

1 **Canine behavior problems in Brazil: a review of 180 referral cases**

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23 **ABSTRACT**

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25 Background: Behavioral caseloads may vary due to cultural differences, and
26 so it is important to know how these differ with geography.

27 Methods: One hundred and eighty dog cases referred to a veterinary
28 behaviorist in São Paulo (Brazil) during the period of 2008 – 2014 are
29 described.

30 Results: Aggression against people was the most common behavioral
31 complaint (22.2% of the cases), followed by apparent fears and phobias
32 (13.3%). Forms of aggression against other dogs (12.2%) and repetitive
33 behaviors (11.1%) were third and fourth most frequent, respectively. Female
34 and male patients were equally reported (47.6% and 52.4%, respectively).
35 These results differ slightly from the findings of other international studies,
36 in which aggression was the main behavioral complaint with fears and
37 phobias less common.

38 Conclusion: Regional demographic reviews of the caseloads of veterinary
39 behavior specialists help the profession recognize the problems of most
40 concern to pet owners in a given area and thus local priorities, as well as
41 opening up the potential to generate new hypotheses relating to the reasons
42 for regional differences.

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44 Key-words: behavioral problems, dog, caseload

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46 Even though Brazil has the second largest population of owned dogs
47 in the world (i.e. 52 million dogs) (1), canine veterinary behavior is a very
48 recent specialty in the country and studies of the prevalence of behavioral
49 problems of domestic dogs are limited. Such data would reveal those areas
50 for which there is most demand for a service and perhaps shed light on the
51 behavioral issues with greatest impact on human carers, since these are the
52 cases for which they are willing to seek specific professional help. A better
53 understanding of regional prevalence, not only allows us to make
54 comparisons with other demographics which can help to identify potential
55 knowledge and training priorities for the profession, but also potentially
56 gives insight into cultural factors that affect the development or presentation
57 of problem behaviors.

58 180 cases of dog behavior problems referred to a veterinary
59 behaviorist (DR, under the supervision of DSM and ARJ) in the city of São
60 Paulo (Brazil) during a 6-year period (2008 to 2014) are described.
61 Behavioral consultations were usually held in the residence of the dog
62 owners and data relating to the dog's sex, age, breed, reproductive status (i.e.
63 intact or neutered) and main behavioral complaint leading to referral as
64 reported by the owners were recorded. Secondary complaints meaning other
65 minor behavior problems mentioned by the owners during consultation were
66 not considered in the calculation of the prevalence of behavioral problems
67 since we focused on the complaints leading owners to seek help from a
68 veterinary behaviorist. In cases of aggression between resident dogs, the data
69 of all dogs involved were considered.

70 Of the 180 canine behavior cases described in terms of the main
71 behavior issue, 176 are also considered according to gender, breed, age and
72 reproductive status for a total of 187 dogs (52.4% males and 47.6% females).

73 The four remaining cases (i.e. aggression towards familiar dogs cases) were
74 not analyzed because their records were incomplete.

75 The age of the dogs varied between 4 months and 14 years, with a
76 mean of 4.3 years (median=3 years). 64.2% of the dogs were purebred
77 (German Shepherd, Dachshund, Poodle, Lhasa Apso, Shih Tzu, and English
78 Bulldog were the most common breeds) whereas 35.8% were crossbreeds.
79 76.5% of the dogs were neutered (63.3% of the males and 91% of the
80 females).

81 Canine aggression was the most common complaint, representing
82 62/180 (34.4%) of the cases. These cases included aggression towards people
83 (40 cases, 22.2% - ranked first by frequency) and aggression towards dogs
84 (22 cases, 12.2%- ranked third by frequency). The second most frequent
85 problem was reports of specific fears and phobias, which accounted for
86 24/180 cases (13.3%) (e.g. fear of specific objects or surfaces, fear of going
87 outside, etc.) with the majority of them (n=13) being dogs with apparent
88 fear/phobia of noises (fireworks and/or thunderstorms). There were 20 cases
89 (11.1%) involving repetitive behaviors (16 involving repetitive self-licking,
90 1 flank suckling, 1 chasing shadows, 1 case of ingestion of non-food items
91 (i.e. pica) and 1 circling behavior accompanied by tail chasing and biting).

92 Training problems were the fifth most frequent primary complaint
93 occurring in 16/180 cases (8.9%). These included 13 cases of specific
94 uncontrolled behavior (jumping on people, stealing objects) and 3 cases of
95 restless dogs with several uncontrolled behaviors, whose owners reported
96 them as hyperactive, with excessive levels of energy and/or agitation.
97 Inappropriate elimination (n=14 cases, 7.8%), problems related to being
98 separated from the owner (n=13 cases, 7.2%), excessive barking (n=10
99 cases, 5.5%) and coprophagy (n=7 cases, 3.9%) were the least frequent
100 behavioral reasons for visits. Other behavior problems made up the

101 remaining 14 cases (7.8%) These were: 6 puppy consultations, 2
102 consultations requesting a dog temperament test, 3 cases involving age
103 related decline in behavior (e.g. cognitive dysfunction), 1 consultation for
104 guidance on living with a dog that has become visually impaired, 1 case
105 involving problems in adapting a dog to a “day care” service and one case of
106 depressed behavior in a recently adopted dog.

107 The present survey is the first report of the most common canine
108 behavioral problems from the perspective of a veterinary behaviorist in
109 Brazil. The finding of aggression towards people and fears and phobias being
110 the most frequently complaints is in partial agreement with other previously
111 published international caseloads (2,3,4,5). In all studies, including the
112 current one, aggression towards people is the most common problem
113 encountered by specialists.

