

Article

Welfare assessment of a dog shelter using the Shelter Quality Protocol

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Abstract: The purpose of this study was to practically apply this protocol in a private shelter in Cluj county, Romania. The welfare of the sheltered dogs was carried out on three levels: the management of the shelter, measures at pen level and the individual evaluation of the dogs. The main problems identified in the studied shelter were: the lack of indoor enclosures to protect the dogs in cold or hot periods; permanently deficient bedding; the diet rich in carbohydrates and low in fats and proteins; showing fear towards the evaluator; lack of a socialization program; the absence of a coherent adoption strategy; unqualified staff in animal behavior and welfare. Applying the shelter quality protocol is useful because it identifies the shelter's critical control points regarding the welfare of the housed dogs. Their prompt remediation will lead to an adequate animal welfare.

Keywords: dog; shelter; protocol; score

1. Introduction

Stray dogs are a huge animal welfare issue in the European Union, and Romania, has one of the largest stray animal populations on the continent, up to 500,000 dogs. This category of animals represents a social and economic problem closely related to the costs of population control programs, as well as zoonotic risks. The major causes of the huge number of stray dogs are: the total or partial lack of sterilization programs for dogs with or without owners, the abandonment of adult dogs (mainly represented by geriatric dogs or those prone to genetic or incurable diseases) and the abandonment of puppies. Of course, we cannot exclude one of the most important factors, the cultural one, often dogs are killed with unprecedented cruelty or simply tied up in the forest and subjected to starvation and water deprivation [1]. Annually in Romania, thousands of medical interventions take place that lead to the euthanasia of stray animals that have been captured and kept for more than 6 months in private or state shelters [1]. According to the World Organization for Animal Health (International Office of Epizootics - OIE), prevention is the most effective method applied to stray dogs, euthanasia, on the other hand, has been proven by studies to be ineffective and unethical [2].

The dog shelter is a space that receives and cares for a certain number of animals, most of them collected from the streets. That's why meeting the needs of the sheltered animals is a rather difficult task that involves exact planning of all activities and special involvement of the staff. In addition to these tasks, physical and behavioral evaluations of the sheltered animals should also be mentioned [3].

The management of a shelter requires many other aspects worth taking into account, such as: obtaining an authorization letter, meeting the minimum conditions stipulated by

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law, as well as staff training programs. One thing worth considering is that the shelter is not always the best solution to improve the well-being of the housed animals.

In many countries such as Italy, the euthanasia of stray dogs from shelters is prohibited by law. However, despite many positive ethical aspects, the "no-kill policy" has only prolonged the stay of dogs in state or private shelters, their number growing rapidly along with the public costs regarding the maintenance of these facilities [4]. In Romania, the euthanasia of dogs that have spent more than 14 days in the shelter is allowed according to law 155/2001, being among the few countries in Europe that allows this aspect [5].

The European regulatory framework does not have a standardized measure of minimum requirements for the facilities of dog shelters, so this makes the welfare standards of dogs in these facilities a challenge. However, there are several indicators of welfare that must be appreciated: the management of the shelter, the type of accommodation, the environmental conditions and the possibility of enriching it, the health of the animals, the human-animal relationship, veterinary care [3, 6]. In conclusion, it is vital to have a tool that evaluates the real condition of the dogs in the shelter. The Shelter Quality (SQ) protocol was developed to provide a valid, reliable, and practical tool for assessing shelter dog welfare [7]. The aim of this study was to test the Shelter Quality protocol in a private shelter in Cluj county, Romania.

2. Materials and Methods

The research was carried out in a private dog shelter in Cluj county, Romania. In order to complete this survey, 40 dogs were selected, their number being in accordance with the protocol recommendations. As reported to the shelter's register the animals did not appear with health problems at the beginning of the study.

The Shelter Quality (SQ) protocol [8] is based on the four welfare principles that include twelve criteria defined within the Welfare Quality® protocols of livestock species [9].

In order to make the assessment of animal welfare more efficient, this protocol was divided into two parts: the first part referred to the dogs welfare assessment in the shelter by SQ protocol, and the second part was oriented towards the adaptation of the protocol indicators and the addition of new findings/measurements suitable for the field conditions in Romania.

The information regarding the shelter management was included in the form of a questionnaire and referred to the total population of dogs at the time of the visit, housing conditions, their condition, mortality, morbidity as well as other aspects mentioned in table 1.

