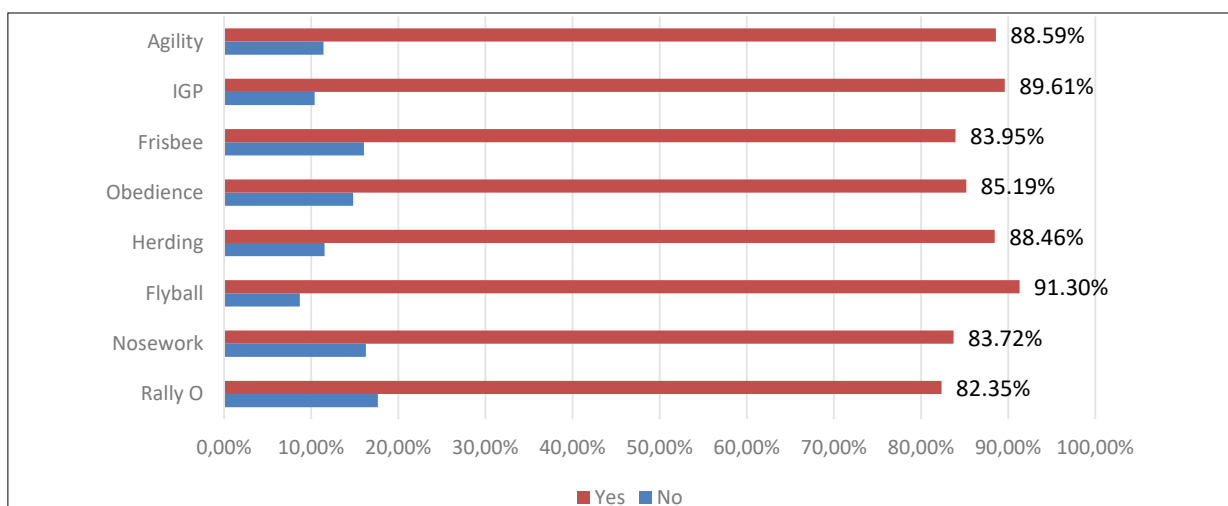


Fig. 7. The use of supplementation for dogs by competitors of selected dog sports

The next question concerned the performance of preventive periodic examinations in sporting dogs. 95.1% the competitors of all analysed dog sports answered affirmatively.

Preventive periodic examinations performed on dogs declared by competitors of selected dog sports are illustrated in Fig. 8.

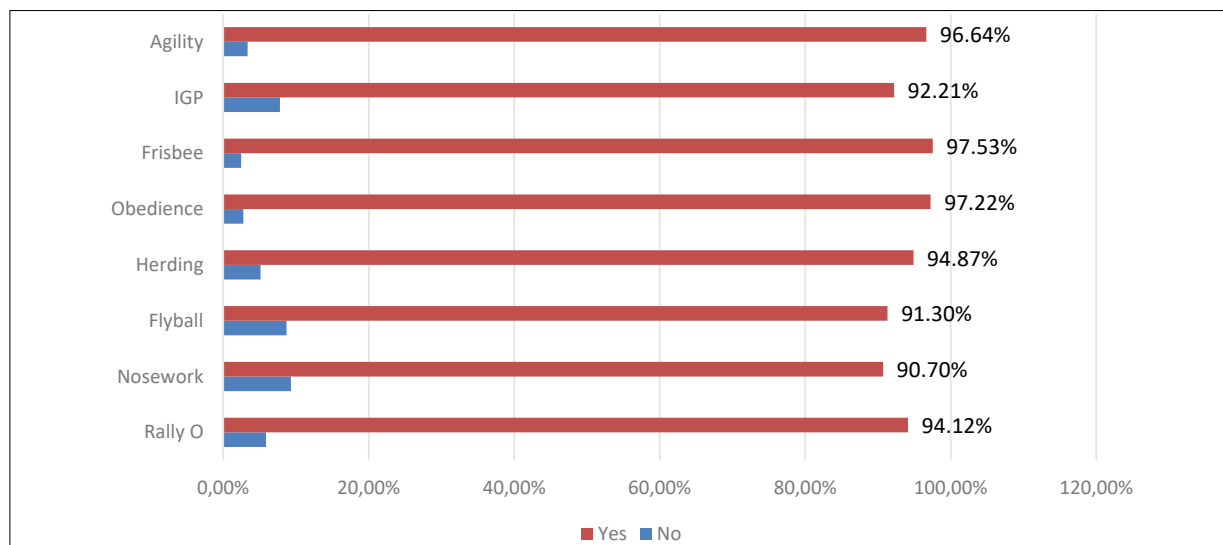


Fig. 8. Preventive periodic examinations performed on dogs declared by competitors of selected dog sports

