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A Survey of Italian Veterinarians Expert in Animal-Assisted Interventions (AAI) on the Welfare, Working Setting, and Suitability Evaluation of Cats

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Abstract

Animal-Assisted Services/Interventions (AAS/AAI) involving cats have been scarcely investigated. This study provides an overview of the opinions of Italian veterinarians expert in AAI on the involvement of cats in AAI, their experience in assessing cat suitability for AAI and potential concerns regarding cat welfare. An online survey was filled in by 95 respondents, mainly middle-aged women and experts in AAI for more than 5 years (63.2%). Despite their training, only 41.1% (N = 39) had evaluated cats for suitability for AAI. The cats evaluated as suitable were mainly European Shorthair/mixed-breed (N = 24), Ragdolls (N = 17), and Maine Coons (N = 11). They were involved in AAI mainly with children/adolescents (66.7%) and older adults (53.8%), across different settings, but only 10.3% of the cats at their home, despite this being considered the setting in which welfare is best protected (48.7%). Reported stressors for cats included interactions with users (43.6%), unfamiliar or inappropriate settings (41.0%), noise (33.3%), and transportation (25.6%). Almost all veterinarians (89.7%) personally assess cat behavioural AAI suitability, with sociability and adaptability/resilience being the most commonly reported desirable characteristics. When asked which species they considered most suitable for AAI, 64.2% selected the dog, 9.5% the donkey, and 6.3% the horse; none selected the cat or the rabbit. Finally, only 16.8% of respondents considered their training in AAI good. These preliminary findings suggest that veterinarians have some concerns about cat welfare in AAI and about how to properly assess cat suitability in this context, highlighting the need for further research promoting the standardization of protocols and assessment methods.

1. Introduction

Animal-assisted services (AAS) is the umbrella term recently proposed for goal-oriented programmes in which animals are intentionally included to benefit people's health, education or well-being [1]. It largely overlaps with the earlier term Animal-assisted interventions (AAI), which is often used in scientific literature and in guidelines [2, 3]. Depending on their aims, on the professionals who deliver them, and on how they are organised, AAS are divided into animal-assisted treatment (AATx), animal-assisted education (AAE), and animal-assisted support programmes (AASP) [1].

Dogs and horses are the species most often involved in AAS, while cats, rabbits, donkeys and other species appear much less frequently involved [4]. In recent years, however, interest in cats has been growing [5–7]. For instance, cats have been included in programmes for older adults living in residential facilities, for people with dementia and for patients with schizophrenia. The few available studies report improvements in social contact, communication, mobility and mood [8–10]. Still, the evidence on the benefits of interacting with cats in these settings is limited, despite AAI being recognized as a non-pharmacological strategy to support traditional approaches to the most prevalent disabling conditions in the older population [11]. Even less is known about what taking part in these activities means for the cats themselves. For dogs, welfare in AAS has been studied for more than a decade [12, 13]. On the contrary, in cats the available knowledge is still very limited: in Russo et al.[14] recent review about the welfare of cats involved in AAS, no published study was found.

The domestic cat descends from a solitary and territorial ancestor and has a relatively limited repertoire of visual signals [10]. Transport, unfamiliar places, novel people and sudden noises are all potential stressors for felines [15, 16]. In such conditions cats may hide, become inactive or stop eating, grooming and exploring [10]. Other signs of discomfort are more subtle and can easily go unnoticed [17, 18]. For these reasons, the involvement of cats in AAI has been questioned.

In Italy, AAS are still commonly referred to as Animal-assisted Interventions (AAI, in Italian, “Interventi Assistiti con gli Animali, IAA”) and have been regulated since 2015 by National Guidelines issued by the Ministry of Health and approved by the State-Regions Conference [3]. The Guidelines list the five domestic species that can be involved: dog, horse, donkey, cat, and rabbit. They define the professional figures of the multidisciplinary team and their training, and they provide general advice about health and behavioural requirements for the animals. Only adult animals are admitted, and they must be healthy both at the start of the project and before every session. Females in oestrus, pregnancy or lactation are temporarily excluded. Within the team, the veterinarian expert in AAI has a central role. Veterinarians must be involved in every project, whether therapeutic, educational or recreational, and has a crucial role in choosing the species and the handler-animal dyad [19]. The veterinarian also certifies the health and behavioural suitability of the animal and is responsible for its health and welfare in all phases of the project [3]. The Guidelines also gave the National Reference Centre for IAA (Centro di Referenza Nazionale per gli IAA, CRN IAA) the task of keeping national lists of the centers and structures that deliver AAI, of the trained professionals and operators, and of the projects carried out [3]. To meet this requirement, the CRN IAA and the Ministry of Health developed Digital Pet, an online information system (https://digitalpet.it/index.php/login). The platform is a single National database, in which everyone who has obtained the certificate of suitability for a given role is registered, including veterinarians expert in AAI (in italian, Veterinario Esperto in IAA). At the end of 2025, DigItal Pet had 14672 registered users and 27949 certificates of suitability had been issued [20].

