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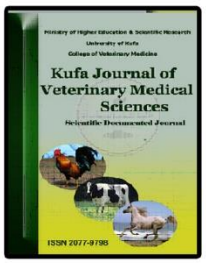
vetmed@uoKufa.edu. iq



Prevalence of diseases in the canine referred to a private practice in Baghdad in 2015-2016

Naqa Tamimi

Department of internal and preventive medicine, Faculty of Veterinary medicine, University of Wasit

Email address: Naqavet2005@yahoo.com

Abstract

Dog ownership is an increasing aspect of veterinary practice in Iraq and it needs special attention since it lacks necessary information such as prevalence of various diseases and other basic information in this regard. In this study 258 dogs referred to a small animal private practice in 2015-6 in Baghdad were assessed. The mean ± SD of these dogs' age was 9.19 ±19.4 months and men presented more dogs than women (222 compared to 36). German shepherd dog was the most popular dog breed presented in this study while the most commonly presented health conditions were GI infections, Canine parvovirus, musculoskeletal conditions, respiratory infections, and canine distemper respectively. Additional 75 dogs were healthy and presented for check up and vaccination. Finally, German shepherd dogs were more likely to be presented with a disease compared to other breeds specially mixed breeds.

Key words: prevalence, canine diseases, Baghdad

أنتشار الأمراض في الكلاب التي راجع بها اصحابها عيادة خاصة في بغداد لسنة 2015 و 2016

نقاء التميمي

فرع الطب الباطني و الوقائي, كلية الطب البيطري, جامعة واسط

الخلاصة:

تربية الكلاب و امراضها جانب من الطب البيطري الذي يتطور باستمرار و يحتاج الى توجه خاص نظرا الى النقص في المعلومات الضرورية كشيوع الامراض المختلفة و باقي المعلومات الاساسية في هذا المجال و خاصتا في العراق. في هذه الدراسة تم تناول 258 حالة من الكلاب التي تمت معاينتها في عيادة خاصة في بغداد خلال السنتان 2015 و 2106 و التي كان متوسط عمر هذه الكلاب 9/19 ± 19/4 (SD) شهرا. تبين في هذه الدراسة أن أكثر مربي هذه الكلاب من الرجال (222 مقابل 36) و كانت اكثر رغبة المربين اتجاه الكلب الراعي الالماني مقارنة بباقي السلالات. بينما الأمراض الأكثر شيوعا كانت و بالترتيب: التهابات الجهاز الهضمي, فايروس بارفو الكلاب, امراض الجهاز العضلي الهيكلي, الالتهابات التنفسية و فايروس ديس تمبر الكلاب. هذا و قد زارت العيادة 75 من تلك الكلاب لغرض الفحص الوقائي و التطعيمات و كانت خالية من الامراض. و في النهاية, توضح أن الكلب الراعي الألماني كان أكثر سلالة تعرض بسبب الامراض مقارنة بباقي السلالات و خاصة الكلاب المهجنة.

الكلمات الأساسية: أنتشار, أمراض الكلاب, بغداد

Introduction

Dogs have been living alongside people for a very long time and have served for many purposes such as pets, hunting dogs, assistant dogs, police dogs, guard dogs, .. etc to increase the human's quality of life. Small animal veterinary medicine has also been developed with years of practice and increasing information in this field. Prevalence of various health conditions in dogs vary according to different factors. The knowledge about these conditions can be critically helpful for local veterinary practitioners. In recent years recording of electronic data has been recommended in veterinary practices to compensate the lack of surveillance and prevalence data regarding small animal diseases around the world (1, 2, 3). More than 90% of veterinary practices in the UK for example and many in Australia now use a practice management system to record their medical data of animals (4, 5). Lack of such knowledge and information in Iraq -the majority of Iraqi practitioners if not all do not keep record of their animal patients- highlights the necessity of such studies to elucidate the most important health and environmental conditions regarding dogs in this country.

Therefore, this study focused on recorded clinical data of dogs referred to a small private practice to gather some information as a sample in this regard.

Materials & Methods

From Jan 2015 to Aug 2016 cases of dogs referred to a small private practice in Baghdad -which belonged to the author and located in Maisaloon square- were recorded in classic paper files. Data regarding a total of 258 dogs referred to the clinic for routine check-ups, vaccinations, various health care and problems were collected and analyzed.

Basic information of dogs was recovered from their files. Dogs' age was confirmed by the animal's dentition in addition to the owners' information and health certificate (if any).

Diagnosis of cases was based on a combination of: History, clinical signs, clinical rapid diagnostic kits of Immunochromatography (Quicking Biotech) inside the clinic for Canine heart worm (CHW), Canine Parvo Virus (CPV) and Canine Distemper Virus antigens (CDV), laboratory findings (hematologic and biochemical conducted in human private labs near the clinic), and diagnostic imaging (radiology and ultrasonography sent to the referral hospital in Adan square in Baghdad). After a thorough physical examination and lack of any health complaints by owners dogs were considered healthy in this study.