The competitors were also asked if injuries correlated to performed dog sports occurred in their dogs. Most of them, 68.4%, declared that their dogs had no injuries, and 4.1% of competitors could not determine whether the injury had occurred. In 16.1% of dogs, injury related to trained sport occurred, and in 11.4% of the cases, injury was not related to trained sport. There were no statistical relationships between sports-related injuries in sporting dogs and non-sports-related injuries.

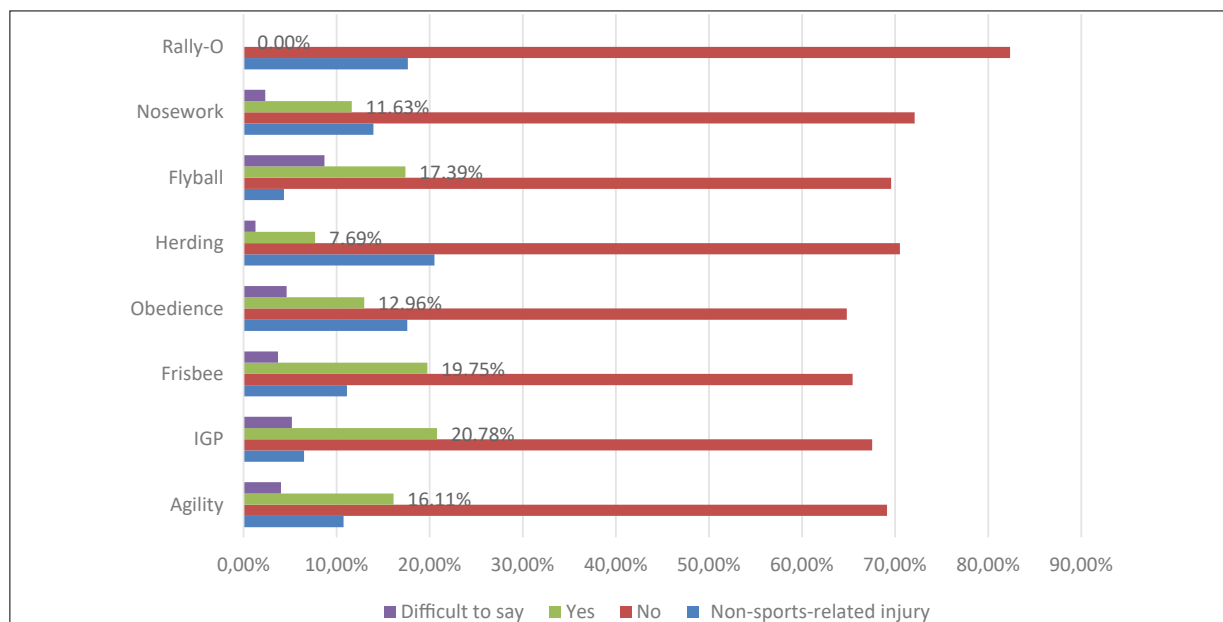


Fig. 9. Occurrence of injuries in dogs in selected dog sports

The sport that generated the most injuries in dogs was IGP (20.78%), then in order frisbee (19.75%), flyball (17.39%) and agility (16.11%) (Fig. 9).

DISCUSSION

A survey based on questionnaires is usually burdened by social desirability bias, that is, the deviation between the values provided by respondents and the valid values for the same measure. This deviation is a type of measurement error that may be random or systematic, constant or variable (Grimm 2010; Bauhoff 2014).

That does not change the fact that a survey is one of the essential research tools in many science fields, including animal behaviour assessment.

Conducted research aimed to assess the opinion of people involved with cynology on the welfare of sporting dogs. To provide dog welfare, an education of their owners is essential (McKernan et al. 2023). The development of scientific research in the last few decades has changed the current views on the needs of animals in terms of quality of life. Applying the knowledge of animal welfare to improve the everyday life of working and sporting dogs is a base for positive relationship during working with dogs (Cobb 2021). Maintaining the health of a working dog demands much more expenditure from the owner than providing for a typical companion animal (Ramos et al. 2021).

