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Citation for published version:
Caney, SMA, Robinson, NJ, Gunn-Moore, D & Dean, RS 2022, ‘Happy Cats: Stress in cats and their carers associated with out-patient visits to the clinic’, Journal of Feline Medicine and Surgery, vol. 24, no. 12, 1098612X221121907, pp. e551-e557. https://doi.org/10.1177/1098612X221121907

Digital Object Identifier (DOI):
10.1177/1098612X221121907

Link:
Link to publication record in Edinburgh Research Explorer

Document Version:
Peer reviewed version

Published In:
Journal of Feline Medicine and Surgery

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Happy Cats: Stress in cats and their carers associated with out-patient visits to the clinic

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Keywords: stress; primary care practice; clinical examination; behaviour; consultations
Abstract

Objectives

The importance of the effects of stress on cats is well recognised, with visits to the veterinary clinic a common cause of stress. The aim of this study was to explore owners’ experiences of stress, both for themselves and their cat, during veterinary visits, and to gather data on owners’ perception of resources within the clinic to reduce stress in their cats.

Methods

A questionnaire aimed at cat owners with recent experience of an outpatient visit to the veterinary clinic was developed and distributed. Questions covered demographics; their most recent veterinary visit; their general experience of visits over the past 3 years; measures taken by the clinic to reduce stress; and awareness of the Cat Friendly Clinic programme. There were various question types, with owners often asked to rate stress from 1 (least stressful) to 10 (most stressful).

Results

A total of 277 respondents gave details about their experience of consultations over the past 3 years. Owners rated the stress of travelling to the clinic, other animals in the waiting room, and the consultation itself (all median 6, Interquartile range 4-8) as the most stressful elements. Most owners reported gentle methods of removing the cat from their carrier, however almost a third (n=81/263; 30.8%) had seen their cat scruffed during
a consultation. Cat-only waiting rooms were viewed as the most effective measure to reduce stress in the clinic.

Conclusions and relevance

Veterinary clinics are already taking steps to address stress in cats, and owners have a good awareness of stress in their cats. Future work should focus on trialling specific interventions to determine their effectiveness in reducing stress in feline patients, and measures currently perceived by owners to be highly effective, such as cat-only waiting rooms, should be used where feasible.
Introduction

The significance of the effects of stress in cats has been increasingly recognised in recent years, with stress affecting general wellbeing, and potentially putting cats at increased risk of certain health problems, such as infectious diseases, Feline Lower Urinary Tract Disease\textsuperscript{1}, and behavioural problems such as over-grooming and urination/defecation outside the litter box. Their cat being stressed, and its associated behaviour changes, can impact on owners too, with the 2020 PDSA Animal Wellbeing (PAW) report\textsuperscript{2} finding that 41% of owners wanted to change a behaviour potentially linked to stress in their cat. In the same survey, 43% of veterinary surgeons highlighted chronic stress as one of the five most important welfare issues that need to be addressed for cats.

Stress during clinic visits may be of particular concern, as previous studies have found higher levels of stress exhibited when a cat was examined in a clinic compared to a home setting\textsuperscript{3}, and during simulated consultations compared with undisturbed research colony cats\textsuperscript{4}. Stress can also impact physiological parameters, such as blood pressure, temperature, heart rate and respiratory rate, making it difficult to get accurate readings in the clinic setting\textsuperscript{5}.

Various organisations have developed programmes to address the issue of stress in pets. Fear Free\textsuperscript{6} was developed in 2016, providing courses and certification for those working with pets in a range of different roles including trainers, groomers, pet sitters and those working in veterinary care or rescue shelters. International Cat Care (ICC) developed the
Cat Friendly Clinic (CFC) programme in 2012 via consensus guidelines to focus more specifically on the effects of stress exhibited by cats in veterinary care. The programme provides guidance and an accreditation scheme, to help veterinary clinics implement changes to help reduce stress in their feline patients. Recommendations focus on opportunities to reduce stress travelling to the clinic, in the waiting room, consultation room, during handling and when in hospitalisation facilities, among other things. However, it remains unclear which parts of the clinic visit owners feel are most stressful for their cats, and which of these recommendations are likely to have the biggest impact on reducing stress in their cats.

The primary aim of this study was to explore cat owners’ experiences of stress, in both their cats and themselves, during outpatient visits to the veterinary clinic, including the journey to the clinic, waiting room experience and the consultation itself. A further aim was to gather data on cat owners’ perception of various facilities and resources within the clinic to reduce stress in their cats.