Results

Subject's basic information

Detailed basic information of dogs including their age mean, sex, breed, mode of husbandry, and owner gender are shown in table 1. Breed of dogs was determined according to their phonotypical appearance and certificates.

The mode for the dogs' age was 2 while the median was 3 months in this study. The maximum age was 198 months and the minimum age was one month. Only twelve dogs were at the age of 36 months or more.

Table 1-Basic information of dogs referred to the veterinary clinic in 2015 & 2016

N=258	N (%)
Age, months, mean ± SD	9.19 ± 19.4
Sex	
Male	156 (60.5%)
Female	102 (39.5%)
Neutered/spayed	0 (0%)
Breed	
Mixed breeds*	17 (6.6%)
German Shepherd	109 (42.3%)
Terriers	52 (20.2%)
Siberian Husky	41 (15.9%)
Rottweiler	13 (5.0%)
Pekingese	6 (2.3%)
Belgian Malinos	5 (1.9%)
English pointer	3 (1.16%)
Caucasian Shepherd	2 (0.77%)
Doberman pincher	2 (0.77%)
Labrador Retriever	2 (0.77%)
Golden Retriever	2 (0.77%)
Pit Bull Terrier	1 (0.39%)
Border Collie	1 (0.39%)
Brack German	1 (0.39%)
Spitz	1 (0.39%)
Mode of husbandry	
Breeder	33 (12.8%)
Yard	71 (27.5%)
House	129 (50.0%) †
Roof	5 (1.94%)
Canine working unit	6 (2.33%)
Not registered	14 (5.43%)
Owner gender	
Men	222 (86%)
Women	36 (14%)

* Mostly included large breed dogs

† Mostly small breeds or young large breed puppies

Owner complaint & health conditions

Owner complaints: Seventy healthy dogs were referred for a check-up & vaccination. Another five referred their dogs for grooming which had severe matted coat. The remaining dogs were referred for health conditions.

Health conditions: The conditions diagnosed in dogs with health problems are shown in table 2. Percentage of diseased dogs compared to healthy ones participated in this study according to their breeds is shown in table 3 (Only most popular dog breeds are mentioned since other breeds were in small numbers).

Table 2- Health condition of dogs referred to the veterinary clinic in 2015 & 2016

Conditions diagnosed in dogs	N=258	Details
CPV	28	
Gastrointestinal I infections	36	Gastroenteritis 26, Gastritis 5, enteritis 5
Musculoskeletal problems	24	Plantar and/or palmar hyperextension 10, Osteoarthritis 2, bone fracture 2, soft tissue inflammation 7, hip dislocation 1, limb amputation 1, Osteomyelitis 1
Respiratory infections	16	Bronchopneumonia 11, pneumonia 1, bronchitis 4, upper respiratory inf. 1
CDV	12	
Worm infestation	11	Round worms & tapeworms
Dermatitis	10	Fungal D. 5, bacterial D. 5
Wounds	9	Mostly caused by trauma
Nutritional deficiency	6	
External parasite infestation	6	
External otitis	5	
Urinary tract infection	4	
Heat stroke	4	
Pregnancy	4	
Septicemia	3	
Metritis	3	
Entropion	3	
Anemia	3	
HWD & CHF†	2	
Miasis	2	
Hypersensitivity	2	
Other*	12	

†chronic heart failure *Included one case of each: ear trimming, foreign body, keratitis, cataract, corneal ulcer, mitral insufficiency, cellulites, internal bleeding, cardiac arrhythmia, rectal prolapse, periodontal disease, overgrown nails

Table 3- Percentage of diseased dogs referred to the veterinary clinic in 2015 & 2016 according to their breed

Dog breed	Diseased dogs (%)	Number of dogs
German shepherd	89 (81.6%)	109
Siberian husky	31 (75.6%)	41
Rottweiler	8 (61.5%)	13
Terriers	29 (55.8%)	52
Mixed breeds	8 (47.1%)	17

Discussion

Recent works have highlighted the lack of surveillance and prevalence data for companion animal disease and has recommended greater routine recording of electronic data within veterinary practices (1, 2, 3). This article was designed to shed light on cases of dogs referred to a private veterinary Practice as a small sample in a country where patient data are hardly recorded even in classic paper files.

The results of this study indicated that the mean age of the participant dogs were 9.19 months (±19.4 SD) with only 12 dogs≤36 months (Table 1). This average age which is less than ten months reveals that this population is very young and the reason behind it can be the fact that dog ownership is increasingly spreading in Iraq and many owners were first time owners who had just bought new puppies or because older dogs are less likely to get sick and need less refers to the veterinarian than puppies.

