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Prevalence of desexed cats in relation to age in a convenience sample of Western Australian cats

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Abstract

Background

Desexing percentages for pet cats in Australia are nearly 95%, but the high numbers of unwanted kittens surrendered to animal shelters suggest that many pet cats breed before the owners consider desexing, or that the mothers of many of these kittens are stray or feral.

Methods and Results

A convenience sample of Western Australian pet cats of known age presented for microchipping (584 in 2012 and 316 in 2013) found that younger cats were less likely to be desexed. In 2012, 93.2% of cats aged ≥ 2 years were desexed compared with 49.4% of cats < 2 years old, with the data for 2013 being 97.4% and 28%, respectively.

Conclusion

If these results are reflected nationally, desexing of prepubescent cats up to 4 months old could significantly reduce the numbers of unwanted kittens born to pet cats.

Keywords: animal welfare; cats; desexing; education; legislation

Abbreviation: LGA, local government area

The prevalence of desexing is high for Australian pet cats, with estimates in large state or national surveys of 90–93%,[1-3] which contrasts with reported rates of 43% in Teramo, Italy[4] and approximately 80% in the USA.[5, 6] However, this high rate of desexing is not preventing the surrender of many unwanted kittens to Australian animal shelters.[7] These kittens may be the offspring of stray or feral cats, or of pet cats that are not desexed until after they have bred.[8] A Queensland study found that 83% of pet cats were desexed before they were 1 year old[9] (lower than the estimates of desexed status for all pet cats) and a national study found that 88% of all pet cats were desexed and 94% of those aged over 1 year.[10]

Materials and methods

An opportunity to assess whether young pet cats were being desexed came in 2012 and 2013, when the Cat Haven shelter in suburban Perth, Western Australia, ran a microchipping day each year offering discounted microchipping for pet cats. There were 584 pet cats presented in 2012 (26th May) and 316 in 2013 (14th April). In 2012, pet cats came from 29 of the 30 local government areas (LGAs) in the Perth metropolitan area (range 2–65 cats/LGA, median 15) and 1 non-metropolitan LGA (26 cats). In 2013, 27 metropolitan LGAs (range 1–36 cats/LGA, median 7) and 2 non-metropolitan LGAs (5 and 14 cats) were represented. Thus, although the samples in each year included only pet cats not yet microchipped, they did come from a wide range of LGAs.

The practitioner in attendance noted the sex of each cat presented and owners were asked the age of the cat and whether or not it was desexed. We analysed the data in each year separately, using logistic regression with the predictors age (categorical), sex (categorical) and the age × sex interaction. Ages were grouped into the categories <1 year old, 1 to <2 years old and ≥2 years old,

because the very high numbers of desexed older cats gave zeroes for many ages. The dependent variable was whether or not the cat was desexed.

Results

In 2012, 93.2% of cats aged at least 2 years were desexed compared with 49.4% of cats under 2 years old; the proportions for 2013 were 97.4% and 27.8%, respectively (Table 1).

Overall, the prevalence of desexed animals was similar for male and female cats in both 2012 (81.8% males, 80.7% females) and 2013 (82.2% males, 77.8% females) (Table 2).

Statistical analysis showed that there was no evidence sex or an interaction between age and sex predicted the likelihood that a cat was desexed.

Discussion

Our data support the findings of other studies that younger cats are less likely to be desexed, although the prevalence of desexed younger cats (<2 years old) was less than that reported in other Australian surveys,[9, 10] possibly because owners who had already presented their cats for microchipping may have taken the opportunity to desex them as well. Although younger cats were less likely to be desexed in these samples, we have no information on the age at which the older cats were desexed.

Given that cats may breed from 4 months of age, this does give opportunity for unwanted breeding and a supply of abandoned kittens in animal shelters. This supports the view that desexing of prepubescent female cats (<4 months old) could make a significant difference to cat welfare by reducing the numbers of kittens surrendered to shelters.[8] It could also reduce supplementation of feral cat populations with abandoned kittens.[11]

There is support among cat rescue organisations for desexing prepubescent cats, with 19 of the 29 cat rescue organisations that replied to a survey on the topic agreeing that it would be beneficial in reducing the number of homeless cats.[12] Although there may be reluctance among veterinarians to desex young cats, some reviewers claim that mortality risks and behavioural problems are no higher for prepubescent animals than for older animals.[13] Anaesthetic risks in young animals can now be controlled,[14] so there appear to be no significant welfare arguments against desexing before puberty.

New legislation in Western Australia requires desexing, microchipping and registration of cats aged ≥ 6 months,[15] which encourages desexing of younger cats. This government initiative may go some way to reducing the numbers of unwanted kittens that overwhelm the cat welfare organisations each year. It cannot, though, address the problem of breeding by stray or feral cats.

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Table 1. Age, sex and desexed status of cats presented for microchipping in 2012 and 2013

	Age (years)	No. of cats	Total males	% males desexed	Total females	% females desexed	% of age group desexed
2012	<1	55	20	10.0	35	17.1	14.5
	1	105	46	76.1	59	61.0	67.6
	2-21	424	170	91.8	254	94.1	93.2
	Total	584	236	81.8	348	80.7	81
2013	<1	56	29	13.8	27	3.7	8.9
	1	23	12	83.3	11	63.6	73.9
	2-15	237	117	99.1	120	95.8	97
	Total	316	158	82.3	158	77.8	80

Table 2. Results of logistic regression analyses for all cats, using the predictors age (categorical), sex (categorical), and the age \times sex interaction (dependent variable was whether or not the cat was desexed)

2012

Variable	B	S.E.	Wald	df	Sig.	Odds ratio
Age	2.147	0.372	33.256	1	<0.001	8.558
Sex	-0.347	0.386	0.81	1	0.368	0.707
Age by Sex	0.855	0.503	2.888	1	0.089	2.351
Constant	-2.417	0.279	75.102	1	<0.001	0.089

2013

Variable	B	S.E.	Wald	df	Sig.	Odds ratio
Age	5.41	1.057	26.204	1	<0.001	223.714
Sex	1.618	1.103	2.151	1	0.142	5.043
Age by Sex	-0.953	1.218	0.612	1	0.434	0.386
Constant	-4.754	1.004	22.403	1	<0.001	0.009

df, degrees of freedom; OR, odds ratio; SE, standard error; Sig., significance level