The resource-based indicators were evaluated at the level of each individual pen and basically looked at the housing conditions of the dogs: the space for each animal; the presence or absence of indoor and outdoor spaces; the bedding used and its type; the presence of sharp edges in the pen; type and functionality of the watering system; water cleanliness; number of animals shivering or huddling; the number of animals barking in the presence of the evaluator; the number of dogs presenting one or more stereotypes (repetitive or compulsive behaviour); the number of animals showing pain; the presence of fecal samples with diarrhea in the pens [10].

Animal-based indicators were represented by: the dog's condition; the number of animals with wounds, swellings; presence of ectoparasites; the presence of lameness and cough (kennel); behavioral indicators [10].

3. Results and discussion

In total 19 pens were evaluated and a total of 40 dogs were individually assessed using the SQ protocol.

Table 1 presents the management (administrative) questionnaire. Within the shelter, the dogs are kept in boxes with outside space that facilitates their movement. No surgical interventions are performed in the shelter, and all therapy protocols are performed in the USAMV Cluj-Napoca Emergency Hospital.

Table 1. Management questionnaire (administrative)

General information about the shelter	
Number of dogs in the shelter the day of the visit	75
Number of hospitalised dogs the day of the visit	0
Temperature (°C) and humidity (%) the day of the visit	10°C 77%
Housing	
No. single pens: 5	No. pens housing a pair: 17
No. pens housing a group of animals (≤ 5): 11	No. pens housing a group of animals (> 5): 0
Total no. of pens:	34
Exercise	
Dogs are left in a fenced outdoor area:	daily (30 minutes or more) x
	weekly
	no/not regular
Dogs are walked on leash by shelter staff or volunteers:	daily
	weekly
	no/not regular x
Surgeries / pain control	
Presence of hospital pens:	yes/no
Presence of operating procedures for post-surgical monitoring:	yes/no
Presence of protocol of analgesia:	yes/no
Mortality	
No. euthanasia due to health problems: 3	No. of deaths (other than euthanasia):0
No. euthanasia due to behavioral problems: 0	Population of dogs in the shelter (average number of animals):75
Morbidity	
Costs for clinical treatments (12 months):	Very high costs with variable amount
Feeding	
Type of diet:	Feeding regime:
<ul style="list-style-type: none"> • dry pellets • cooked • wet/canned 	<ul style="list-style-type: none"> • once/day • twice/day • <i>ad libitum</i>
Special diets for puppies: yes/no	Special diets for hospitalised: yes/no
Special diets for geriatrics: yes/no	
Notes: One empty pen. Feeding takes place every day around 14:00 - 16:00	
The assessment started at: 11:30	The assessment ended at: 13:30

Regarding animal-based indicators at pen level out of 40 evaluated dogs, five (12.5%) exhibited panting on remote inspection, and 32.5% (n=13) barked at the sight of the evaluator. As the temperature dropped, a percentage of 32.5% of the dogs (n=13) showed signs of diarrhea. Seven dogs (17.5%) showed repetitive behavior, which is often associated with pathological conditions, while 12.5% (n=5) of subjects had compulsive behavior.

The assessment of dog welfare was based on measurements of physiological parameters related to stress or dog behaviors that were previously associated with stressful situations such as: panting, paw-lifting, repeated licking and avoidance behaviors. Even so, identifying poor welfare indicators only partially addresses the concept of animal welfare [11].

A small proportion of dogs may exhibit aggressive/compulsive behavior in response to the stress of the shelter environment. Other dogs begin to perform behaviors of a repetitive nature, the frequency of barking and vocalizations increases, begin to develop destructive behavior on surrounding materials, and start to urinate or defecate more frequently in the box [12].

Diarrhea is a common phenomenon present in kennels and can evolve from occasional pathologies with a low level of risk to outbreaks with high mortality. Along with acute diarrhea, chronic diarrhea is equally common in shelters. Many cases are stress-related, but if the animal is clinically healthy and gaining weight, the diarrhea may resolve on its own at the time of adoption. Weight loss is often associated with persistent severe diarrhea and the animal's inability to gain weight. The condition can be complicated with other clinical signs such as vomiting, and it is therefore recommended to perform additional diagnostic tests [13].

Intraspecific communication in canids is achieved by barking, growling, howling and whining [14]. Barking is the most used acoustic method of communication between dogs, and a high-pitched bark indicates fear, agitation, as opposed to a low-pitched bark that indicates aggression [15, 16].

