

## Scientific Article

# Animal abuse and family violence: Survey on the recognition of animal abuse by veterinarians in New Zealand and their understanding of the correlation between animal abuse and human violence

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## Abstract

**AIMS:** To establish the incidence, frequency and type of deliberate animal abuse seen in veterinary practice in New Zealand, and ascertain veterinarians' knowledge of human abuse within the families where animal abuse was occurring. To explore attitudes of veterinarians to and knowledge about the correlation between animal abuse and human violence, and their perceived role in dealing with such issues.

**METHODS:** A postal questionnaire was sent to practising veterinarians in New Zealand. It covered demographics, frequency and type of animal abuse cases seen, awareness of violence towards humans, within families where animal abuse was seen, the methods used for managing animal and human abuse, the incidence of psychological abuse of animals, and the attitudes of veterinarians towards and their beliefs about the link between animal abuse and human violence.

**RESULTS:** A total of 383/1,412 (27% response rate) questionnaires with useable data were returned. Within the group of respondents, the sexes were evenly represented; 40% of respondents worked in small-animal practice, 50% in mixed practice and 10% in large-animal practice. Deliberate animal abuse had been seen by 63% of respondents in the last 5 years; 37% of these had seen such cases once a year or less, while 9% had seen abuse cases at least four times a year. Dogs were the species most commonly reported as abused, followed, in numerical order, by cats, cattle and horses. Among respondents who had seen deliberate animal abuse, 16% either knew of (4%) or suspected (12%) human abuse within the families of the abused animals. A clear majority of responding veterinarians agreed with the statement that people who abuse their animals are more likely to abuse their children (77%) or spouse (70%).

**CONCLUSIONS:** The survey indicated that the majority of respondents had seen cases of animal abuse within the previous 5 years, and dogs were the species most often reported abused. Responding veterinarians felt a strong ethical duty to deal with cases of animal abuse, but they were less comfortable about issues of human abuse, even though the awareness of the link between abuse of animals and abuse of humans was relatively high.

**CLINICAL RELEVANCE:** The greater the awareness of animal abuse and its linkage with human abuse, the greater the possi-

bility that veterinarians can contribute in a meaningful way to the reduction of violence in society.

**KEY WORDS:** *Veterinarians, animal abuse, human violence, New Zealand*

## Introduction

Animal abuse or cruelty has been defined as “a socially unacceptable behaviour that intentionally causes unnecessary distress, suffering or pain, and/or death of an animal” (Ascione 1993). Vermeulen and Odendaal (1993), speaking of companion animals, divided abuse types into physical and mental, with the former including active maltreatment, e.g. assault, mutilation, bestiality; passive neglect or ignorance, e.g. lack of food and water; and commercial exploitation, e.g. dog-fighting. Mental abuse was described as active maltreatment or passive neglect. A paper stressing the importance of the recognition of animal abuse (Flynn 2000) gave the following reasons that maltreatment of animals should be addressed: “(a) It is a disturbing, antisocial, and illegal behaviour; (b) among children and adolescents, both witnessing and perpetrating animal cruelty are relatively common; (c) abusing animals, and possibly observing abuse by others, is likely to have negative developmental consequences for children; (d) perpetrating animal abuse is likely to lead to other forms of interpersonal aggression, both within and outside the family; (e) the presence of animal cruelty may be a marker of other forms of violence taking place in families; (f) the welfare of companion animals, most of whom are viewed as family members, is being neglected; and (g) addressing violence in all its forms, including violence against animals, will help efforts to promote and achieve a more humane and less violent society for all individuals – humans and animals”.

The link between animal abuse and human interpersonal violence referred to in the previous paragraph has been clearly demonstrated. A study in New Jersey (DeViney et al 1983) found that in 88% of families in which physical abuse of children was occurring, pets were also being abused. Another study linking spousal abuse and violence towards pets (Ascione 1998) showed that of the 74% of women at a shelter for battered women who currently owned pets or had owned a pet within the previous year, 71% said that their violent partners had threatened, harmed or even killed one or more of their pets.

Animal abuse by children has also been explored as an indicator of future violence, and retrospective studies reported an association between a record of violent crime in prisoners or psychiatric

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patients and a past history of animal abuse. In a study where aggressive criminals were compared with non-aggressive criminals and non-criminals, childhood cruelty to animals occurred at a significantly greater degree amongst the aggressive criminals (Kellert and Felthous 1985). In relation to sexual homicide (defined by Roberts and Grossman (1993) as homicide occurring during the commission of a sexual offence), Ressler et al (1995) found that 36% of male perpetrators reported abusing animals as children and 46% as adolescents, while serial killers such as Jeffrey Dahmer and David Berkowitz had histories of animal cruelty as youths (Quinn 2000). Indeed, along with other activities such as arson, bullying and forcing someone into sexual activity, cruelty to animals is included as one diagnostic criterion, by the American Psychiatric Association (Anonymous 2000), for 'conduct disorder', a repetitive and persistent pattern of behaviour in which the basic rights of others or major age-appropriate societal norms or rules are violated.