Other two documents have added operational detail to the Guidelines in the Italian context. The first is the ISTISAN report 19/4 of the Italian National Institute of Health (Istituto Superiore di Sanità, ISS), which collects protocols and data sheets for assessing the suitability and welfare of animals involved in IAA [10]. It states that each cat must be examined by a veterinarian expert in AAI before entering a programme; people wishing to become a cat handler, after the course as dog handler must attend an additional 8-hour course on cat and rabbit behaviour, management and welfare assessment, as specified also by the Italian National Guidelines [3]. The report also proposes a health record for cats, covering body condition score, diet, living environment and enrichment, vaccinations (feline trivalent, feline leukemia and rabies), control of ecto- and endoparasites; the record ends with a statement of suitability signed by the veterinarian expert in AAI. The second document was published in 2021 by the AAI working group of the Italian National Federation of Veterinary Orders (FNOVI, Federazione Nazionale Ordini dei Medici Veterinari), which describes the professional procedures of the veterinarian expert in AAI [19]. It separates two kinds of behavioural evaluation: 1) an assessment to exclude behavioural disorders, repeated at intervals of no more than three years; 2) an assessment of the animal’s suitability for the specific project, repeated before each new project. The health evaluation is based on a clinical

examination, prophylaxis against species-specific and zoonotic diseases, and an up-to-date health record. Welfare must be monitored both during periods of activity and at rest, for example through a daily diary kept by the handler and signed by the veterinarian. To take on this role, veterinarians must complete a training path made of a preparatory course (at least 21 hours), a base course specific to the role (at least 40 hours), and an advanced course (at least 120 hours, including practical training and a final exam) [3, 21].

However, much of the education practical content is built around dogs and horses. The detailed indications on vaccinations and on the frequency of health checks in the FNOVI document refer only to dogs [19]. The ISTISAN chapter on cats [10] itself acknowledges that scientific evidence on this species is scarce. As a result, when a cat is proposed for a project, deciding whether it is suitable, and under which conditions, depends largely on the knowledge and experience of the individual veterinarian expert in AAI.

This study aimed to investigate, through an online questionnaire, the opinions of Italian veterinarians expert in AAI on the involvement of cats in AAI, their experience in assessing cat suitability for AAI and potential concerns regarding cat welfare. To the best of our knowledge, no studies of this type have been conducted yet either in Italy or in other Countries.

2. Subjects, Materials and Methods

Ethical approval

for the study was obtained from the Bioethics Committee of the University of Pisa, Italy (n. 16/2025 on April 23, 2025).

A questionnaire was purposely developed to collect information from veterinarians expert in AAI, i.e. “Veterinari Esperti in Interventi Assistiti con Animali (IAA)” according to Italian National Guidelines [3] and FNOVI [19]. For this reason, the authors chose to use the term Animal-Assisted Interventions (AAI) from this point forward, as it reflects the terminology still widely used in Italy and is closer to the wording used in the Italian questionnaire.

The questionnaire included the following sections (see the complete questionnaire in *Supplementary materials)*:

- consent form;
- demographic information of the respondent;
- experience in assessing cats for AAI (screening question);
- characteristics of cats evaluated as suitable for AAI and projects;
- assessment procedures and requirements related to cat suitability and welfare in AAI;
- experience and opinion about residential projects with cats;

- experience with other animal species in AAI;
- opinions about AAI with cats and related issues;
- reported benefits of AAI with cats;
- training level in AAI;
- other.

Participants were recruited through a two-fold procedure. The first step consisted in collecting names and available email addresses in DigitalPet platform (https://digitalpet.it/index.php/login), where all veterinarians recognised as experts in AAI are listed. An email with the link to the survey was sent to this mailing list (N = 212). The second step included the involvement of WeAnimal (https://www.weanimal.info), a network of AAI operators whose veterinarian members (N = 93) were asked to complete the survey whether they had not yet. Informed consent to participate in the study was obtained from participants. The total period of collection lasted from April to July 2026. The questionnaire was administered by Google Forms; the responses were received by the first author and organized in a Microsoft Excel dataset. A total of 95 completed surveys (response rate around 30%) were received.