Materials and Methods

Population of interest

The target population for the questionnaire was cat owners or carers with recent experience of a consultation at the veterinary clinic. Respondents could take part from anywhere in the world, had to be at least 18 years old and could only complete one questionnaire per household.
Questionnaire design

The questionnaire was made up of 51 questions across four different sections. Initial questions asked basic demographic data (i.e., whether a cat owner, breeder, rescue shelter work etc., and country resided in). The next two sections focused on the owner’s experience of taking their cat to the clinic for a consultation, with the first section asking about the most recent consultation, and the second asking more generally about the owner’s experiences of attending the clinic with their cat over the past 3 years. The final section focused on any measures taken by the owner’s clinic to reduce stress in cats, and the owner’s awareness of the CFC scheme. The questions took a variety of forms, including numerical scoring, multiple choice and free text boxes. The initial draft of the questionnaire was piloted with a small group of colleagues who suggested amendments prior to launch of the final questionnaire. The final questionnaire was hosted on the Vet Professionals website in full compliance with General Data Protection Regulation (GDPR) (EU) 109 2016/679.

Questionnaire distribution

The questionnaire was launched on 24th March 2020. An invitation to complete the relevant survey was emailed to cat owners on the Vet Professionals database, consisting of around 960 owners around the world. Snowball sampling, where existing respondents help to recruit further respondents by sharing the questionnaire with their acquaintances, was also conducted. The questionnaire was promoted on social media platforms (e.g.,
Facebook and Twitter) alongside promotion by ICC, Cats Protection and Vet Times. The questionnaire was closed to all respondents on 1st July 2020. Data collected from the survey were collated and stored using FormSite (Vroman Systems).

Data management and analysis

Data processing and descriptive statistics were carried out in Microsoft Excel. Due to the launch date, many of the most recent consultations reported by owners occurred during the 2020 COVID-19 pandemic, when health and safety considerations meant that owners often did not accompany their cat into the clinic. Therefore, only responses to questions about the owner’s general experience of visits to the clinic over the past 3 years were taken forward for analysis to ensure responses were focused predominantly on experiences of consultations in pre-COVID times. For questions involving numerical rating of stress or empathy on a scale of 1-10, median and interquartile range were calculated as the data were not normally distributed.

Ethical approval

Approval was obtained from the Human Ethical Review Committee (HERC) at the Royal (Dick) School of Veterinary Studies, The University of Edinburgh for the collection of data through an online questionnaire of cat owners, and subsequent analysis of this data (approved 21st March 2020, reference: HERC_483_20).

Results

Demographics
There were a total of 371 responses to the questionnaire, with 277 respondents completing at least one question in the section asking more generally about experiences of consultations over the past 3 years, and so having their responses taken forward for further analysis.

The 277 responses included 263 from cat owners (94.9%); 21 (7.6%) VN/Technicians; 124 (4.0%) rescue shelter owner/workers; 6 (2.2%) cattery owners/workers; 5 (1.8%) educators of vet professionals; 5 (1.8%) cat breeders and 17 (6.1%) other. Most respondents (n=197; 71.1%) were from the UK, 37 (13.4%) were from the US, 9 (3.2%) were from Ireland and 16 other countries were represented (all less than n=8 each). Over half had been seen for their most recent consultation before COVID protocols were in place (n=170/277; 61.4%) with the remaining 38.6% (n=107/277) having their most recent consultation during the COVID pandemic. Over three quarters (n=216/277; 78.0%) usually brought their cat to the clinic for their booster vaccination, with a small number stating ‘it depends’ (n=20/277; 7.2%) or that they did not usually bring their cat for a booster vaccination (n=41/277; 14.8%).

The journey to the clinic

A fifth of owners (n=57/277; 20.6%) had previously been given advice by a clinic on transporting their cat, with 4.0% (n=11/277) not sure and 75.5% (n=209/277) had never been given advice. Both putting the cat in the carrier and travel to the clinic was viewed as
more stressful overall for the cat than the owner/carer, though many respondents still rated stress for themselves fairly highly (Table 1).

Table 1. Cat owners’/carers’ rating of stress on a scale on 1-10 (1=least stressful, 10=most stressful) for aspects of the journey to the clinic for both themselves and their cat. The ‘n rating stress 1-10’ column indicates the total number of respondents who gave a value from 1-10, rather than answering ‘not sure’

| Source of stress                  | N rating stress 1-10 | Median | Interquartile Range (IQR) | N answering ‘Not sure’ |
|-----------------------------------|----------------------|--------|---------------------------|------------------------|
| Putting cat in carrier (for cat)  | 273                  | 6      | 2-8                       | 4                      |
| Travel to clinic (for cat)        | 274                  | 6      | 4-8                       | 3                      |
| Putting cat in carrier (for carer)| 274                  | 4      | 2-7                       | 2                      |
| Travel to clinic (for carer)      | 276                  | 4.5    | 2-7                       | 0                      |

The waiting room

Just over half of respondents usually waited in a shared waiting room (defined as any waiting room shared with dogs and other species) on arrival at the clinic (n=141/276; 51.1%), while a further 30.8% (n=85/276) usually waited in an area of the general waiting room reserved for cats. A further 9.8% (n=27/276) waited in a cat only waiting room with a door separating it from reception/general waiting area, while the remaining 8.3% (n=23/276) selected ‘other’ with some of these reporting waiting in the car park, while others reported going directly into the consultation room.