Recognition of this link between animal abuse and family violence has led to a call for greater awareness of the issue by both human and animal welfare professionals, as well as more cross-training and cross-referral between them (Flynn 2000). Measuring the current state of awareness of professionals, including veterinarians, is an obvious first step in this process. As frontline professionals, veterinarians have a pivotal role to play in addressing issues of animal abuse, and the potential to act as a link in a network aiming to reduce violence in society.

The prevention of violence is not a traditional role played by the veterinary profession, but the veterinarian, as a health-care professional, may be in a unique position to recognise the signs of not only animal abuse but also human violence (Arkow 1994). The study by DeViney et al (1983) found that pets were abused or neglected in 60% of homes with child neglect and in 80% of homes with child abuse. Interestingly, those authors found that the use of veterinary services, rates of desexing pets, and levels of basic care of their pets among the abusive families did not differ significantly from the general norms. This has led to suggestions that veterinarians should recognise their social responsibilities as reporters of suspected child abuse and family violence (Arkow 1994; Reisman and Adams 2002).

Such requirements do present problems for veterinarians, however, even when, as reported by Nolen (2001, non-peer-reviewed), such reporting is mandatory or laws are in place to protect veterinarians from civil or criminal liability for divulging information that might in other circumstances be covered by client confidentiality. There are many reasons why veterinarians may not act upon suspected animal abuse. These include client confidentiality, lack of training and recognition, lack of knowledge about resources, fear of endangering safety of self and/or the victim, and problems in recognising animal abuse (Sharpe and Wittum 1999). There are problems in recognising animal abuse, but the clinical and pathological features of physical abuse of animals have been outlined, with emphasis on the similarity to diagnostic pointers that have been developed for cases of child abuse (Munro 2002; Munro and Thrusfield 2001ab).

Clearly, lack of education regarding animal and human abuse is a major reason for non-reporting. Landau (1999) found that the vast majority of veterinary colleges in the United States of America (USA) agreed that veterinarians would come across incidents of animal abuse, and the majority of colleges addressed this in their curricula. However, a majority also agreed that veterinarians

would also encounter human abuse in their career, but less than a quarter of colleges addressed this in their curricula. Despite animal abuse education being in the curricula, Sharpe and Wittum (1999) found that only 8% of veterinarians in the USA thought veterinary education in relation to physical animal abuse was sufficient, and the majority did not understand their legal rights and responsibilities. Therefore, it is not surprising that those authors found that most veterinarians in the USA did not report animal abuse because of lack of resources and training.

In New Zealand, wilful ill-treatment of an animal contravenes the Animal Welfare Act (Anonymous 1999), but reporting of animal abuse is an ethical rather than a legal requirement for veterinarians. The Veterinary Council of New Zealand's (VCNZ's) Code of Professional Conduct (Anonymous 2005) does not address animal abuse specifically, but requires that a veterinarian who becomes aware of an animal suffering unreasonable or unnecessary pain or distress must take action to ensure that the matter is effectively dealt with. The Animal Welfare Act (1999) indicates a need for thorough examination of all the mitigating circumstances in a particular case and professional advice on the relief of the pain or distress, and requires veterinarians to report the case to an inspector if the situation shows no sign of being remedied.

Overseas, there has also been debate about requiring veterinarians to report not only animal abuse but also child abuse and domestic violence, as other licensed health-care professionals are required to do (Nolen 2001). The frequency with which veterinarians see cases of deliberate animal abuse, and their awareness of the link between this and human violence, has been studied in Australia (Green and Gullone 2005), the United Kingdom (UK) (Munro and Thrusfield 2001a) and the USA (Sharpe and Wittum 1999), but no such information is available for veterinarians in New Zealand. Only Munro and Thrusfield (2001c) have looked at the issue of sexual abuse of animals.

Vermeulen and Odendaal (1993) defined animal abuse as having both physical and mental components, the latter involving "active maltreatment" which includes the instillation of fear, anguish, anxiety and isolation and also 'passive neglect' which includes the deprivation of love and affection", but there has been little research into the psychological abuse of animals. Nevertheless, both New Zealand's Animal Welfare Act (1999) and the Code of Professional Conduct include 'distress' alongside 'pain' when referring to ill-treatment or animal suffering, and it is clear that distress may not necessarily be physical in origin. An exploration of the attitudes of veterinarians in New Zealand towards this form of animal abuse might then shed some light on this little understood subject.