Blank responses were included in the calculation of percentages. Closed-ended responses were analysed using Microsoft Excel, and frequencies and percentages were calculated and reported in tables. Open-ended responses were analysed and grouped, according to their content, into macro-categories.

Statistical analyses were performed using *jamovi* [22, 23]. Veterinarians were divided into two groups according to previous experience with cats in AAI (Yes, N = 39; No, N = 56). Associations between experience and outcomes of the following items were assessed using contingency tables: opinions on veterinarians' training (Good, Sufficient, Insufficient), opinions on handlers' training (Good, Sufficient, Insufficient), and opinions on cat suitability for AAI (Yes, for most types of AAI; Yes, only for certain types of AAI; It depends; No; I don't know). The χ^2 test or Fisher's exact test was applied and significant associations were explored using adjusted standardized residuals (with values of $|z|>1.96$ considered statistically significant). Statistical significance was $p < 0.05$.

Demographics and professional information of the respondents, including gender, age, educational background, and years of experience as a veterinarian expert in AAI, were collected (Table 1). When indicated, multiple answers were possible; in that case percentages were calculated based on the number of respondents.

Table 1
Demographic information of respondents: gender (N = number of subjects; % = percentages on total) and age in years (mean and SD = standard deviation).

Gender	N	%	Mean age (years)	SD
Female	76	80.0%	48.9	8.6
Male	18	18.9%	50.4	9.7
Not specified	1	1.1%	\	\
Total	95	100.0%	50.1	9.6

Among respondents, 73 veterinarians (76.8%) reported having additional educational qualifications beyond the Veterinary Medicine degree. Additionally, more information was collected about their specific training as veterinarian expert in AAI (as reported in Table 2).

Table 2
Training as a veterinarian expert in AAI (N = number of responses; % = percentages based on N = 95; if indicated, multiple answers were allowed). Abbreviations: Animal Assisted Intervention (AAI); Animal assisted activity (AAA); Animal assisted education (AAE); Animal assisted therapy (AAT).

Questions	**N**	**% (N = 95)**
You are a veterinarian expert in AAI from:		
1–5 years	34	35.8%
Less than 1 year	1	1.1%
More than 5 years	60	63.2%
Total	95	100.0%
When did you train to become a veterinarian expert in AAI?		
After Italian national guidelines for animal assisted intervention (> 2015)	70	73.7%
Before guidelines (< 2015)	24	26.3%
Total	95	100.0%
In addition to being a veterinarian expert in AAI, are you also any of the following?	**N**	**% (N = 95; multiple answers)**
Dog handler - Coadiutore del cane	42	44.2%
None of the above - Nessuna delle precedenti	33	34.7%
AAA Activity Coordinator - Responsabile di Attività AAA	29	30.5%
Cat and Rabbit handler - Coadiutore del gatto e del coniglio	18	18.9%
AAE Intervention Professional - Referente di Intervento EAA	8	8.4%
Horse handler - Coadiutore del cavallo	7	7.4%
Donkey handler - Coadiutore dell'asino	5	5.3%
AAT Project Coordinator - Responsabile di Progetto TAA	4	4.2%
AAE Project Coordinator - Responsabile di Progetto EAA	4	4.2%
AAT Intervention Professional - Referente di Intervento TAA	3	3.2%
No response	4	4.2%

As a screening question (see *Results* section 3.1), participants were asked whether they had ever received requests to assess cat suitability for Animal-Assisted Interventions (AAI) in Italy. This question aimed at identifying veterinarians with direct experience in this field and providing a context for interpreting their answers to the following questions. Participants who answered “No” did not complete

the sections (3.2, 3.3, and 3.4) on the assessment process and on the characteristics of cats considered as suitable for AAI.

3. Results

3.1 Screening question

Among respondents, 56 (58.9%) veterinarians reported that they had never received requests to assess cat suitability for AAI, whereas 39 (41.1%) reported having received requests (Table 3).

Table 3
Respondents who answered "Yes" at the screening question: "Have you ever received requests to assess cat suitability for AAI in Italy?". They were asked how many requests they had received (rows; 1–5, 6–10, more than 10) and how many of these had a positive outcome (columns; none, 1–5, 6–10, blank response). Percentages based on N = 95; if indicated, multiple answers were allowed). Abbreviations: Animal Assisted Intervention (AAI).

