

Prevalence of Behavior Problems in Domestic Dogs in Tehran-Iran

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Abstract: Behavior problems directly affect the welfare of dogs. The existence of behavior problems is a main factor in the euthanasia and relinquishment of animals to shelters. In Iran, there is not special shelter for animals with behavior problems so that owners prefer to sale these animals. Since this may not improve the dog conditions, we decided to study prevalence of behavior problems first and then making decisions about management and treatment of behavior problems. Behavior researches are new field in Iran so that this is the first study about the behavior problems and its prevalence in Tehran (Capital of Iran). 140 valid questionnaires returned during one year period (20 may 2010 - 20 Jan 2011). All dogs examined clinically to avoid confusing with organs diseases. 66 dogs (47.1%) had behavior problems and 74 dogs (52.9%) were healthy. Among 74 dogs, 35 dogs (25%) had separation anxiety, 28 dogs (20%) had aggression, 11 dogs (7.9%) had other problems like excessive barking, digging, jumping on people and so on. Eight dogs (5.7%) had obsessive-compulsive disorder and 7 dogs (5%) had phobia. Among 140 dogs, 65 dogs (46.4) had no problem, 62 dogs (44.3%) had one problem, 12 dogs (8.6%) had 2 problems and one dog (0.7%) had 3 problems.

Key words: Behavior problems • Dogs • Tehran • Iran

INTRODUCTION

The occurrence of behavior problems in pets has strong animal welfare implications. For example, canine aggression is considered to be a serious public health problem and very often lead to euthanasia or abandonment of the dog. Furthermore, behavior problems as a whole are considered to be an important factor in the euthanasia and relinquishment of dogs to animal shelters [1, 2]. Studies regarding the prevalence of canine behavior problems have been based on data from veterinary and animal behavior practitioners [3-5] or on information directly collected from pet owners [6, 7].

Only a small proportion of people owning a dog with problematic behaviors considered the latter severe enough to seek professional advice. The reasons for not seeking help may include a lack of information on normal and abnormal dog behaviors, a tolerant attitude toward their pets' behavior and, in the case of potentially

dangerous dog breeds, the owners' concerns about possibly worsening the public reputation of these breeds and lack of information about dog behavior problems. For knowing the prevalence of behavior problem data can be obtained from two different sources: direct surveys of owners of dogs and database of clinics. The use of owners as informants for dog behavior is a well-established and reliable way to collect information on dog temperament, based on the main assumption that owners are the persons who know their dogs best [8-10]. Data from survey of pet owners are perhaps the best way to estimate the actual prevalence of behavioral problems in companion animals, because the owners of dogs spent more time with their pet dogs and completely know the behavior of his/her pet dogs.

Several studies on prevalence of dog behavior problems are based on information provided by owners, nevertheless, to our knowledge, in Tehran we have no information about the prevalence of behavior problems in

dogs. So that, this study can illuminate the prevalence of behavior problems in dogs for future preventive and treatment strategies.

The identification of behavior problems in dogs is a process that begins with obtaining a detailed behavioral history of the problem event from the owner, followed by an identification of functional and causative properties of the problem behavior sequence. A functional classification of the behavior sequence is determined by identifying the relationship between the dog, its behaviors, the dog's owner and other environmental variables [11, 12]. The present study was done to determine: 1-the distribution of dog behavior problems 2-the relationship between age, breed, reproductive status and behavior problems.

MATERIALS AND METHODS

A Validated questionnaire [13] was filled through face to face interview with owner of 140 dogs in small animal polyclinic of Islamic Azad University research and science branch of Tehran. First of all, we explain the behavior problems to clients and after that between those of clients that eager to fill this questionnaire we had a face to face interview. Before filling the questionnaire, we examine completely all of dogs to insure from any physical disease. During this survey from 20 May 2010 till 20 Jan 2011 we evaluate the prevalence of 6 behavior problems (aggression, separation anxiety, phobia, compulsive disorder, geriatric dog behavior problems and other problems like excessive barking, digging, jumping on people and so on) and the relationship between these behavior problem and age, breed, reproductive status. At the end of survey, we evaluate the result of this survey with Pearson chi-square and Fisher exact test.