This study aimed to identify veterinarians' knowledge of, attitudes towards, and diagnosis of, animal and human abuse, and the frequency with which animal abuse is seen in veterinary practices in New Zealand, and to compare data from New Zealand with those from similar studies from overseas.

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## Materials and methods

Questionnaires were sent to veterinarians identified from the VCNZ register as holding a current practising certificate. Those clearly identified as not being in clinical practice, e.g. those working for the Ministry of Agriculture and Forestry, were excluded.

Because of the focus of the survey, those veterinarians who had not been in practice in New Zealand in the previous 5 years were asked to tick the appropriate box and return the questionnaire unanswered. The questionnaire was based on a similar survey in Australia (Green and Gullone 2005), and was designed to be completed within 20 minutes. The questionnaire and methodology of this survey were approved by the Unitec Research and Ethics Committee, Auckland, New Zealand. The survey was sent out in March 2005.

The survey consisted of five sections. Section 1 collected demographic information such as age; gender; year of graduation from Massey University or an overseas veterinary school; type of practice; percentage of time spent treating companion animals, production animals, and horses; and approximate number of patients seen per year.

Section 2 requested information on incidents of deliberate physical maltreatment of animals seen by respondents in the previous 5 years. Questions were also asked concerning the identity of the person bringing the animal to the veterinarian's attention, as well as the species of the patient and ranking of species in terms of relative frequency with which abuse was seen. Information was also sought on the types of injury involved, and the causes of those injuries, where known. Veterinarians were asked about the signs that led them to suspect deliberate abuse, and, if they had such knowledge, the profile (sex and age) of the known or suspected perpetrator. Respondents were also asked if they knew of or suspected human abuse within the families where known or suspected animal abuse had occurred, which included questions about the identity of the perpetrator in such cases.

Section 3 requested information on what the respondent's appropriate professional response (or specific action) would most likely be if animal or human abuse was suspected, and also asked whether they thought reporting of deliberate animal abuse should be mandatory.

Section 4 asked about the frequency with which veterinarians saw what they believed to be cases of deliberate psychological mistreatment. In such cases, questions were also asked about the species involved and their ranking in terms of relative frequency as well as the clinical signs exhibited. For this survey, psychological abuse was defined as "deliberate psychological mistreatment that leads to animals exhibiting behaviour that is possibly reflective of such treatment".

Section 5 asked respondents to rank a series of attitudinal or belief statements concerning animal and human abuse on a likert scale (Likert 1932) of 1 to 5, where 1 was "strongly disagree" and 5 was "strongly agree".

A reply-paid envelope was sent out with each survey, and an announcement was placed in the New Zealand Veterinary Association magazine, *VetScript*, after the mailing, to encourage a high return rate. The questionnaires were returned anonymously and were assigned a number on receipt.

### Statistical analysis

If individual questions were not answered or answered ambiguously they were registered as missing data. Simple descriptive statistics were produced for all variables in the dataset and associations between factors of interest were examined using  $\chi^2$ , using SPSS v12.0.1 for Windows (SPSS Inc, Chicago IL, USA).

## Results

### Section 1: Demographics

Of the 1,516 questionnaires sent out, 102 were returned by veterinarians who considered themselves inappropriately targeted. Of the remaining 1,412, there were 383 questionnaires which contained useable data, a response rate of 27%. Discrepancies in reported total numbers through the results relate to occasional missing data.

Details of demographic data are summarised in Table 1. The genders were evenly represented. A total of 268/371 (72%) respondents had graduated after 1980. The highest number of respondents came from practices classed as mixed.

A comparison of the survey population with the equivalent population taken from VCNZ statistics of veterinarians holding current practising certificates as at October 2005 (Table 1) showed

**Table 1. Demographic data of respondents to Section 1 of a survey on the recognition of animal abuse by veterinarians in New Zealand and their understanding of the correlation between animal abuse and human violence, compared with data from Veterinary Council of New Zealand (VCNZ) 2005 statistics.**