How many requests have you received to assess cat suitability for AAI in Italy?	**How many of these requests for the assessment of cat suitability resulted as a positive outcome (= cats considered suitable for AAI)?**			**Total (N = 95)**
	None	**1–5**	**6–10**	
Yes	**6.3%**	**32.6%**	**2.1%**	**41.1%**
1–5	5.3%	25.3%	0.0%	30.5%
6–10	0.0%	6.3%	2.1%	8.4%
More than 10	1.1%	1.1%	0.0%	2.1%

Among the respondents who had never assessed cats for AAI, the most frequently reported reason was that they had not had the opportunity yet to do it (48/56, 85.7%). Additionally, they indicated that cats are a species that gets stressed too easily (2/56, 3.6%), or reported other reasons (e.g., cats are rarely involved in AAI, respondents worked with other animal species; 5/56, 8.9%), or they did not provide a response (4/56, 7.1%).

3.2 Cats evaluated for AAI

Among the respondents, 27 out of 39 (69.2%) reported that the cats they had assessed for AAI had not received any specific training, and 33 out of 39 respondents (84.6%) reported that the cat handlers were also their owners/guardians.

Breeds of cats evaluated as suitable are reported in Table 4.

Table 4
Breeds of cats considered suitable (N = number of responses; % = percentages based on N = 39; if indicated, multiple answers were allowed). Abbreviations: Animal Assisted Intervention (AAI).

Which breeds were the cats you assessed as suitable for AAI?	**N**	**% (N = 39; multiple answers)**
European shorthair / mixed-breed	24	61.5%
Ragdoll	17	43.6%
Maine Coon	11	28.2%
Siberian	6	15.4%
Other breeds (Persian, Chartreux, Norwegian Forest Cat, Sphynx, Scottish Fold, Devon Rex, Birman, Bengal)	10	25.6%

Among veterinarians, 23 out of 39 (59.0%) reported having considered at least one cat unsuitable for AAI (see Table 5).

Table 5
Reasons for cat unsuitability for AAI (N = number of responses; % = percentages based on N = 39; if indicated, multiple answers were allowed). Abbreviations: Animal Assisted Intervention (AAI).

Questions	**N**	**% (N = 39; multiple answers)**
Have you ever considered a cat unsuitable for AAI? If yes, why?		
Did not meet behavioural requirements	21	53.8%
Never happened	16	41.0%
Did not meet health requirements	5	12.8%
Too young	3	7.7%
Too old	1	2.6%
After evaluating a cat as suitable, have you ever considered it no longer suitable? If yes, why?		
Never happened	24	61.5%
No longer met behavioural requirements	6	15.4%
No longer met health requirements	5	12.8%
Never judged a cat as eligible	2	5.1%
Too old	2	5.1%
Not suitable for the specific project	1	2.6%
Stressed by the setting (activity diary)	1	2.6%
No response	1	2.6%

3.3 AAI projects with cats

The characteristics of the AAI projects with cats are reported in Table 6.

Table 6

Characteristics of the AAI projects with cats (N = number of responses; % = percentages based on N = 39; if indicated, multiple answers were allowed). Abbreviations: Animal-Assisted Interventions (AAI); Animal-Assisted Activities (AAA); Animal-Assisted Education (AAE); Animal-Assisted Therapy (AAT).

Questions	N	% (N = 39; multiple answers)
For which types of AAI have you assessed cats as suitable in Italy?		
AAA	30	76.9%
AAE	16	41.0%
AAT	3	7.7%
Which types of users have the cats you assessed as suitable for AAI worked with in Italy?		
Children and adolescents (minors)	26	66.7%
Older adults	21	53.8%
People with disabilities	18	46.2%
Hospitalised/terminally ill patients	4	10.3%
In which settings have worked the cats assessed as suitable for AAI in Italy?		
Schools	20	51.3%
Elderly homes	19	48.7%
Hospitals	10	25.6%
Cat’s home	4	10.3%
User’s home	1	2.6%
Other (e.g., day-care centres, youth centres, prisons, dental practices, psychology practices, social cooperatives)	10	25.6%
In which settings do you think cat welfare is better protected?		
Cat's home	19	48.7%
Residential projects	16	41.0%
Eldelrly homes	15	38.5%
Hospitals	5	12.8%
User's home	4	10.3%
Schools	1	2.6%
Prisons	2	5.1%
It depends on the individual cat, handler, and project	7	17.9%

Questions	N	% (N = 39; multiple answers)
For which types of AAI have you assessed cats as suitable in Italy?		
Don't know	1	2.6%
No response	1	2.6%

3.4 Suitability assessment of the cat

Responses regarding the assessment of cats' suitability for participation in AAI are reported in Table 7.