Statistical Analysis: In this study we used chi-squared and Fisher exact tests for evaluating the relationship between dependent variables (behavioral problems) and independent variables like age groups, breed, sex and so on. A value of $P < 0.05$ was considered significant for all analyses. All statistical analyses were performed using SPSS 16.0 for Windows.

RESULTS

In this study we evaluated behavior problems in 6 categories. Aggression, Separation anxiety, Phobia, obsessive-compulsive disorder (OCD), Geriatrics

behavioral problems and other behavioral problems. Of 140 valid questionnaires returned during one year period, 66 dogs (47.1%) had behavior problems and 74 dogs (52.9%) were healthy. Among 74 dogs, 35 dogs (25%) had separation anxiety, 28 dogs (20%) had aggression, 11 dogs (7.9%) had other problems like excessive barking, digging, jumping on people and so on. Eight dogs (5.7%) had obsessive-compulsive disorder and 7 dogs (5%) had phobia. Among 140 dogs, 65 dogs (46.4%) had no problem, 62 dogs (44.3%) had one problem, 12 dogs (8.6%) had 2 problems and one dog (0.7%) had 3 problems.

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In the case of Separation anxiety, we have not significant relationship between reproductive status (intact, sterile, mating) ($\chi^2 = 0.917$; $P = 0.632$), breed ($\chi^2 = 11.353$; $P = 0.124$), age ($\chi^2 = 0.868$; $P = 0.648$) and sex ($\chi^2 = 0.956$; $P = 0.328$) of dogs and Separation anxiety.

In the case of aggression, we have not significant relationship between reproductive status (intact, sterile, mating) ($\chi^2 = 3.067$; $P = 0.216$), breed ($\chi^2 = 3.822$; $P = 0.932$), sex ($\chi^2 = 0.007$; $P = 0.933$) of dogs and aggression but the relationship between age ($\chi^2 = 5.891$; $P = 0.053$) and aggression was significant.

In the case of phobia, we have not significant relationship between reproductive status (intact, sterile, mating) ($\chi^2 = 2.363$; $P = 0.307$), breed ($\chi^2 = 3.578$; $P = 0.827$), age ($\chi^2 = 1.805$; $P = 0.406$) and sex ($\chi^2 = 0.054$; $P = 0.816$) of dogs and phobia.

In the case of obsessive-compulsive disorder, we have not significant relationship between reproductive status (intact, sterile, mating) ($\chi^2 = 3.530$; $P = 0.171$), breed ($\chi^2 = 7.181$; $P = 0.410$), age ($\chi^2 = 1.049$; $P = 0.592$) and sex ($\chi^2 = 0.317$; $P = 0.574$) of dogs and obsessive-compulsive disorder.

In the case of Geriatrics behavioral problems, we have not significant relationship between reproductive status (intact, sterile, mating), breed, age and sex of dogs and Geriatrics behavioral problems.

In the case of other problems (excessive barking, digging and...), we have not significant relationship between reproductive status (intact, sterile, mating) ($\chi^2 = 0.095$; $P = 0.954$), age ($\chi^2 = 0.442$; $P = 0.802$), sex ($\chi^2 = 1.303$; $P = 0.254$) and breed ($\chi^2 = 29.524$; $P = 0.729$) of dogs and other problems.

The prevalence of phobia, separation anxiety, aggression, OCD and other problems were higher in 12-72 months than the other age groups but we don't have any

significant relationship unless about aggression and age. The prevalence of phobia, separation anxiety, aggression, OCD and other problems were higher in intact dogs than the other groups in reproduction status but we don't see any significant relationship.