Demographic	Number (%)	
	Survey	VCNZ
Gender		
Male	193 (50%)	1,255 (58%)
Female	184 (48%)	918 (42%)
Not reported	6 (2%)	
Age group		
20–29	58 (15%)	
30–39	114 (30%)	
40–49	131 (34%)	
50–64	72 (19%)	
≥65	8 (2%)	
Year of graduation		
Pre-1961	2 (1%)	32 (1%)
1961–1970	21 (5%)	171 (8%)
1971–1980	80 (21%)	459 (21%)
1981–1990	113 (30%)	605 (28%)
1991–2000	104 (27%)	588 (27%)
2001–2005	51 (13%)	318 (15%)
Not reported	12 (3%)	
Veterinary school attended		
Massey	279 (73%)	
Overseas	92 (24%)	
Not reported	12 (3%)	
Practice type		
Small animal	150 (39%)	
Mixed	197 (51%)	
Large animal	34 (9%)	
Not reported	2 (1%)	
More than 50% of time spent treating		
Small animals	216 (56%)	
Production animals	106 (28%)	
Horses	26 (7%)	
Not applicable	35 (9%)	
<b>Total</b>	<b>383</b>	<b>2,173</b>



that groups of year of graduation were comparable. There was a small but significant difference ( $\chi^2_{(1)}=5.6$ ;  $p=0.02$ ) between response rates for genders compared with the VCNZ population.

## Section 2: Animal abuse and family violence

Details of the frequency with which physical animal abuse was seen by responding veterinarians in the last 5 years are given in Table 2. Of the 383 respondents, 242 (63%) had seen cases of deliberate animal abuse in the previous 5 years, while 36 (9%) reported seeing such cases at least four times a year.

The reported frequency of abuse was examined with regards to the demographics of the participants, using  $\chi^2$  statistics. There were no significant differences for gender, age group or veterinary school attended. However, respondents from large-animal practices or those who spent more than 50% of their time treating production animals or horses were less likely to report observations of abuse, compared with those from small-animal practices. Also, respondents who graduated before 1981 were less likely to report the observation of abuse compared with later graduates, and more recent graduates were more likely to report the observation of multiple cases of abuse in one year.

Respondents were requested to report on the proportion of abused cases that were brought in by the owner, member of the public or animal-welfare officer. On average, 49% of suspected abuse cases were brought in by the owner, 33% by welfare inspectors, and 18% by members of the public.

**Table 2. Frequency with which cases of deliberate physical animal abuse, and deliberate psychological animal abuse, were seen by respondents in the previous 5 years, in Section 2, and Section 4, respectively, of a survey on the recognition of animal abuse by veterinarians in New Zealand and their understanding of the correlation between animal abuse and human violence.**

Frequency seen	Number (%)	
	Physical abuse	Psychological abuse
No abuse seen	141 (37%)	287 (77%)
Once a year or less	140 (37%)	42 (11%)
Every 4–9 months	66 (17%)	18 (5%)
Every 2–3 months	28 (7%)	17 (5%)
Once a month or more	8 (2%)	9 (2%)
<b>Total</b>	<b>383</b>	<b>373</b>

**Table 3. Reported cases of physical animal abuse and psychological animal abuse, in different species, and number and percentage of those ranking species as most frequently seen abused, from respondents to Section 2 (n=242) and Section 4 (n=86), respectively, of a survey on the recognition of animal abuse by veterinarians in New Zealand and their understanding of the correlation between animal abuse and human violence.**

Species	No. (%) reported abuse		No. (%) ranked species most frequently abused	
	Physical abuse	Psychological abuse	Physical abuse	Psychological abuse
Dog	214 (88%)	79 (92%)	155 (64%)	65 (76%)
Cat	170 (70%)	25 (29%)	46 (19%)	7 (8%)
Cattle	80 (33%)	9 (10%)	28 (12%)	4 (5%)
Horse	55 (23%)	15 (17%)	9 (4%)	4 (5%)
Sheep	27 (11%)	0	3 (1%)	0
Bird	21 (9%)	4 (5%)	2 (1%)	1 (1%)
Goat	9 (4%)	3 (3%)	1 (<1%)	0
Pig	–	4 (5%)	–	1 (1%)

The rates of reported abuse in the different species are presented in Table 3. Respondents were asked to identify the types of injuries associated with the causes of suspected or definite cases of abuse; these are presented in Table 4. A slightly different pattern of types of injuries was noted between those definitely associated with abuse and those suspected as abuse. The identified cause of injuries sustained varied with the type of injury. For head injuries, 29/61 (48%) cases were identified as caused by the animal being hit or beaten, either with or without an object, and 15 (25%) from being kicked or stamped on. Ocular injuries were most commonly identified as caused by hitting/beating, in 21/36 (58%) of cases, while 7/12 (58%) cases of auricular injury were the result of deliberate ear-cropping. Kicking was the cause attributed to 7/10 (70%) cases of dental injury, 20/25 (80%) cases of injured ribs, 26/70 (37%) cases of injuries of the limbs, and 32/69 (46%) cases of bruising. Of animals with injured tails, 20/29 (69%) were identified as the result of deliberate breaking of the tail.