Males were referred more than female dogs (156/102 ratio) and none of the dogs were neutered. Neutering is not usually considered by most owners since they plan on selling puppies for this fast growing business. The most popular breed on the other hand, was the German shepherd dog with more than 42% of the population (Table 1). The second popular breed was terrier followed by the Siberian Husky (20% & 16% respectively) (Table 1). As Table 1 shows at least 180 dogs (apart from the 17 mixed breed dogs which were also mostly large dogs) belonged to medium to large breed dogs. Large dogs with protective and aggressive behaviors were more desired by people in Iraq and this fact can be linked to the insecurity and lack of safety throughout the country in the past years. This finding is in contrast with the owner's desire for smaller breed dogs in the neighbor country Iran (6). Half the dogs were kept inside the house. This half consisted mostly of small dogs, either young large puppies or small breeds, while larger dogs were mostly kept in yards or by breeders in kennels (Table 1). People avoiding to keep dogs inside the house can be the result of a traditional and religious belief in Iraq that dogs are not pure or the fear of aggressive assaults to family members or guests since large dogs are usually meant for guarding purposes.

The majority of dogs (86%) were owned by men and very few women owned dogs as the current study showed (Table 1). This can be explained by security measures usually taken by men as a precaution in a society lacking safety and stability and the difficulty of women to handle large untrained dogs which spend most of their time apart from the family (personal observation).

Apart from 75 dogs which were referred for check up and vaccination, and grooming all other dogs were referred with a complaint. Many (more than 110 cases) health conditions diagnosed in these dogs were infectious. Gastrointestinal infections were the most prominent problems in these dogs in addition to the highly contagious Canine Parvovirus and Distemper infections (Table 2). In England, on the other hand, a wide research which consisted of more than 90 clinics across the country revealed that otitis externa (10.2%), periodontal disease (9.3%) and anal sac impaction (7.1%) were the most common recorded disorders in dogs (7). When anal sac impaction are most likely to happen in small breed dogs our population mostly consisted of large breeds (table 1). Additionally, periodontal disease is also rarely seen in young dogs as we had a pretty young age average in our study (table 1). Young puppies, on the other hand, are the most sensitive population towards infectious and contagious diseases such as parasitic and canine parvovirus infection and this fact was similarly shown in another report (8). Rates of internal parasite infections in dogs have been reported in Duhok (9) and

Baghdad (10) provinces as well (65.9% & 5-86.6%, respectively). Diarrhea, lameness, otitis externa, vomiting, pyoderma and conjunctivitis were the most common conditions reported in another study in the UK which included three practices between 2007-2009 (11). This study comes in agreement with our study in which gastroenteritis was very common (table 2). Al-Bayati and Odisho in 2010 showed that at least 66.6% of puppies with bloody diarrhea in Baghdad shed CPV in their feces using rapid antigen test kit and Haemagglutination –inhibition test (12). A recent study in Sulaimani province, North of Iraq added that the most prevalent Parvo virus circulating in this area was type-2b (13). Musculoskeletal problems were also very common with plantar and/or palmar hyperextension as the most prominent condition in this category. Most dogs were kept in small spaces with little or no exercise or interaction, in addition to poor to medium diets which could explain the later condition in addition to the nutritional deficiency (Table 2). Heat stroke which happens in the fiercely hot and long summers of Iraq in animals kept in difficult conditions of outdoor is very expected since the temperature could easily reach 55°c or more (Table 2). As for the heartworm disease which had not been reported in Iraq until 2009 in Kerbala province was reported in two dogs of the canine working unit (14). In 2011 other researchers in Baghdad pointed out the different anatomical features of the possible Iraqi strain (15). After that in 2016 another study published reporting a 57.5% and 64.4% rate of infection in 172 herding dogs of Al-Qadisiyah and Dhi-Qar Provinces, respectively (16).

As was shown in the current study breeds' susceptibilities towards diseases were different. Table 3 shows that mixed breeds were the least (47%) while German shepherd dogs were the most (81.6%) susceptible breed towards diseases in the current study. Our results are in accordance with a study in the UK which showed that mixed breeds are more resistant to diseases than purebred dogs which were shown to be more prone to some diseases (7). Another study, on the other hand, elaborated that pure bred dogs were more sensitive to some genetic disorders while mixed breed dogs were more sensitive to ruptured cranial cruciate ligament and no difference in other disorders was observed (**17**). *Purebred dogs of our study such as the German shepherd dogs, and Siberian husky were either imported illegally or bred in unhealthy conditions jeopardizing their health with all kinds of infectious diseases (Table 3).*

In general, a proper preventive plan for vaccination and de-worming of dogs is not always followed either because of the negligence of owners or the lack of qualified veterinarians in this field. Nevertheless, the increasingly developing interest of dog ownership in a country with traditional culture like Iraq should urge the authorities to offer more specialized services and to educate owners of the importance of good husbandry, preventive vaccination and de-worming schedules and routine veterinary check up for having a healthy and fully functional dog reducing all those contagious and infectious diseases in these animals as was shown to be prevalent in the current study (Table 2).

Although many dogs are kept for guarding purposes and as canine working unit for explosive detection, police….etc still the later group is less commonly referred to private practices since almost all canine units either have their own veterinarian or refer their working dogs to the formal veterinary practice.

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