Among 74 dogs, 35 dogs (25%) had separation anxiety, 28 dogs (20%) had aggression, 11 dogs (7.9%) had other problems like excessive barking, digging, jumping on people and..., 8 dogs (5.7%) had obsessive-compulsive disorder and 7 dogs (5%) had phobia.

In this study we don't see any significant relationship between Family members, home size, educational level and marital status of owners with 6 categories of behavior problems but the prevalence of OCD, aggression, separation anxiety and other problem was higher in 3-4 members home than the others and the prevalence of phobia was high in ≤ 2 members home. In the case of home size, the prevalence of phobia, separation anxiety, aggression, OCD and other problems were higher in >91 m² than the others. In the case of educational level, there was not any significant relationship between behavior problem and educational level of owners of dogs but the licentiate's degree were higher than the others. In the case of marital status, we don't see any significant relationship but the prevalence of OCD, aggression, separation anxiety and other problem was higher among dog with single owners than the others and the prevalence of phobia was high among dog with married owners.

DISCUSSION

In a study conducted in the USA more than 40% of dog owners reported that their pets showed one or more behavior problems [14].

In another study, also conducted in the USA, the prevalence of behavior problems in dogs was 87%, with a mean of 4.7 problematic behaviors per dog. The most frequent complaints were jumping up at people (37%) and excessive barking (33%) [6].

In the UK, a survey conducted of 50 dog owners found problematic behaviors in 80% of the animals and only 25% of the owners that reported behavior problems in their pets considered them to be seriously problematic [7].

Another study conducted in UK, which included 722 dogs from 502 different households, found that 76% of dogs' aggressive behavior, 70% inappropriate elimination, 57% pulled on the lead, 48% were easily excitable and 23% behaved improperly when travelling [15].

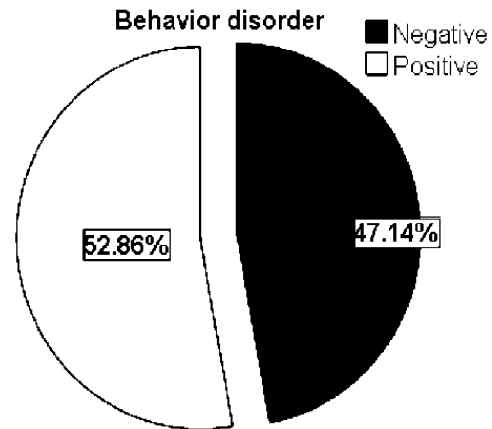


Fig. 1:

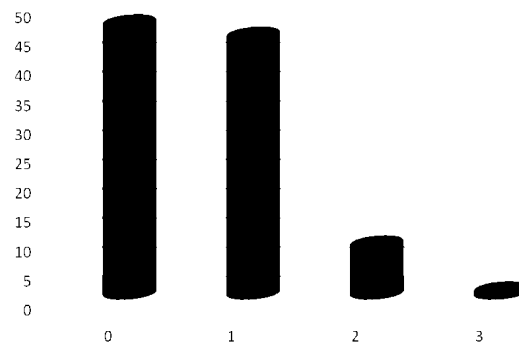


Fig. 2:

In a study at the small animal clinic at the university of Pennsylvania from 1905 telephone calls regarding canine behavior problems, the most frequent problem was aggression (46%), followed by inappropriate elimination (20%), destructive behavior (16%), fear related problems (9%) and excessive barking (5%) [16].

Data from other studies show that aggression is invariably considered the most frequent complaint regarding canine behavior, reported in 42-59% of all cases seen by small animal behaviorists [17, 18].

Borchelt and Voith's [16] point out relative frequency of general classes of behavior problems in dogs, 267 major problems in 147 dogs: 54% aggression towards humans, 15% aggression towards dogs, 6% elimination, 10% separation anxiety, 6% fear and 9% other problems. Aggression is a high percentage of cases seen by veterinary behaviorists, average from 42 to 59%.

Intact male dogs are significantly more likely to be involved in problems with aggression. Figures for aggression approximate 52% for intact males, 16% for castrated males, 16% for intact females and 16% for spayed female.