The identified causes of lacerations in 36 cases included shooting (19%), stabbing/cutting (19%), and deliberate dog-fighting (25%). Genital damage was identified in 16 cases as the result of attempted 'home' castrations (50%), and apparent sexual deviance (50%). Thermal injuries in 14 cases were attributed to deliberate scalding (43%) and cigarette burns (21%). Being dragged behind a car (5/10; 50%) and rope burns (4/10; 40%) were identified as causing friction injuries, while the poison most commonly identified as used deliberately was ethylene glycol (10/26; 39%). Some other causes of injury included feeding ground glass to a dog, setting a cat alight, pushing a kitten through a letterbox, and dropping a puppy into hot water.

Of the 231 respondents to Section 2 of the survey who reported having seen physical abuse of animals, the most frequent reasons given for their suspicions were: the nature of injury (133; 58%), the abuse was reported or witnessed (39; 17%), the behaviour of the owner (29; 13%), an inconsistent history (23; 10%), or repeated presentation of injuries or evidence of historical injuries (each 6; 3%). Some respondents ascribed equal first ranking to reasons, accounting for the total percentage exceeding 100%.

Of the 242 respondents who reported seeing cases of abuse, 62 (26%) had no knowledge or suspicion of the perpetrator in any of the abuse cases they had seen, while 61 (25%) reported knowledge or suspicion in 75–100% of cases. On average, respondents reported knowledge or suspicion of the perpetrator in 41% of the cases. Examining the reported proportions by type of practice,

**Table 4. Numbers and percentages of reported abuse cases identifying types of injury known or suspected to be caused by physical abuse, and ranking type of injury as most frequently seen, by respondents (n=242) to Section 2 of a survey on the recognition of animal abuse by veterinarians in New Zealand and their understanding of the correlation between animal abuse and human violence.**

Type of injury	Definite (%) <sup>a</sup>	Suspect (%) <sup>a</sup>	Ranked most frequent injury (%) <sup>a</sup>
Broken limbs	62 (26%)	58 (24%)	30 (12%)
Bruising/haemorrhage	62 (26%)	65 (27%)	40 (17%)
Head injury	54 (22%)	52 (21%)	16 (7%)
Lacerations	41 (17%)	27 (11%)	13 (5%)
Broken tail	25 (10%)	42 (17%)	12 (5%)
Ocular trauma	23 (10%)	35 (14%)	4 (2%)
Poisoning	19 (8%)	59 (24%)	12 (5%)
Broken ribs	16 (7%)	24 (10%)	3 (1%)
Genital trauma	14 (6%)	13 (5%)	3 (1%)
Thermal burns	13 (5%)	9 (4%)	2 (1%)
Friction burns	13 (5%)	3 (1%)	2 (1%)
Auricular trauma	12 (5%)	9 (4%)	3 (1%)
Broken/missing teeth	12 (5%)	9 (4%)	2 (1%)

<sup>a</sup> Identification by respondents of more than one type of injury accounts for percentages exceeding 100%

there were higher rates reported for large-animal practices (83%) than mixed (44%) or small-animal practices (32%). In those cases where a respondent could identify a known or suspected perpetrator, on average the respondents reported that person was male in 88% of cases, 59% were over 25 years of age, and this age group represented 80% of cases seen in large-animal practice.

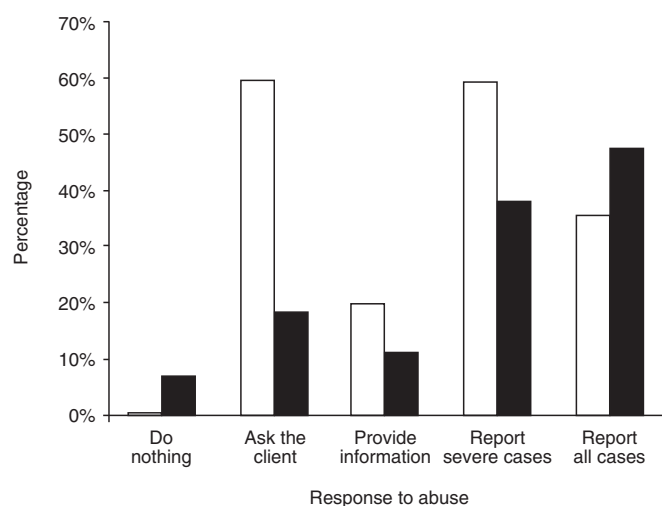
Of the 242 respondents who reported cases of abuse in the last 5 years, nine (4%) knew of, and 28 (12%) suspected, human abuse within the families of those animals suffering abuse.