Length of time in the waiting room and presence of other animals were perceived as the most stressful aspects of the waiting room, with bright lighting perceived as the least stressful (Table 2). However, a higher number of respondents answered ‘not sure’ when
asked to rate the stress of bright lighting and other smells, compared to other sources of stress.

Table 2. Cat owners’/carers’ rating of stress on a scale on 1-10 (1=least stressful, 10=most stressful) for aspects of the waiting room experience for their cat. The ‘n rating stress 1-10’ column indicates the total number of respondents who gave a value from 1-10, rather than answering ‘not sure’

| Source of stress    | N rating stress 1-10 | Median | Interquartile Range (IQR) | N answering ‘Not sure’ |
|---------------------|----------------------|--------|---------------------------|------------------------|
| Length of wait      | 268                  | 5      | 3-7                       | 7                      |
| Presence of other cats | 259               | 4      | 2-6                       | 16                     |
| Presence of other animals | 260        | 6      | 4-8                       | 15                     |
| Presence of people  | 256                  | 4      | 2-6                       | 19                     |
| Bright lighting     | 224                  | 2      | 1-4                       | 51                     |
| Other smells        | 215                  | 4      | 1-6                       | 60                     |

The consult room and beyond

When asked how their cat was usually removed from the carrier, some respondents stated they were usually gently lifted, either by themselves (n=77/264; 29.2%) or the vet (n=46/264; 17.4%). A further 15.5% (n=41/264) stated their cat usually came out on their own, while 10.6% (n=28/264) said the carrier was usually dismantled and the cat examined in the base. A small number of respondents stated their cats were tipped (n=22/264; 8.3%) or dragged (n=8/264; 3.0%) out of their carrier. The remaining 15.9% (n=42/264) of respondents selected another answer, with many stating that it varied between consultations.
Almost a third of respondents (n=81/263; 30.8%) had seen their cat ‘scruffed’ by a vet or vet nurse during a consultation, while 62.7% (n=165/263) had never seen their cat scruffed and 6.5% (n=17/263) were not sure.

Coming out of the carrier and the consultation had a higher median stress score than getting back in the carrier and the rest of the day at home (Table 3).

Table 3. Cat owners'/carers' rating of stress on a scale on 1-10 (1=least stressful, 10=most stressful) for aspects of the consultation for their cat. The ‘n rating stress 1-10' column indicates the total number of respondents who gave a value from 1-10, rather than answering ‘not sure’

| Source of stress          | N rating stress 1-10 | Median | Interquartile Range (IQR) | N answering ‘Not sure’ |
|---------------------------|----------------------|--------|---------------------------|------------------------|
| Coming out of carrier     | 261                  | 5      | 3-7                       | 3                      |
| Consultation              | 258                  | 6      | 4-8                       | 5                      |
| Getting back in carrier   | 256                  | 2      | 1-4                       | 6                      |
| Travelling home           | 262                  | 4      | 2-6                       | 2                      |
| Rest of day at home       | 258                  | 2      | 1-3                       | 4                      |

Empathy

Empathy was rated highly by respondents for all members of staff, with median scores of 9 and 10 (Table 4).

Table 4. Cat owners'/carers' rating of empathy of clinic staff during outpatient visits on a scale on 1-10 (1=least empathy, 10=most empathy). The ‘n rating stress 1-10' column indicates the total number of respondents who gave a value from 1-10, rather than answering ‘not sure’ or ‘not applicable’
Witnessing stress in your cat

Almost all respondents (94.7%; n=248/262) said witnessing stress in their cat had had an effect on them, with almost half (48.5%; n=127/262) stating it had a moderate effect (mild 20.2%, n=53/262; severe 26.0%, n=68/262). Almost a third of respondents (31.3%; n=82/262) said witnessing stress in their cats had put them off visiting the vets. Free text comments gave examples of this:

“I have one cat who gets so upset that I really try not to take him to the vet except in an emergency”

“... I do boosters at 13month intervals rather than 12months as a result. I've also delayed tooth cleaning appointments”

“If a minor problem I wonder if the stress of the visit would be more harmful than a “wait and see” approach”

‘Cat friendly’ measures in the clinic

Around two thirds of respondents (n=165/248; 66.5%) said their clinic had one or more resources in the waiting room to reduce cat stress, with raised surfaces to place carriers (n=90/248; 36.3%) the most frequently reported measure (Figure 1). The remaining 33.5% (n=83/248) of respondents reported no waiting room resources in their clinic.
Cat-only waiting rooms were the most highly rated by respondents in terms of being helpful for stress in cats, while posters or information videos were rated the least helpful (Table 5).