Stereotypy is a problem often reported in animals in captivity and is nothing more than repetitive behavioral sequences without any defined functionality [17]. Another study also included behavioral disorders in this category: repeated jumping, self-mutilation, spinning in a circle or insistent licking of a body region [18].

Shelters are usually designed in such a way that hygiene can be maintained as well as housing multiple dogs in a limited space [19]. In our study, the housing spaces (n=19) mostly corresponded to the animal requirements (table 2).

Almost half of the pens (n=9, 47.37%) had sharp edges inside which could lead to injury to the animals. There must be no sharp point or rough material that could injure the dogs [20]. Drinking water was provided manually in bowls or buckets by the shelter staff. Regarding the water quality, only 10.53% were not considered safe (they had sharp edges). The water was clean in 89.47% of the examined pens, the rest showing traces of mud inside.

At the individual evaluation, most dogs were friendly, playful, curious, relaxed and self-assured, wanting attention from the assessor. Barnard et al 2014 included the term "playful" in the emotional state profile of dogs as an indicator of a positive emotional state. At the same time, it should be noted that a decrease in the negative behavior of people towards dogs does not necessarily lead to a positive state of the dog [21]. Negative states can prevent animals from playing, so the willingness to play cannot be considered as a definitive parameter denoting good animal welfare [22].

Table 2. Resources-based indicators at pen level

Indicators		No. of pens	
Housing	inside	yes/no	19
	outside	yes/no	0
Housing type	kennel	yes/no	19
	basket	yes/no	0
	wooden pellets	yes/no	0
Bedding	adequate	yes/no	19
	inadequate	yes/no	0
	absent	yes/no	0
Sharp edges		-	9
Type of drinkers	bowl/bucket	yes/no	19
	others	yes/no	0
Functioning		yes	19
		no	0
Safe		yes	17
		no	2
Water quality	dirty		2
	clean		17

The age of the dogs was established through a questionnaire addressed to the shelter staff. Thus, most of the dogs were adults aged between 1 and 6 years (85%, n= 34), 10% were geriatric, aged over 6 years and 5% were young. In our research, the body condition score revealed that 95% of the subjects had an adequate body condition and only two animals showed obesity.

The dogs showed no signs of lameness, ectoparasites or swelling. A number of 16 dogs (40%) were classified as "dirty", and 5% of them had injuries on their bodies following an altercation with other dogs. The presence of cough was reported for 7.5% of the dogs and alopecia conditions were observed in a small proportions (10%, n=4). These results are presented in table 3.

A dirty and wet body surface negatively affects the well-being of dogs. In our study, the condition of alopecia was associated with the quality and type of material used to cover the area around the pen. The same observation was described in other study [10].

During the fear test, characterized by the dogs' indifference towards the assessor or by the presence of fear towards him, 12.5% of the dogs showed fear or signs of aggression towards the evaluator. In a study by Gácsi et al 2001, it was shown that animals housed in shelters for a longer period of time are able to attach to new people in a relatively short time [23]. The difference from 12.5% to 100% is represented by the absence of any sign of fear or aggression.

All shelters must provide decent conditions with sufficient space for the animals to walk freely and stand up, turn around, lie down and as far as possible avoid harmful stimuli from the environment. Shelters must have separate rest areas, food in sufficient quantity and quality, acceptable water intake, sufficient and regular exercise for dogs, and space for excretion [24].

Table 3. Individual assessment of dogs

	Indicators	No. animals	%
Age category	young	2	5
	adult	34	85
	geriatric	4	10
Body condition	adequate	38	95
	too thin	0	0
	too heavy	2	5
Body cleanliness	clean	24	60
	dirty/wet	16	40
Skin tissue condition	wounds	2	5
	alopecia	4	10
	swelling	0	0
	ectoparasites	0	0
Lameness	present	0	0
	absent	40	100
Cough	yes	3	7.5
	no	37	92.5
Fear test	no signs	35	87.5
	fear/aggression	5	12.5

Conclusions. Applying the shelter quality protocol is useful because it identifies the shelter's critical control points regarding the welfare of the housed dogs. Their prompt remediation will lead to an adequate animal welfare. For a better understanding of the well-being of shelter dogs, a coherent strategy is needed at the national level to promote animal protection policies, but also to finance these programs of major importance.

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