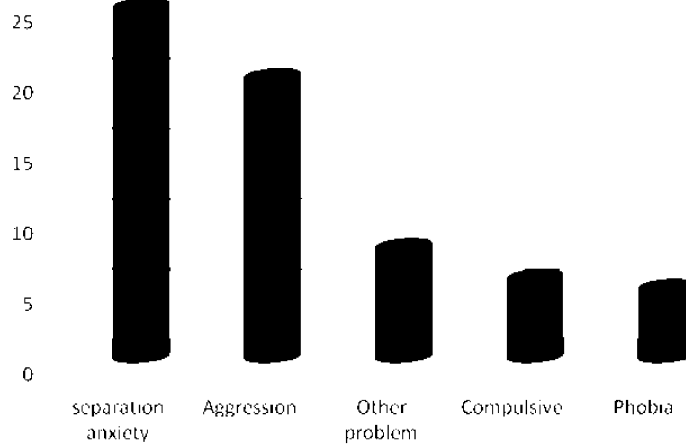


Fig. 3:

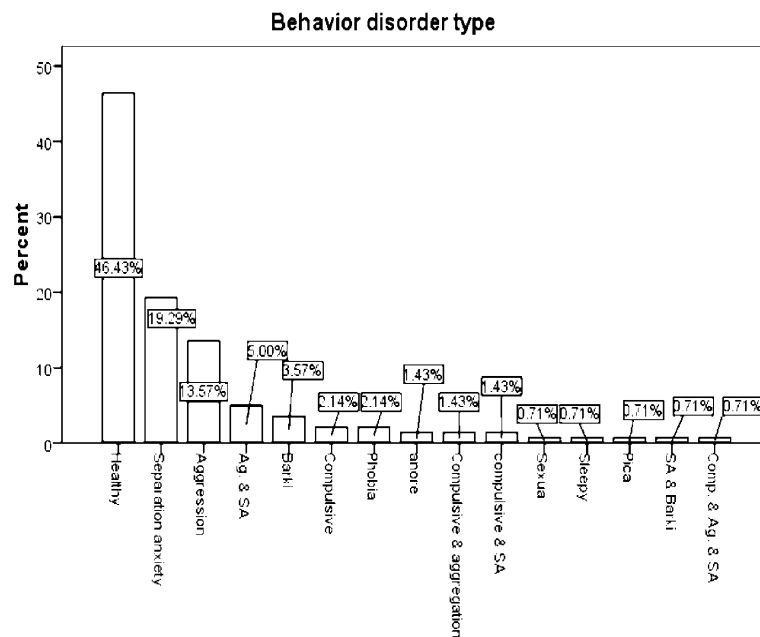


Fig. 4:

The mean age at which aggression as a behavior problem is generally between 2 and 3 years old-young adults-but it can occur in geriatric dogs as well as puppies.

In the United Kingdom, the English cocker spaniel, Doberman pinscher, St. Bernard, German shepherd, Bernese mountain dog and golden retriever breed have been reported to have aggressive behavior [17].

Voith *et al.* [19] listed aggression, elimination and vocalization as the top three most commonly described behavior problems. According to Van der borg *et al.* [20] veterinarians and behaviorists consider aggression, fear, separation anxiety and disobedience to be the most frequently occurring problems among pet dogs. It was

also noted however, that each dog owner will define problem behaviors differently.

In our study, 66 dogs (47.1%) had behavior problems and 74 dogs (52.9%) were healthy. Among 74 dogs, 35 dogs (25%) had separation anxiety, 28 dogs (20%) had aggression, 11 dogs (7.9%) had other problems like excessive barking, digging, jumping on people and..., 8 dogs (5.7%) had obsessive-compulsive disorder and 7 dogs (5%) had phobia. Among 140 dogs, 65 dogs (46.4%) had no problem, 62 dogs (44.3%) had one problem, 12 dogs (8.6%) had 2 problems and one dog (0.7%) had 3 problems.