Table 7
Suitability assessment of cats to be involved in AAI (N = number of responses; % = percentages based on N = 39; if indicated, multiple answers were allowed). Abbreviations: Animal-Assisted Interventions (AAI).

Questions	N	% (N = 39; multiple answers)
How do you assess a cat suitability for AAI?		
I personally assess behavioural requirements	35	89.7%
I personally assess health requirements	24	61.5%
I involve other veterinary colleagues	17	43.6%
I involve other people (e.g. the owner, a cat behaviour expert)	9	23.1%
What minimum health requirements do you assess when evaluating a cat's suitability for AAI?		
Faecal test	22	56.4%
Vaccinations	21	53.8%
Control of endo- and ectoparasites	18	46.2%
General clinical examination / medical history	17	43.6%
Mycological / dermatological tests / hair culture	12	30.8%
Screening for infectious and/or zoonotic diseases	10	25.6%
Blood tests	8	20.5%
Reference to guidelines, protocols or health records for AAI	3	7.7%
Assessment of diet / feeding	4	10.3%
Absence of discomfort / pain	2	5.1%
Oral hygiene	1	2.6%
No answer	2	5.1%
What makes cat suitability assessment difficult?		
Not being able to expose the cat to all project stimuli	28	71.8%
Travel stress prevents transport to an assessment location	8	20.5%
Stress in unfamiliar places prevents transport to an assessment location	8	20.5%
Distance prevents personal assessment	2	5.1%
No answer	4	10.3%
Cat cannot be involved	1	2.6%

Questions	N	% (N = 39; multiple answers)
How do you assess a cat suitability for AAI?		
Stress due to the cat's behaviour	1	2.6%
Nothing	1	2.6%
Depends on the individual cat	1	2.6%
Assessment made easier with the owner's help (video)	1	2.6%
In your opinion, which characteristics should have a cat to be involved in AAI? (open-ended question)		
Sociability	26	66.7%
Adaptability / resilience	15	38.5%
Curiosity	11	28.2%
Familiarity with / tolerance of new environments and stimuli	11	28.2%
Tolerance of transport	9	23.1%
Low reactivity / calmness	8	20.5%
Enjoyment / tolerance of physical contact and handling	7	17.9%
Docility	4	10.3%
Absence of aggressive behaviours	3	7.7%
Good relationship with the handler	3	7.7%
Playfulness	2	5.1%
Predictability	1	2.6%

Veterinarians were also asked how they assessed the welfare of cats involved in AAI during the projects (see Table 8).

Table 8

Welfare monitoring in cats involved in AAI projects (N = number of responses; % = percentages based on N = 39; if indicated, multiple answers were allowed). Abbreviations: Animal-Assisted Interventions (AAI).

How do you assess cat welfare during AAI projects?	N	% (N = 39; multiple answers)
Forms I provide to the handlers, completed for each session	25	64.1%
Assessments I personally carry out during the sessions	19	48.7%
Forms provided and completed by the handlers for each session	5	12.8%
Forms completed by the handlers, giving an average for all project sessions	6	15.4%
Session videos	3	7.7%
Checks during the project	2	5.1%

3.5 The cat and the other species in AAI

Among the respondents, 10/95 (10.5%) reported that they had never assessed the suitability of species other than cats for AAI in Italy, whereas 85/95 (89.5%) had done it. Among those who had assessed other species, the most frequently assessed species was the dog (77/85, 90.6%), followed by the rabbit (27/85, 31.8%), the horse (26/85, 30.6%), and the donkey (25/85, 29.4%).

Opinions on the suitability of different animal species for AAI are reported in Table 9. No statistically significant association was found between groups based on previous experience with cats in AAI (Yes/No) and opinions on cat suitability for AAI (χ^2 (df = 4, N = 95) = 6.40, p = 0.171; Fisher's exact test, p = 0.129).

Table 9
Opinions on animal species suitability for AAI. Percentages were calculated based on the total of respondent for each group of the screening question (“Have you ever received requests to assess cats’ suitability for AAI in Italy?” Yes/No). If indicated, multiple answers were allowed. Abbreviations: Animal-Assisted Interventions (AAI).