Maintaining a high level of working dog's welfare is influenced by many factors. Sustaining proper body condition is critical in dog sports (Sellon et al. 2018). Research executed by Kluess et al. (2021) that involved body condition, diet, and physical exercises of both working dogs and pet dogs showed that owners of working animals attach great importance to their dogs' health and well-being. That finding is consistent with our research, where as much as 99.5% of people who train with their dogs declared that they maintain a high level of welfare, which confirmed the research hypothesis.

Adequate nutrition plays an integral role in dogs' sports performance and rehabilitation. In high-performance dogs, independent diets, as part of the food ration, are associated with the risk of vitamin and mineral imbalance, negatively affecting health and fitness (Wakshlag 2018). Balancing the nutritional ration depends on the sport. In dogs practising high-intensity sports in a short time (ex., agility), there is a moderate increase in daily energy expenditure, so it is recommended to use a diet with a similar composition as food for dogs kept as family dogs. In contrast, endurance sports require increased daily food intake and additional calories are often needed to meet energy requirements during exercise. Suitable diets for such dogs are moderate in protein and high in fat (Wakshlag and Shmalberg 2014). For example, during the training of a herding dog or herding trial, the dog works for approximately 35 minutes without any break (Regulaminy i dokumenty, Praca psa pasterskiego). On the other hand, IGP consists of 3 competitions: olfactory work, obedience and protection work, which the dog must master at a similar level, so its training is extensive and taxing both physically and mentally (Regulaminy i dokumenty, Podkomisja ds. pracy psów użytkowych). In comparison, an agility run lasts several dozen seconds.

The dog's energy demand also varies depending on the starting season, and in some periods, it does not differ from the demand of an adult dog with moderate activity (Łączkowska et al. 2020). In our research, more than half of competitors declared that their dog is on a special diet, which applied to each analysed dog sport.

Nutritional balance is essential in the nutrition of a sporting dog. It is achieved when the supplied nutrients enable the body to maintain the proper functioning of all tissues and when none of the nutrients is in excess or deficiency (Kazimierska and Biel 2020).

Dinallo et al. (2017) researched the nutrition and supplementation of dogs competing in agility competitions, 99% of respondents used treats and 62% supplemented the dog's diet.

On the other hand, Koh et al. (2020) claimed that 77.7% of owners who trained flyball with their dogs used dietary supplements. In our research, depending on the sport practised, competitors used supplementation in dogs from 82.35% in rally-O to 91.30% in flyball.

The results obtained in a study on working Belgian Shepherd dogs showed better tolerance of physical exercise after supplementation (Clero et al. 2015). Similar results were shown in a study on German Shepherds detecting drugs. Supplemented dogs showed the lowest concentrations of creatine kinase (CK), aspartate aminotransferase (AST) and non-esterified fatty acids (NEFA), suggesting reduced muscle damage and improved energy metabolism (Menchetti et al. 2019).

An essential element in training sports dogs is warming up before training. Muscles, ligaments and joints that are not warmed up are susceptible to micro-injuries, which may lead to injuries in the long run. This element is crucial in sports where the dog performs many jumps. In the survey, 75.7% of competitors stated that they warmed up their dogs before training and competing, while in sports such as flyball and frisbee, the share of warm-up users was 95.65% and 92.59%, respectively.

Warm-up, cool-down or conditioning exercises, special diet and supplementation are preventive measures to keep the dog in good condition and fit (Cullen et al. 2013). In a Swedish survey, most sports dogs practising agility, obedience and rally-O were subjected to conditioning training, but not all dogs were warmed up before training and competition (Essner et al. 2022).

An element of the high level of well-being of sporting dogs is a regeneration break, usually planned after the end of the competition season. In our study, 85.6% of players took a regeneration break, and in the case of people training IGP, the share of people taking a regeneration break for their dog was 93.51%. A 4 to 12-week regeneration break period allows a dog to return to shape after intense work, minor injuries or unnoticeable micro-injuries. Inkilä et al.'s (2022) study regarding injuries in dogs training agility found that dogs recovered from most injuries within four weeks. Minimizing stress and optimizing regeneration is also crucial to maintaining the performance and well-being of a sporting dog. The recovery break should involve providing the dog with rest and alternative, moderate activity. Many working dogs are so energetic and motivated to work that they may have difficulty calming down (Ramos et al. 2021).

Preventive periodic examinations and catching the beginning of a sickness or injury in sports dogs can prolong their sporting career and improve their performance (Baltzer 2012). It is an element of keeping a high level of dog welfare. In our research, 95.1% of competitors declared that their dog undergoes regular preventive periodic examinations. Competitor's knowledge of the health and fitness of their dog also allows them to arrange training appropriately and not to overload their dog with training.

