

Short Communications

Internet users' perception of the importance of signs commonly seen in old animals with age-related diseases

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UNLESS practices are running a screening programme to detect disease, veterinarians rely on owners to recognise abnormal signs and present their animal to them for examination and diagnosis. Common age-related diseases often present with similar clinical signs such as polydipsia, weight loss and reduced willingness to exercise (see Table 1).

The aim of this survey was to ascertain internet users' perception of the seriousness of some of the signs often associated with common age-related disorders. A pop-up survey was designed for visitors to a busy animal health website (www.provet.co.uk). At the time of the survey, this site was getting about 3000 hits per day, and the self-declared profile of visitors to the site based on a separate survey of 701 visitors was as follows: pet owners, 55.9 per cent; medical/veterinary students, 14.1 per cent; veterinarians, 5.7 per cent; school children, 5.6 per cent (three to 12 years of age, 3.6 per cent; 13 to 17 years of age, 2 per cent), other university students, 2.6 per cent; pet breeders, 2.4 per cent; veterinary nurses, 1.9 per cent; horse owners, 1.6 per cent; other medical-related professionals, 1.4 per cent; nurses, 1 per cent; farmers, 0.9 per cent; medical practitioners, 0.6 per cent; horse breeders, 0.3 per cent and others, 6.1 per cent. The majority of visitors to the site were directed from one of the main internet search engines, and most were first-time visitors to the site. The survey popped up on the first

page when the visitor accessed the site. It was voluntary, and the visitor could exit the survey without answering any questions by clicking on a close button. A cookie was used on the visitors' computer, so that the survey would not reappear if they completed it and returned to the site at a later date; therefore, visitors could not repeat the survey unless they entered the site again from a different IP address.

The question asked in the survey was 'Which of the following signs are serious enough to require veterinary attention in an old animal?' Participants could then select their option for each of the eight common signs in old animals with age-related disorders. The signs were described in simple terms instead of medical terms, for example, 'pink- or red-coloured urine' was used rather than 'haematuria' (see Table 2).

A total of 690 visitors took part in the survey before it was terminated. The results are presented in Table 2. The design of surveys and self-selection and motivation of individuals who choose to fill in a survey questionnaire always introduce bias into the methodology and affect the quality of data collected and interpretation of the results. The population included in this survey was biased because it included individuals who were computer literate and who actively searched the internet for animal-related health information or products. As such, it probably reflects that segment of the veterinary market regarded as being responsible animal owners and probably does not reflect the typical spectrum of clients attending a first-opinion veterinary practice. In addition, a significant number of visitors to this site work in or are students in veterinary or medical-related subjects, or have a working knowledge of animals (breeders) and as such would be expected to have some knowledge and understanding of the importance of signs of abnormal health.

Another limitation of this study is the potential for different respondents to have interpreted the questions differently. For example, interpretation of the term stiffness could range from a slightly impaired gait for a few steps to severely reduced ability to use a limb. Similarly, some respondents might have interpreted loss of appetite as a reduction in food intake, whereas others might have assumed it meant that the animal had stopped eating totally. Therefore, care is needed in interpreting the findings of this survey. The survey was terminated after 690 visitors had participated because experience of this type of survey on this site has shown that after about 300 respondents, the relative percentage of opinions expressed does not change significantly (unpublished data).

One would expect that the predominantly animal-orientated population surveyed would have a higher understanding of the potential health issues associated with presenting abnormal signs in animals than the general population. It is a matter of concern therefore that, for the population surveyed, so many respondents did not recognise the potential clinical significance of some of the common signs associated with the most serious age-related disorders. Fourteen per cent of the survey respondents

would not seek veterinary attention if haematuria was present; furthermore, 25 per cent would not consider loss of appetite serious and 28 per cent would not seek veterinary attention for old animals showing polydipsia or weight loss, both highly significant signs often associated with the most serious of age-related diseases. Despite the best efforts of the veterinary profession and of the pet food industry to educate pet owners about the risks associated with obesity, 45 per cent of respondents would not seek veterinary attention for this, and 47 per cent did not think reduced willingness to exercise, which can be due to a variety of causes from osteoarthritis to heart failure, was

TABLE 1: Some of the age-related diseases associated with polydipsia, weight loss or reduced willingness to exercise

Polydipsia	Weight loss	Reduced willingness to exercise
Renal failure	Neoplasia	Osteoarthritis
Pyelonephritis	Renal failure	Heart failure
Nephrotic syndrome	Heart failure	Respiratory disease
Diabetes mellitus	Liver failure	Loss of sensory input, for example, vision
Liver disease	Diabetes mellitus	Cognitive disorders
Neoplasia (with paraneoplastic syndrome)	Inflammatory bowel disease	Muscle weakness/myopathy
Hyperadrenocorticism (Cushing's syndrome)	Pancreatitis	Abdominal distension/masses
Pyometra	Triad syndrome in cats	Pyometra
	Hyperthyroidism (especially cats)	
	Hypoadrenocorticism	

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TABLE 2: Responses of 690 survey respondents to the question 'Which of the following signs are serious enough to require veterinary attention in an old animal?'

Sign	Number (%) of respondents
Red- or pink-coloured urine	595 (86.2%)
Loss of appetite	525 (76.1%)
Weight loss	502 (72.8%)
Increased thirst	501 (72.6%)
Hind leg stiffness	428 (62.0%)
Obesity	376 (54.5%)
Reduced willingness to exercise	367 (53.2%)
Bad breath (halitosis)	361 (52.3%)

important. Halitosis is most often going to be associated with dental disease, which is not trivial because it causes pain and can result in bacteraemia and even endocarditis, but halitosis could also be caused by uraemia, and yet 48 per cent of survey respondents would not seek veterinary attention for this sign. This survey has identified the serious issue of a general lack of awareness about the importance of signs that are common in old animals with age-related diseases and it would be helpful if further studies are conducted to establish whether the findings of this survey are replicated across visitors to other websites, and also within the wider pet-owning public.

Even within this population of computer-literate, animal-oriented internet users seeking animal health advice online, there is generally a poor understanding of the seriousness of signs that are often seen in older animals. Veterinary surgeons in practice cannot rely on their clients to contact them if they notice abnormal signs because animal owners often do not appreciate the significance of signs that are common in serious age-related diseases. Practices should consider improving client education in this area and providing a screening programme to identify animals with unrecognised problems. Further surveys should be conducted to establish the overall lack of awareness of what age-related signs to report to veterinarians within both the internet community and the wider pet-owning population.

All data were collected anonymously and stored and used in accordance with the Data Protection Act 1998. Original copyright rests with the author and Provet Limited.

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Conflicts of interest

The author is Founder and Managing Director of Provet Limited, but this company will not benefit from publication of the results of this survey.

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