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Social Attitudes and Solutions Towards Stray Animals: Evaluation of Ereğli District of Konya Province

Evaluación de las actitudes sociales y de las soluciones hacia los animales callejeros en el distrito de Ereğli, provincia de Konya.

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ABSTRACT

Archaeological and genetic evidence reveals that dogs were domesticated around 12,000 Before Christ, followed by the inclusion of species such as goats, sheep, cattle, and cats in human life. With the Industrial Revolution, the need for animal labor decreased, but domesticated species like cats and dogs retained their importance. Today, factors such as inadequate sterilization practices, animal abandonment, and migration from rural areas to urban centers are leading to an increase in the stray animal population. This study examined public attitudes toward stray animals and proposed solutions, comparing the findings with international practices. According to the survey results, respondents consider adoption (48.2 %) and sterilization (31.1 %) as the primary solutions. This trend aligns with integrated dog population management strategies adopted by organizations such as the World Animal Protection Organization and the Global Alliance for Rabies Control . Successfully implemented worldwide, seize-neuter-vaccine-return programs, rabies vaccination, public awareness campaigns, and adoption campaigns offer both ethical and sustainable solutions. Examples from India, Morocco, Nepal, and various European countries demonstrate that sterilization-vaccination-based approaches yield more lasting results than mass culling. Consequently, the adoption of a One Health approach in managing stray animal populations in Türkiye, the expansion of sterilization and vaccination programs, responsible ownership practices supported by legal regulations, and increased community-local government collaboration are recommended. The findings reveal the necessity of developing local policies in line with global welfare standards.

Key words: Adoption; one health; population management; sterilization; stray animals.

RESUMEN

Las evidencias arqueológicas y genéticas revelan que los perros fueron domesticados alrededor del año 12.000 antes de Cristo, seguidos por la incorporación de especies como las cabras, ovejas, bovinos y gatos a la vida humana. Con la Revolución Industrial, la necesidad de mano de obra animal disminuyó, pero las especies domesticadas, como los gatos y los perros, conservaron su importancia. En la actualidad, factores como las prácticas inadecuadas de esterilización, el abandono de animales y la migración de las zonas rurales a los centros urbanos están provocando un aumento en la población de animales callejeros. El presente estudio analizó las actitudes del público hacia los animales callejeros y propuso soluciones, comparando los hallazgos con las prácticas internacionales. Según los resultados de la encuesta, los participantes consideran la adopción (48,2 %) y la esterilización (31,1 %) como las principales soluciones. Esta tendencia coincide con las estrategias integradas de manejo de poblaciones caninas adoptadas por organizaciones como la World Animal Protection Organization y la Global Alliance for Rabies Control. Los programas de captura-esterilización-vacunación-retorno , las campañas de vacunación antirrábica, las campañas de sensibilización pública y de adopción, implementados con éxito en todo el mundo, ofrecen soluciones tanto éticas como sostenibles. Ejemplos de India, Marruecos, Nepal y diversos países europeos demuestran que los enfoques basados en la esterilización y vacunación producen resultados más duraderos que el sacrificio masivo. En consecuencia, se recomienda la adopción del enfoque de Una Sola Salud (One Health) en la gestión de poblaciones de animales callejeros en Turquía, la ampliación de los programas de esterilización y vacunación, la promoción de la tenencia responsable apoyada por regulaciones legales y el fortalecimiento de la cooperación entre la comunidad y los gobiernos locales. Los hallazgos evidencian la necesidad de desarrollar políticas locales en consonancia con los estándares globales de bienestar animal.

Palabras clave: Adopción; Una Sola Salud; manejo poblacional; esterilización; animales ferales

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INTRODUCTION

Archaeological findings and genetic analyses indicate that the domestication of the dog (*Canis lupus familiaris*) dates back to around 12,000 BC. This process constitutes one of the oldest and most enduring examples of human-animal relationships. Following the dog, species such as goats (*Capra hircus*), sheep (*Ovis aries*), cattle (*Bos taurus*), and cats (*Felis catus*) were also domesticated, becoming an indispensable part of human life with the transition to agricultural production and settled life [1].

In the early stages, domesticated animals were primarily used to meet basic nutritional and clothing needs such as meat, milk, and leather. Over time, they assumed various functions, including hunting aids, transportation carriers, security guards, and even elements of social prestige [1].