### Section 3: Management of abuse

The respondents were asked to identify the appropriate professional response to suspected animal or human abuse; these are presented in Figure 1. Of the 286 respondents who commented on the reasons for their choice of response in relation to animals, 80 (28%) said their preference was to address the issue with the client first, and only report severe cases; 16 (4.2%) said that any abuse was unacceptable; 43 (11.2%) mentioned their ethical responsibilities; 17 (4%) mentioned difficulties in being sure that abuse had taken place, while eight (2%) commented on the potential danger from confronted clients.

Of the 270 respondents who commented on the reasons for their choice of response in relation to humans, 71 (26%) said they felt this was outside their professional experience or they did not have the skills to deal with human abuse; 63 (23%) said they would either report all cases, or report if sure or strongly suspicious; while 27 (10%) commented that, as a member of society rather than as a professional, it was their duty to act. Difficulties in identifying or being sure about human abuse cases were noted by a further 25 (9%), and nine (3%) commented on the potential dangers of confronting clients with the issue.

A total of 266/367 (73%) respondents considered that it should be mandatory to report cases where deliberate animal abuse was known to have occurred. Examination of the proportion of re-



**Figure 1. Appropriate professional response to suspected animal (□) or human (■) abuse, reported by respondents to Section 3 of a survey on the recognition of animal abuse by veterinarians in New Zealand and their understanding of the links between animal abuse and human violence.**

spondents who considered reporting should be mandatory by key demographic variables showed no significant differences for age group, year of graduation, or veterinary school attended. However, females were more likely to advocate reporting to be mandatory (female 83% *vs* male 62%;  $\chi^2_{(1)}=19.3$ ;  $p<0.001$ ), and respondents who worked at small-animal practices (small-animal 84% *vs* large-animal 55%, mixed 66%;  $\chi^2_{(2)}=18.7$ ;  $p<0.001$ ) or spent more than 50% of their time treating companion animals (companion animals 78% *vs* production animals or horse 62%;  $\chi^2_{(1)}=11.2$ ;  $p=0.001$ ) were more likely to advocate mandatory reporting.

### Section 4: Psychological abuse of animals

Of 373 respondents, 86 (23%) had seen cases of animals which they considered to have been deliberately psychologically abused; Table 2 gives details of the frequency with which such abuse was seen by those respondents. There were no significant associations between the frequency of instances of psychological abuse and the demographics of respondents.

Table 3 shows the percentage of those respondents reporting cases of psychological abuse in different species, and percentage of those ranking species as most frequently seen abused. The most common behaviours that were reported in psychological abuse were cowering and trembling.

### Section 5: Attitudes/beliefs

Details of responses to a series of attitudinal statements are given in Table 5. The strongest agreement was with the statement that "veterinarians have a moral and/or legal responsibility to intervene where they suspect animal abuse", and least with the statement that "if I was to be presented with a case where child or spousal abuse was suspected, I feel I have the necessary resources to offer help (e.g. referral advice) to clients".

## Discussion

This survey collected data on the numbers and types of injuries of abused animals seen by individual veterinarians, and also on the attitudes and perceptions of the respondents. While the results

**Table 5. Attitudes of respondents towards statements concerning animal abuse and human violence, and veterinary responsibilities, in Section 5 of a survey on the recognition of animal abuse by veterinarians in New Zealand and their understanding of the correlation between animal abuse and human violence. Responses expressed as mean scores and percentage agreement, where 1 = "strongly disagree", 2 = "disagree", 3 = "not sure", 4 = "agree", and 5 = "strongly agree".**

Statement	n	Average score	Median score (SIQR)	% of Respondents		
				Disagree	NS	Agree
"Veterinarians have a moral and/or legal responsibility to intervene where they suspect animal abuse"	382	4.64	5 (0.5)	1.3	2.1	96.6
"People who abuse their animals are more likely to abuse their children"	382	4.07	4 (0.5)	3.1	20.1	76.5
"People who abuse their animals are more likely to abuse their spouses"	382	3.96	4 (1.0)	2.9	27.0	70.1
"People who abuse their animals are more likely to commit other types of crime"	381	3.70	4 (0.5)	7.6	35.4	57.0
"I understand my legal rights and responsibilities if animal abuse is suspected"	382	3.60	4 (0.5)	16.0	21.7	62.3
"If I was presented with a case of animal abuse, I feel I have the necessary resources to offer help in prevention of recurrence"	382	3.42	4 (1.10)	23.3	19.9	56.8
"Veterinarians have a moral responsibility to intervene where they suspect family violence"	382	3.37	3 (0.5)	21.7	29.8	48.4
"Veterinary schools provide adequate information and training in the recognition and prevention of animal abuse"	378	2.50	3 (0.5)	48.7	36.2	15.1
"People who use punishment-based animal training methods (physical correction, check/choke-collar, electric collars, etc) are more likely to engage in animal abuse"	383	2.45	3 (0.5)	56.1	27.2	16.7
"I understand my legal rights and responsibilities if child or spouse abuse is suspected"	383	2.11	2 (1.0)	62.9	27.7	9.4
"If I was to be presented with a case where child or spouse abuse was suspected, I feel I have the necessary resources to offer help (e.g. referral advice) to clients"	382	2.08	2 (1.0)	68.8	18.1	13.1