The differences observed between these studies regarding the most common behavior problems could be

attributed to methodological aspects, for example the way questionnaires were designed and differences in the ways pets are kept in different countries.

Most studies regarding the prevalence of behavior problems in dogs suggest that only a small proportion of pets which exhibit problematic behaviors are taken to the veterinarian to solve the problem. Data from a study conducted in the USA suggested that 70-75% of reported behavioral problems were never considered serious or dangerous to seek professional advice [21].

In our study, among 140 dogs, 66 dogs (47.1%) had behavior problems and 74 dogs (52.9%) were healthy. we could not evaluate the behavior of some dogs that come to our clinic because some owners did not like to fill the questionnaires so that maybe we missed some cases.

Flannigan and Dodman [22] also looked at factors predictive of separation anxiety in a case-based study of 200 dogs with separation anxiety. They found that of the 131 purebreds with separation anxiety, the majority were German Shepherds, followed by a significant numbers of Labradors, Golden Retrievers, English Springer Spaniels and English Cocker Spaniels. Hence, if it is likely that you are going to be frequently leaving your dog alone for long periods of time, these breeds may not be the best choice. In our study separation anxiety was the most behavior problem among behavior problems and terriers, Doberman, Spitz, shi-tzu, Pekinese and poodle are the breeds that estimated the most ones but the relationship between breed and separation anxiety was not significant. these differences in the prevalence of the separation anxiety among breeds maybe from the differences among the dogs that owners with regard to the life style can be owned in different country. In Iran, keeping of toy breeds are easier than large breeds.

Frequently aggressive behaviors are first noted in early adolescence (5-9 months of age), at sexual maturity, or at social maturity (12-24 months of age); however, it is common for owner to seek assistance later in the course of the problem. Male dogs are overrepresented in certain type of aggression. For example: guard dog breeds maybe predisposed to territorial aggression and sight hound may be predisposed to predatory aggression [23].

In our study, there was significant relationship between age and aggressive behaviors. The maximum prevalence of aggression was 12-72 months. This result is corresponding with the text [23].

We wondered why the age of aggression was not lower, e.g. why more dogs younger than 1 year of age were not presented for assessment and treatment. It may be that compared to older dogs, younger dogs, less

mature dogs were not as likely to exhibit serious patterns of aggression or do as much damage in a home environment. Some owners reported that they attempted to correct early signs of problem behavior themselves before they sought help. The time spent with these early attempts at solutions may have allowed the problem behaviors to become more serious in nature and more frequent in occurrence.

The majority (55%) of dogs have onset of separation anxiety before 3 years of age [23]. In our study the majority of dogs with separation anxiety were between 24-72 months (under 3 years).

In different studies, approximately 50% of dogs over 11 years of age may display at least one sign of cognitive decline. From collected data, 28% of dogs age 11-12 and 68% of dogs between the age of 15-16 may show at least one sign. The disease is progressive over 50% of dogs with at least one clinical sign show additional sign after 12 months [23].

In this study, we have not seen any geriatric behavioral problems among dogs maybe we have little number of old dogs among samples and maybe for small size of our sample.

Borchlet reported that intact males in his sample were much more likely to be aggressive than neutered males (86-14%) and neutered females (68%) were more likely to be aggressive than intact females (32%) [24]. In the present study, when sex and reproductive status were analyzed, differences were not significant.

CONCLUSIONS

The life style can be affect on the prevalence of behavior problems. Several behavior problems, including separation anxiety in dogs can be attributed to reactions to anxiety or stress [25, 26]. So that may be the modern life style (living in apartments) in Iran, no existence of dog parks in Iran and early separation of puppy from mothers, thoroughly can affect on the prevalence of behavior problems. in our study separation anxiety was the most one.

It is suggest that for decreasing of this behavior problem, the municipality of each city made a dog park for pet dogs in that city and better control of dog sale should be regarded in Iran.

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