The Industrial Revolution, which began in Europe in the late 18th century, led to the widespread use of mechanical production tools, significantly reducing the need for animal labor [2, 3]. This transformation led to the systematic phasing out of some working animals and, in some regions, their culling. However, breeds such as cats and dogs, which could be kept in the home, were relatively unaffected by this change; on the contrary, certain breeds were particularly sought after for aesthetic or emotional reasons, and were sometimes illegally imported and traded [3].

Today, the rise in the pet population stems from a number of socioeconomic and cultural factors. The abandonment of adopted animals due to lack of care, care costs, or behavioral problems; the migration of animals seeking food to urban centers due to the decline in agricultural production in rural areas; and inadequate sterilization practices are all contributing to the formation of an uncontrolled stray animal population [4]. This situation is not unique to Türkiye; similar reports have also been published in countries such as India, Brazil, and Romania [5, 6].

The increasing number of stray animals in urban areas creates a two-pronged problem. On the one hand, adverse environmental conditions such as hunger, violence, lack of shelter, and traffic accidents jeopardize animal welfare; on the other, impacts such as the risk of zoonotic diseases, attacks, and noise pollution pose a problem for public health and safety [5, 6].

Diseases such as rabies, leishmaniasis, and hydatid cysts, in particular, are considered critical priority risks by the World Health Organization (WHO) and the World Organization for Animal Health (WOAH) within the framework of "One Health" [5, 6]

Legal regulations regarding stray animals in Türkiye are outlined in Animal Protection Law No. 5199, which came into effect in 2004. This law is based on the "catch-neuter-vaccinate-release" model; however, in practice, the desired level of success has not been achieved due to issues such as inadequate capacity and resources of local governments and the lack of effective control mechanisms [7].

In European Union countries, the approach to the stray animal problem is shaped by multifaceted policies such as higher sterilization rates, mandatory registration and microchipping practices, educational campaigns, and increased shelter capacity [8].

This study aims to identify participants' attitudes and perceptions toward stray animals, evaluate these perceptions in terms of animal welfare, public health, and urban quality of life, and compare the data obtained with national and international literature. This aims to contribute to the development of applicable solutions both locally and globally.

MATERIALS AND METHODS

This descriptive, cross-sectional study aimed to determine public attitudes toward stray animals and proposed solutions. The study sample consisted of 193 individuals of varying ages, education levels, and genders living in the Ereğli district of Konya province. Participants were selected using a random sampling method, and participation was voluntary.

Data were collected using a structured questionnaire prepared by the researchers based on literature review and expert opinions on the subject. The survey consisted of two main sections:

1. Questions containing demographic information of the participants (age, gender, educational status, etc.),
2. Closed-ended questions aimed at measuring attitudes, perceptions, experiences and solution suggestions towards stray animals.

Statistical analysis

Data collection was conducted using face-to-face interviews with participants. Data were analyzed using the SPSS 21.0 statistical package program. Descriptive statistics (frequency, percentage distribution) were used to evaluate the findings [7].

Within the framework of ethical principles, informed consent was obtained from all individuals who agreed to participate in the study and the data were processed in accordance with the principle of confidentiality.

RESULTS AND DISCUSSION

The study results are presented below in TABLES I and II. When TABLE I is examined, 57 % of the participants were male and 47 % were female. The age distribution of the participants shows that the majority were between the ages of 16 and 30 (63.2 %) and 46 and older (22.8 %).

TABLE I
Descriptive statistics of Demographic characteristics and their distributions

Examined Features	Alt Gruplar	n	%
Gender	Female	83	43
	Male	110	57
Age	0-15	1	0,5
	16-30	122	63,2
	31-45	26	13,5
	46+	44	22,8
Educational Status	Literate	5	2,6
	Primary school	28	14,5
	Middle school	10	5,2
	High school	19	9,8
	University	120	62,2
	Master's degree	11	5,7
Employment Status	Employed	75	38,9
	Unemployed	33	17,1
	Student	85	44,0
Marital status	Married	59	30,6
	Single	134	69,4

When educational backgrounds were examined, it was determined that the majority were university graduates or graduates (62.2 %). When marital status was examined, 69.4 % of the participants were single and 30.6 % were married. 44 % of the participants in our study were students and 38.9 % were employed.