114 However, we found a different relative prevalence in relation to the
115 second most commonly reported problem, which in Brazil related to what
116 appeared to be a specific fear or phobia. By contrast, in the survey by
117 Denenberg et al (3) anxiety was the second most common primary problem
118 or secondary complaint (21% and 22%, respectively); for Bamberger &
119 Houpt (2) anxiety-related problems was the second most reported issue,
120 particularly separation anxiety; with problems related to fears and phobias
121 being much less prevalent.

122 The city of São Paulo, in which the cases occurred, is very crowded
123 and noisy, with fireworks used regularly throughout the year, in different
124 situations and at different times of the day. The high prevalence of problems
125 related to fears and phobias in the present study leads us to believe that, at
126 least in part, this environment may be affecting dogs: sensitizing and
127 dishabituating them to the noise and not habituating them to it, perhaps
128 because of the intensity of many firework displays. This environment might

129 also result in increased owner awareness of the problem. Early socialization
130 and training programs seem to be uncommon in Brazil, and perhaps owners
131 are only seeking assistance for their dogs' training/behavior when problems
132 have already developed. Thus, environmental conditions together with
133 owner attitudes in big Brazilian cities, such as São Paulo, may help to explain
134 why noise fear and phobias are so common. It is worth mentioning that in an
135 Australian caseload (3) fears and phobias were also very frequent, thus it
136 would be worth exploring the environmental similarities between São Paulo
137 and Sydney, from which the Australian caseload was derived.

138 Separation-related problems were less prevalent in the present
139 caseload. This is not consistent with some other international surveys (2,3)
140 but in agreement with others (5). However, in the only related survey of its
141 kind in Brazil, Soares, Pereira and Paixão (6) reported separation anxiety
142 signs in 55.9% of 93 Brazilian owned dogs living in Rio de Janeiro. Either
143 there are marked differences between these cities, or, more likely, many
144 cases are either passing unnoticed or not receiving the specialist care that
145 occurs in other countries.

146 Aggression towards other dogs accounted for 12.2% of cases, which
147 is broadly in line with other surveys (2,3,4,5), but a slightly lower prevalence
148 in the present caseload. This may be due to several reasons: it might be that
149 in Brazil inter-dog aggression is still seen by many as a training problem
150 leading owners to seek the help of dog trainers rather than behavior
151 specialists, or that these dogs are simply kept separated, abandoned or
152 recommended for euthanasia without first seeking a specialist for help.
153 Indeed, in the national survey by Soares *et al* (7) with Brazilian veterinary
154 clinicians, canine aggression was reported to be the most frequent behavioral
155 cause of abandonment or euthanasia (7).

156 The significant presentation of repetitive behaviors is somewhat at
157 odds with studies conducted in other countries such as the USA, Canada, UK
158 and Australia (2,3,5). In all of these surveys, problems related to repetitive
159 behavior did not occupy a prominent position on the list of behavioral
160 complaints. One of the reasons for this remarkably high number of cases is
161 perhaps the tendency for many owners to live in a small indoor environment
162 in a city like São Paulo city, and/or very long periods of solitude. This is an
163 area in need of further research.

164 Training issues accounted for 8.9% of the cases. Lack of socialization
165 and training programs for puppies in Brazil is likely to contribute to this
166 problem, with the result that owners end up more frequently looking for
167 specialized help for issues associated with poor behavioral development and
168 training. However, trainers rather than veterinary behaviorists may be the
169 first professionals from whom they seek help, as veterinary behavioral
170 medicine is not yet a well-established discipline in Brazil. More studies at a
171 national level are needed in order to elucidate this matter further.

172 Problems related to aging (e.g. cognitive dysfunction), adaptation to
173 “day care” and depressed behavior were less commonly seen. Along with 6
174 preventive consultations for puppies, 2 requests for temperament testing and
175 one consultation for guidance regarding living with a dog who had become
176 visually impaired. These amounted to 7.8% of the cases seen. It may be that
177 these cases represent less worrying issues for owners, or that they are
178 complaints for which the solution may be found from other sources such as
179 a primary care veterinarian.

180 It is important to consider that the aforementioned international
181 caseloads (2,3,4,5) may differ between them and from this study in terms of
182 behavior classification (e.g. descriptive versus motivational-emotional based
183 diagnoses). It would be necessary to standardise behaviour classification in

184 order for more accurate comparisons between caseloads to be made, but
185 currently there is no agreed taxonomy for veterinary behaviour diagnosis.
186 Our classification was based on owner presenting complaints, but others
187 have been based on professional diagnosis (5). Whilst owner complaint
188 shows what owners are worried about, diagnosis shows what is
189 professionally believed to be happening; both are of value.

190 Important regional differences compared to the rest of the world are
191 reported here, but these deserve replication with the caseloads of other
192 specialists in Brazil especially considering how large and racially mixed the
193 country is. A culture with greater use of fireworks throughout the year as
194 well as the modern lifestyle of city animals which may frustrate and restrict
195 them may result in a unique profile of behavior complaints, increasing the
196 risk of problems such as noise fear and repetitive behaviors. São Paulo is the
197 largest and the most heterogeneous city in Brazil with thousands of migrants
198 and an estimated population of 12 million habitants (8). We hope further
199 Brazilian behavior caseloads are therefore published which will help us
200 answer the question to what extent the results here are representative of the
201 country.

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