SIQR = semi-interquartile range; NS = not sure

must be taken within this context, information on animal abuse seen by veterinarians provides insight into this difficult issue in New Zealand. It was clear from the survey data that animals that have been deliberately abused were seen by veterinarians in New Zealand, and nearly two-thirds of respondents reported having seen such cases in the 5 years preceding the survey.

Differing methods of recording the frequency with which veterinarians see or suspect animal abuse, together with variations in the definitions of abuse used in various international surveys, make meaningful comparisons of the incidence of such cases in veterinary practice between studies difficult. In surveys in Australia (Green and Gullone 2005) and the USA (Sharpe and Wittum 1999), a frequency in terms of caseload was requested. Although our survey did include a question on the total number of animals seen per year by the respondents, there was large variation in the caseloads reported in our survey; respondents were drawn from both urban and rural practices, where cases dealt with both individual animals and herds or flocks, hence the data were more meaningfully presented in terms of the number of veterinarians who had seen cases of animal abuse.

A survey from the UK (Munro and Thrusfield 2001ab) provided the best comparison, in that cases were limited to animals with "non-accidental injury", although that survey, too, was aimed at small-animal practitioners. A higher proportion of responding veterinarians in New Zealand than in the UK (63% *vs* 48%, respectively) had seen cases of abuse. In the survey in Australia (Green and Gullone 2005), where the incidence of cases of abuse was given as 0.12 per 100 patients, 92% of respondents reported having diagnosed animal abuse at varying frequencies. However, in that survey, veterinarians were also asked for their own definition of abuse, and many included neglect and other non-violent forms of abuse. While it was clear from comments on the questionnaire that veterinarians in New Zealand do regard issues such as neglect as a form of abuse, we chose to limit our given defini-

tion to violent physical injury, this being the form of animal abuse that most correlates with the issue of human violence. Table 2 shows the frequency with which respondents in New Zealand had seen cases of abuse. It was notable that more than four times as many respondents in New Zealand compared with Australia (37% as compared to 8%) claimed not to have seen any abuse. This could be explained by the exclusion of non-violent abuse from our survey and also by our limiting of cases of abuse to the previous 5 years.

A survey from the USA (Sharpe and Wittum 1999) listed the incidence of animal abuse cases as 0.56 per 100 cases, a much larger proportion than in the survey from Australia (Green and Gullone 2005). The former study was limited to small-animal veterinarians, and given that small animals, particularly dogs, were the abused animals most commonly presented in all the surveys, it is perhaps not surprising that the result for the USA was higher. However, the survey from the UK (Munro and Thrusfield 2001b) also focussed on small-animal practice, and yet demonstrated a lower incidence of cases of abuse than in our survey. Possible reasons for this discrepancy are a higher incidence of animal abuse in New Zealand than in the UK, and greater recognition by veterinarians in New Zealand of abuse, given the 5-year gap between the surveys, and increasing publicity about the issue over that time. Unlike the other surveys, our questionnaire limited the inclusion of cases of animal abuse to those seen to the last 5 years, in an effort to keep the information relevant to the present time.

The predominance of dogs as the species most commonly diagnosed as abused by responding veterinarians, and cats in second place, was common across all the surveys, including those that also covered rural practices. This may be explained by a number of factors, including the smaller size of the animals resulting in more severe injuries, and the personal relationship with companion animals providing readier access, although this may also mean help is sought more readily than for production animals. It seems,

for instance, that with a relatively high incidence in the survey in New Zealand of broken tails in cattle, described as the result of 'tail-jacking', these animals may have been seen incidentally on farm visits rather than for a specific consultation. In fact, in our survey cattle were rated third as the species most frequently abused, and more commonly identified as abused than in the survey in Australia (Green and Gullone 2005), which may, at least in part, be due to New Zealand's less extensive farming practices. No distinctions in terms of breed were requested, but this is a possible area for future research, particularly in relation to dogs.