An examination of TABLE II reveals that 60.1 % of participants do not have any pets, while 39.9 % own one. When asked to define what constitutes a stray animal, 61.7 % said dogs, 33.7 % said cats, 1.6 % said both cats and dogs, and the remaining 3.1 % said other animals were also included. In our study, 41.5 % of participants would like to adopt a stray animal, while 58.5 % would not consider adopting one.

While 60.6 % of participants did not consider stray animals a problem, 39.4 % did. 52.3 % of study participants believed stray animals were dangerous, while 47.7 % did not. 54.9 % of participants reported being attacked by stray animals, while 45.1 % reported not being attacked. Furthermore, 37.8 % of our study participants stated they were afraid of stray animals, while 62.2 % stated they were not.

In the current study, when we asked the participants about the reasons why stray animals attack, 33.2 % said that they attacked because they were afraid, 21.8 % said that they attacked because they were hungry, 17.1 % said that they attacked because they formed groups, 16.1 % said that the animal had an instinct to attack due to its nature and attacked, while the remaining participants either had no idea or stated that it was due to a combination of various reasons

When asked what they would do if they encountered stray animals, 42.5 % of participants said they would pet the animal, 23.3 % said they would run away, 15.5 % said they would feed it, 15.6 % said they would run away and hide, and 2.6 % said they would search for the right places to collect it. While 79.3 % of participants believed the number of stray animals was increasing daily, 20.7 % thought the number of animals was not increasing.

TABLE II
Frequency distribution of the variables studied

Examined Features	Subgroups	n	%
Do you have a pet?	Yes	77	39,9
	No	116	60,1
What is a stray animal?	Dog	119	61,7
	Cat	65	33,7
	Others	6	3,1
	Dog and cat	3	1,6
Would you like to adopt a stray animal?	Yes	80	41,5
	No	113	58,5
Are stray animals a problem?	Yes	76	39,4
	No	117	60,6
Are stray animals dangerous?	Yes	101	52,3
	No	92	47,7
Have you ever been attacked by a stray animal?	Yes	106	54,9
	No	87	45,1
Are you afraid of stray animals?	Yes	73	37,8
	No	120	62,2
Why do you think stray animals attack?	Because he was hungry	42	21,8
	Because he was afraid	64	33,2
	Because of gangs	33	17,1
	Because of his nature	31	16,1
	I have no idea	17	8,8
	In response to what was done	2	1,0
	Because he was hungry and afraid	3	1,6
	Hungry, fear, and gangs	1	0,5
What do you do if you encounter a stray animal? ?	I show affection	8	42,5
	I run away	2	23,3
	I hide	4	7,3
	I feed it	5	15,5
	I call the municipality	1	2,6
	I pet and feed it	4	0,5
	I run away and hide	3	8,3
Is the number of stray animals increasing?	Yes	153	79,3
	No	40	20,7
Why is the number of stray animals increasing?	Inadequate	30	19,4
	Sterilization	57	36,8
	Owned Animals Are Abandoned on the Street	7	4,5
	Giving Birth Many Times a Year	58	37,4
	All of these	3	1,9
	Inadequate sterilization and abandoned animals		
What do you think about animal trafficking?	I am against	167	86,5
	I'm not against it	26	13,5
If you were to adopt a pet, what kind of animal would you choose?	Indigenous	18	9,3
	Valuable (Commercially)	42	21,8
	Amputee	26	13,5
	Scary	3	1,6
	Small	103	53,4
	Precious and small	1	0,5
Where should the place of stray animals be?	On the Street	13	6,7
	In a Shelter	95	49,2
	In Nature	77	39,9
	Nowhere	7	3,6
	Shelter or Nature	1	0,5

When asked about the reasons for the increase in stray animals, they cited inadequate neutering (19.4 %), abandoning owned animals for various reasons (36.8 %), giving birth more than once a year (4.5 %), and those who believed all of these were the causes (39.3 %).

When asked what they thought about animal trafficking, 86.5 % said they opposed it, while 13.5 % stated they were not opposed. When asked what kind of animal they would choose to adopt, 53.4 % said they preferred small-sized animals, 21.8 % preferred valuable animals, 13.5 % preferred amputated animals for various reasons, 9.3 % preferred domestic animals, 1.6 % preferred intimidating animals, and 0.5 % preferred both valuable and small-sized animals.

When asked where they think stray animals should be, 49.2 % of participants responded "in a shelter," 39.9 % "freely in nature," 6.7 % "on the street," 3.6 % "nowhere," and 0.5 % "in nature or in a shelter." Fifty-two percent of participants had never visited a shelter, while 48 % reported having visited one.