Table 5. Cat owners'/carers' rating of how helpful various waiting room resources are for cat stress on a scale on 1-10 (1=least helpful, 10=most helpful). The 'n rating 1-10' column indicates the total number of respondents who gave a value from 1-10, rather than answering 'not sure'.

| How helpful for stress?                        | Total N rating 1-10 | Median | Interquartile range (IQR) | N answering 'Not sure' |
|-----------------------------------------------|---------------------|--------|---------------------------|------------------------|
| Cat-only waiting room                         | 229                 | 10     | 7-10                      | 18                     |
| Area of general waiting room reserved for cats| 230                 | 8      | 5-10                      | 17                     |
| Raised surfaces for cat carriers              | 230                 | 8      | 7-10                      | 17                     |
| Towels/blankets to cover carriers             | 221                 | 7      | 5-9                       | 26                     |
| Quiet waiting area                            | 234                 | 9      | 7-10                      | 13                     |
| Feliway diffuser                              | 205                 | 8      | 5-10                      | 42                     |
| Screens to separate cats from dogs            | 214                 | 7      | 5-10                      | 33                     |
| Allowed to leave in the car                   | 227                 | 7      | 3-10                      | 20                     |
| Posters or information videos                | 225                 | 6      | 4-8                       | 22                     |
| Separate cat only appointment times           | 217                 | 9      | 6-10                      | 30                     |

Cat-only waiting rooms were selected most frequently by owners/carers as their first choice (n=126/247; 51.0%) of ‘cat-friendly’ for reducing cat stress (Figure 2).

Cat Friendly Clinics

Less than half of respondents (n=110/247; 44.5%) had heard of ICC or the CFC programme. Less than a third (n=74/247; 29.9%) had attended a CFC previously, while
23.1% (n=57/247) were not sure and 47.0% (n=116/247) had not attended a CFC. Most respondents (n=238/247; 96.4%) said a calm, stress-free environment for their cat was also important to them, while only 2 respondents (0.8%) said this was not important and 7 (2.8%) were unsure. Among the 236 respondents who rated the importance of a calm, stress-free clinic environment from 1-10 (1=least important, 10=most important), the median rating was 10 (Interquartile range 8-10).

**Discussion**

This study suggests that visits to the veterinary clinic are a source of stress not only for many cats, but for their owners too. The findings are consistent with previous work, which found that many owners found vet visits stressful, and felt their pet did too. Addressing sources of stress during clinic visits, and developing effective interventions to minimise this, is vital for minimising the direct impact of stress on feline patients, and may also help to ensure they receive the healthcare they need. In the current study, most owners said that witnessing stress in their cat had an impact on them, with almost a third saying it had put them off bringing their cat to the clinic. This is consistent with findings that 27% of cat owners feel stress is a very important factor when deciding whether to bring them to the clinic for vaccination. Additionally, cat owners who viewed stress as very important were less likely to vaccinate them than owners who viewed it as less important. Another study found that cat owners were more likely than dog owners to find vet visits stressful and take their pet to the clinic only if they were unwell. Witnessing
stress clearly has a huge impact on carers and their willingness to return for future consultations, hence is imperative that we address this.