The causes of injury, either known or suspected, in this survey were similar to those found in the UK survey by Munro and Thrusfield (2001b). Hitting, with or without an instrument, and kicking were found to be the most common cause of injuries reported by respondents. The actions taken by abusers in inflicting injury on animals appeared to fall into two groups: those that were a response to uncontrolled anger or frustration (e.g. hitting, kicking, throwing); and those, certainly less frequent, which could be described as having a rather more sinister motive (genital mutilation, cigarette burns, feeding ground glass, setting animals alight). The percentage of respondents reporting injuries consistent with sexual abuse of animals was the same as the 6% reporting such injuries in the survey by Munro and Thrusfield (2001c).

Where perpetrators of physical animal abuse were known or suspected, the majority were males over 25 years of age. However, it would be interesting to look at trends over time in the gender of perpetrators of animal abuse. In terms of domestic violence, there are considerable gender differences in the frequency and context of violence towards a human partner; the majority of domestic violence, as reported in a non-peer-reviewed study for the British Home Office, was perpetrated by men towards women (Grace 1995). However, there is some suggestion that there are considerable increases in the percentage of women as perpetrators of domestic violence (Busch and Rosenberg 2004). Further research is necessary to establish potential patterns in the gender of perpetrators of animal abuse and how these may compare with those of domestic violence.

Nearly all the respondents in New Zealand, like their Australian counterparts, recognised a moral responsibility to intervene if they suspected animal abuse, and close to three-quarters were in favour of mandatory reporting of deliberate animal abuse. Invited comments on management of such cases, however, showed a clear preference for trying to address the issue with the client as a first step.

Fewer than one quarter of the respondents reported seeing what they interpreted as psychological abuse in animals. However, this is a much harder form of abuse to recognise than physical abuse, not least because of the variable interpretations that can be applied. It is perhaps for this reason that there have been no studies investigating emotional or psychological abuse of animals, and this is an area that warrants further research. Indeed, it is a challenging area of abuse to identify in humans, although Glaser (2002) described it as an under-recognised but actually common form of child abuse. As with physical abuse, the species most commonly affected were dogs and cats, presumably because of their closer association with humans. The most common behaviours that were reported in psychological abuse were cowering and trembling, which are commonly identified as fear behaviours (Overall 1997).

A clear majority of respondents recognised the link between animal abuse and human abuse, but the numbers who suspected human abuse within the families of the abused animals were low,

and those who had definite knowledge were even fewer, amongst the respondents who had seen deliberate animal abuse in the last 5 years. More respondents indicated that they would report all cases of human abuse than those of animal abuse, but many of those who commented on the issue felt that they did not have the expertise to deal with human abuse, and were less likely to raise their suspicions with clients. Fewer than half of the respondents felt a responsibility to intervene if they suspected family violence.

The issues raised from this study were similar to those found by Sharpe and Wittum (1999) in a survey of veterinarians in the USA. It has been suggested that veterinarians should take advantage of their unique position to recognise the signs of not only animal abuse but also human violence (Arkow 1994). However, this will require more in-depth training in such areas as recognition of abuse, and greater resources. Only 13% of respondents agreed they had the necessary resources to offer help to clients if family violence was suspected, and even fewer (9%) agreed that veterinarians understood their legal rights and responsibilities if child or spousal abuse was suspected. It was interesting that many veterinarians commented that dealing with human abuse was 'outside their area of expertise', but others indicated that they had the same moral responsibility as any other member of society to act on suspicions of such abuse.

The response rate of this survey, at 27%, was similar to the 28.5% recorded in the survey in Australia (Green and Gullone 2005), but substantially lower than the 36.8% in the survey in the USA (Sharpe and Wittum 1999) or the 40.4% in the survey in the UK (Munro and Thrusfield 2001b). However, in contrast to the other studies in which responses were sought from a sample of the veterinary population, the relatively small total number of veterinarians in New Zealand meant that the survey population comprised all those veterinarians in the country holding a practising certificate, excluding those identified as involved in governmental, research or other non-clinical veterinary work. This means that the sample of 383 respondents approximated 27% of the full population of practising veterinarians in New Zealand, rather than a proportion of a sample, which, in the case of the study in the USA, was restricted to small-animal veterinarians.

The data must be assessed with due consideration of respondent bias that could have arisen because of the voluntary nature of the survey. The slightly higher ratio of females to males in the survey population than in the VCNZ statistics, for instance, may reflect a greater interest in the issues by female veterinarians, and it is possible that the survey was more likely to have been answered by those veterinarians who felt more strongly about the issues of abuse of animals and the link to human violence.

In conclusion, the majority of respondents to this survey had seen cases of animal abuse within the previous 5 years, and dogs were the species most often reported as abused. Although responding veterinarians felt a strong ethical duty to deal with cases of animal abuse, they were less comfortable about issues of human abuse, even though the awareness of the link between abuse of animals and abuse of humans was relatively high.

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