Participants were finally asked what they thought would be a solution for stray animals. 48.2 % of participants said the problem could be solved by adoption, 31.1 % by neutering, 3.6 % by euthanizing, 6.7 % by adoption and euthanizing, and 10.4 % by implementing all necessary measures.

Animals, once regarded as companions, protectors, and essential contributors to daily human activities, are increasingly being left homeless and abandoned as a result of rapid urbanization and the decline of rural livelihoods. Consequently, free-roaming animals have become more visible in urban environments, where they may exhibit aggressive behaviors due to hunger, fear, territoriality, or group formation. For these reasons, stray animals are now widely recognized as a global social, public health, and animal welfare issue.

This study aimed to identify public perceptions, levels of awareness, and opinions regarding the increasing prevalence of stray animals in Türkiye, as well as to evaluate proposed solutions based on societal attitudes. The findings provide insight into how demographic factors influence perceptions and contribute to public discourse on this issue.

Analysis of the demographic data revealed that the gender distribution of participants was relatively balanced, and that the majority possessed a high level of education, particularly at the undergraduate level. These demographic characteristics are consistent with those reported by Ecel and Göncü [8]. The similarity between the participant profiles suggests that individuals with higher educational attainment may be more inclined to engage in surveys addressing social and ethical issues such as stray animal management. Moreover, higher education levels may contribute to increased awareness, critical thinking, and confidence in expressing opinions on public policy and animal welfare-related matters.

Danger perception and attack experience

in the current study, 52.3 % of participants described stray animals as dangerous, while 54.9 % reported being attacked. In India, aggression was reported in only 2 % of encounters with stray animals [9]. This difference is important because it demonstrates the distinction between perception and actual experience. The higher perception in your study could be explained by local environmental conditions, the frequency of attacks, and the influence of individual learning processes.

Population growth and its causes

In this study, 79.3 % reported an increase in stray animal numbers, with the most common reasons being "abandonment of stray animals" (36.8 %) and Giving Birth Many Times a Year (37.4 %).These findings align with dog population management strategies recommended by global studies. For example, a systematic review reported that neutering is the most effective method for population control [10]. Furthermore, system dynamics models suggest that integrated approaches to reduce abandonment and birth rates are more effective [11].

Orientation to solution methods

In this survey, 48.2 % of the public recommended adoption and 31.1 % recommended sterilazation as a solution, while only 3.6 % preferred euthanasia. This trend parallels the strong public support for humane solutions such as trap-neuter-release programs, shelters, abandonment enforcement, and education campaigns in a Portuguese study [12]. It appears that there is strong public resistance to lethal interventions (other than neutering, for example) based on ethical or environmental considerations.

Cultural and public policy impact

A controversial bill in Türkiye, based on the principle of capture, shelter, and animal euthanasia after 30 d, has generated both fear and public outcry [13, 14]. This demonstrates the difficulty of gaining acceptance when policies conflict with public perception. Similarly, in India, sterilization, vaccination, and awareness campaigns have been shown to gain public support [15].

Global perspective and one health approach

Institutions such as the WHO and OIE/WOAH support holistic Dog Population Management programs for animal welfare, public health, and safety. These approaches include sterilization, vaccination, responsible ownership, toxic waste management, and behavior modification training [16]. The adoption and sterilization preferences highlighted in your field data demonstrate compliance with the cornerstones of this global approach.

CONCLUSION

This study revealed participants' perceptions, attitudes, and proposed solutions to stray animals. The data obtained indicate that a significant portion of society does not view stray animals as a problem but is aware of their potential danger. The high rate

of attacks indicates that local governments, in particular, need to increase their efforts to sterilization animals, improve shelter conditions, and raise awareness. A comparison of the research findings with similar national and international studies indicates that humane solutions for stray animals are common in Türkiye, while support for euthanization remains quite low. A significant portion of participants view adoption and sterilization as the most effective solutions. This demonstrates a high level of public awareness of animal welfare.

Ultimately, a sustainable stray animal management policy requires joint efforts from local governments, civil society organizations, and individuals. Expanding sterilization programs, improving shelter capacity and conditions, encouraging adoption campaigns, and raising public awareness will all contribute to a humane and effective solution to the problem.

Conflicting interest

The authors declare no potential conflicts of interest.

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