ICC developed the CFC programme\(^7\) to address sources of stress during veterinary clinic visits for cats and their owners. Practices seeking accreditation are required to meet certain criteria in areas such as cat handling and client communication, as well as facilities in the waiting room, consultation room, hospitalisation and operating theatres, among other standards. ICC also launched a ‘scruff free’ campaign, to encourage the use of respectful handling and gentle restraint of cats in order to reduce stress. The results from the current study suggest that only a very small number of owners witnessed their cat being dragged or tipped from a carrier, with the vast majority witnessing gentler methods of removing a cat from, or encouraging them out of, their carrier. Educating owners regarding carrier choice, and encouraging the use of carriers which can be easily dismantled, may help to further reduce stress relating to removing the cat from the carrier. Almost a third of respondents had witnessed their cat being scruffed, suggesting this practice may still be relatively commonplace. One study examined behavioural and physiological responses in cats handled using different methods\(^{10}\) and found that passive restraint was associated with fewer negative responses than aversive handling techniques such as scruffing, clip restraint and full-body restraint. Encouraging a move to gentler, less aversive handling techniques could be beneficial not only in terms of reducing cat and owner stress, but also from a health and safety perspective in reducing bites and scratches for those handling cats.
Owners rated empathy from vets, vet nurses and the reception team very highly. A systematic review examining the success of canine and feline consultations found client satisfaction was significantly higher where the vet expressed empathy to the owner. The same study also found that higher client satisfaction was associated with better adherence to recommendations. Owner perceptions of the veterinary team as highly empathetic in the current study could be crucial not only to ensuring cats get the medical care they need, but also in engaging owners in any interventions to reduce stress in their cats in the future.

In the current study, all cat-friendly measures asked about were seen as helpful by owners to varying degrees, though some of these were reported to be more widely implemented by clinics than others. This may be in part linked to the feasibility of implementing some of these measures, e.g. cat-only waiting rooms. Raised surfaces and Feliway diffusers were the most widely implemented, despite not being the highest rated resource among owners. Conversely, cat-only waiting rooms were rated as highly desirable by cat owners in reducing stress, and so provision of these, where possible may have positive effects on cat and owner stress, as well as client satisfaction. Even measures which may be practical to implement in most practices, such as provision of towels/blankets to cover carriers, Feliway diffusers, or allowing owners to stay in their car with their cat, were in place in less than a quarter of practices. The reasons for this are unclear, but could relate to the limited evidence demonstrating the impact of each of these potential interventions, as well as time constraints and other feasibility issues for individual clinics. Future work could
focus on working with veterinary practices to determine which of these interventions might be more feasible in that setting, then measuring the implementation of these changes on cat and owner stress.

The role of other measures to reduce stress in cats and their owners when seeking veterinary care could also be considered alongside this. For example, a single pre-appointment dose of oral gabapentin has been found to reduce stress, increase ease of handling and had minimal side effects in cats visiting the veterinary clinic. More frequent use of home visits, where possible, for particularly stressed cats, may also help reduce the negative consequences of stress. One study found that even when low stress handling techniques were used, cats were less stressed when examined at home than in a veterinary clinic environment. Similarly, more strategic use of telemedicine, for example telephone and video consultations, may help reduce stress for some cats. A survey of veterinary telemedicine consultations during the COVID pandemic found that reduced stress was perceived to be a major benefit of telemedicine for both vets and owners, with most agreeing that these consultations should continue to be offered, where appropriate, after the pandemic.

One limitation of this study is that the respondents are likely to be a highly engaged group and may not be representative of all cat owners. In fact, 78% stated they usually brought their cat to the clinic for a booster vaccination, suggesting this may be a particularly dedicated group of owners who have regular contact with their vet. In addition, the timing of the survey meant that, for some owners, their most recent experience of a consultation
was during the COVID pandemic when different procedures were in place at veterinary
clinics. Owners were asked to think about their experience of consultations over the
previous 3 years, and as discussed previously, most of these owners are likely to be those
who visit the clinic with their cat regularly. However, more recent consultations may be
clearer in their memory and may have influenced the answers given. This could
particularly apply to the experience of the waiting room and consultation room, with
many veterinary clinics minimising client access to these areas during the pandemic.

Conclusions

Stress during clinic visits is already being addressed, with high levels of perceived empathy
and gentle handling techniques among the veterinary team, as well as good awareness of
stress in their cats among owners. Taking the next steps in tackling feline stress, by
trialling the effectiveness of specific interventions in the clinic, and using measures such as
cat-only waiting rooms where feasible, is crucial to minimise stress during outpatient
visits.

Acknowledgements

The authors thank Vet Professionals for their involvement in promoting the questionnaire
and the cat owners involved in completing the questionnaire.

Conflict of Interest

The authors declared no potential conflicts of interest with respect to the research,
authorship, and/or publication of this article. The topic of study, study design, statistical
analysis, interpretation of the results, decision to publish and writing of the manuscript were undertaken independently of the funders MSD Animal Health.

**Funding**

The authors disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This work was supported by MSD Animal Health.

**Ethical Approval**

This work did not involve the use of animals and therefore ethical approval was not specifically required for publication in JFMS. Although not required, where ethical approval was still obtained, it is stated in the manuscript.

**Informed consent**

This work did not involve the use of animals (including cadavers) and therefore informed consent was not required. No animals or people are identifiable within this publication, and therefore additional informed consent for publication was not required.

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