Many fitness sports, such as agility, frisbee, and flyball that rely on the dog's speed and jumping will often be frowned upon due to the risk of injury and possible consequences for the dog's welfare. The frequency of injuries in dogs in sports is exceptionally well-researched, but their causes are still not fully established (Blake et al. 2023). Of course, a dog's activity can generate different injuries. In our research, 16.1% of competitors declared that their dogs had an injury related to practising dog sport, but 11.4% of respondents declared that their injury had nothing to do with their sporting activity. Montalbano et al.'s (2019) research suggested a higher risk of injury in young dogs training flyball. They have also noticed a positive effect of using wrist protection during training on reducing the frequency of injuries. Also, dogs training agility that started training their jumping skills at a younger age were connected to a higher risk of injury than dogs that started exercising after 18 months old. Intensive training

in jumping skills before reaching skeletal maturity may increase the risk of musculoskeletal injury or disorder (Pechette Markley et al. 2022). Similar conclusions can be drawn from research by Romany_Pinto et al. (2021) that involved dogs competing in flyball, where the risk of injury was far more significant in dogs under two years. Body weight was also a factor increasing the risk of injury. Frequency and type of injuries varied by breed. The percentage of Border Collie dogs that suffered injuries was much higher than any other breeds (Pechette Markley et al. 2021).

Research has also shown that the risk of injury is lesser if the dog is training (Sellon and Marcellin-Little 2022). On the other hand, injuries may reduce the dog's sports performance or cause complete withdrawal from sports. Tomlinson and Manfredi's (2018) research has shown that 67.4% of dogs competing in agility returned to sporting events after an orthopaedic injury, but their jump height decreased in 47% of cases.

CONCLUSION

The survey shows that, in the opinion of people practising dog sports, sporting dogs have a high level of well-being. However, the percentage of people who answered affirmatively depends on the sport practised. The vast majority of competitors take many measures to ensure their sports dogs' high level of well-being. Most often, it was using warm-up and cool-down after training and a regeneration break, but also nutrition or supplementation supporting the dog's physical fitness. The competitors also declared they systematically perform preventive check-ups on their dogs to keep them in good shape and prevent potential injuries or diseases. Injuries in sporting dogs do occur, but it is difficult to determine whether they should be associated exclusively with sports activity. This finding was confirmed by research where sports-related injuries accounted for only 4.7% more than non-sports-related injuries.

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WPŁYW WYBRANYCH CZYNNIKÓW NA DOBROSTAN PSÓW SPORTOWYCH – BADANIA ANKIETOWE

Streszczenie. Zaprzestanie użytkowania zgodnego z cechami rasowymi może być dla psa źródłem permanentnej frustracji, a często także zaburzeń behawioralnych. Deficyt typowej dla rasy aktywności obniża więc znacząco poziom dobrostanu i negatywnie wpływa na jakość życia. Świadomi posiadacze psów ras pracujących starają się często zaspokajać ich potrzeby poprzez aktywność oferowaną przez różne formy sportów kynologicznych. Jednakże pojawiają się opinie, że psy sportowe mają zaburzony dobrostan z powodu intensywnych treningów i startów w zawodach. Celem badania była ocena warunków utrzymania psów biorących czynny udział w sportach kynologicznych oraz poziomu ich dobrostanu na podstawie deklaracji opiekunów. Materiał do badań stanowiły informacje uzyskane za pomocą sondażu przeprowadzonego wśród zawodników sportów kynologicznych oraz osób związanych z kynologią, ale nie uprawiających sportów kynologicznych. W badaniu wzięło udział 550 respondentów w tym 407 czynnych zawodników sportów kynologicznych. Postawiono hipotezę, że uprawianie sportów kynologicznych oraz ich rodzaj wpływają na świadomość opiekunów na temat konieczności zapewnienia wysokiego poziomu dobrostanu psów sportowych. Oszacowano zależność pomiędzy rodzajem uprawianego sportu a zmiennymi, które określały poziom dobrostanu. Z przeprowadzonego sondażu wynika, że w opinii osób uprawiających sporty kynologiczne psy sportowe mają zapewniony wysoki poziom dobrostanu, choć procentowy udział osób, które udzieliły takiej odpowiedzi, zależy od uprawianego sportu kynologicznego.

Słowa kluczowe: pies sportowy, sporty kynologiczne, zawodnik, dobrostan.