Questions	**Yes (N = 39)** n (%)	**No (N = 56)** n (%)
In your opinion, which species is the most suitable for AAI? (multiple answers)		
Dog	26 (66.7%)	35 (62.5%)
Depends on the project, users and individual animal	8 (20.5%)	13 (23.2%)
Donkey	4 (10.3%)	5 (8.9%)
Horse	2 (5.1%)	4 (7.1%)
Cat	0 (0.0%)	0 (0.0%)
Rabbit	0 (0.0%)	0 (0.0%)
I don't know	/	1 (1.8%)
In general, do you think cats are suitable for AAI?		
Yes, only for certain types of AAI	26 (66.7%)	47 (83.9%)
Yes, for most types of AAI	4 (10.3%)	4 (7.1%)
No	3 (7.7%)	2 (3.6%)
It depends on the cat, user, or other factors	6 (15.4%)	2 (3.6%)
I don't know	0 (0.0%)	1 (1.8%)

Among the respondents, the most frequently reported benefit of cats in AAI compared with other species was calmness and relaxation (20/39, 51.3%). Other reported benefits included respect, patience and autonomy (10/39, 25.6%), observation and relationship (10/39, 25.6%), physical contact (9/39, 23.1%), aesthetic pleasure and curiosity (8/39, 20.5%), empathy (4/39, 10.3%), emotional regulation and self-control (3/39, 7.7%). Two respondents (2/39, 5.1%) reported any benefits.

3.6 Residential projects

Regarding the presence of cats in social or healthcare facilities in Italy, 29 respondents (30.5%) were aware of facilities hosting permanent cat colonies. Additionally, 8 respondents (8.4%) reported staff members’ own cats and 4 (4.2%) users’ own cats being present in such facilities. More than half of the respondents (n = 57, 60.0%) were not aware of any such facilities.

Veterinarians were asked if they had experience with residential AAI projects with cats and 9 responded positively (yes, 9.5%), 85 reported no experience (no, 89.5%) and 1 blank response (1.1%). Regarding

respondents' opinions when asked whether cat welfare is respected in residential projects, respondents reported that they did not know (41/95, 43.2%), while 25/95 (26.3%) answered yes. Thirteen respondents (13.7%) reported that it depends, whereas 4/95 (4.2%) answered no, and twelve respondents (12.6%) did not provide a response. Additionally, when we asked whether these cats are supervised by a veterinarian expert in AAI, only 13.2% responded positively.

3.7 Main challenges in AAI with cats

The challenges reported in AAI involving cats and opinions on potential stressors for cats involved in AAI are presented in Tables 10 and 11, respectively.

Table 10
Reported challenges in AAI with cats. Percentages were calculated based on the total of respondent for each group of the screening question ("Have you ever received requests to assess cats' suitability for AAI in Italy?" Yes/No). If indicated, multiple answers were allowed. Abbreviations: Animal-Assisted Interventions (AAI).

Question	**Screening question**	
What are the main challenges you have encountered and/or have been reported to you in the context of AAI projects involving cats? (multiple answers)	**Yes (N = 39)** **n (%)**	**No (N = 56)** **n (%)**
Ensuring the cat's welfare	25 (64.1%)	34 (60.7%)
Inappropriate space/setting	19 (48.7%)	17 (30.4%)
Matching the cat to the type of users	15 (38.5%)	28 (50.0%)
Cat suitability	16 (41.0%)	25 (44.6%)
Training of the cat handler	11 (28.2%)	11 (19.6%)
Zoonoses	5 (12.8%)	5 (8.9%)
Collaboration with other professionals	3 (7.7%)	7 (12.5%)
Allergies and scratches	/	3 (5.4%)
None	2 (5.1%)	1 (1.8%)
Blank responses	/	9 (16.1%)

Table 11
Opinions on what can cause stress in cats involved in AAI (N = number of responses; % = percentages based on N = 39; if indicated, multiple answers were allowed). Abbreviations: Animal-Assisted Interventions (AAI).

What do you think might be more stressful for a cat participating in AAI? (open-ended question)	**n**	**% (N = 39; multiple answers)**
Contact, handling and interaction	17	43.6%
Unfamiliar/inappropriate setting	16	41.0%
Noise	13	33.3%
Transport, travel and moving between locations	10	25.6%
Unfamiliar, noisy or numerous people	8	20.5%
Activity duration/timing	5	12.8%

3.8 Opinions on AAI training for veterinarians

Opinions on veterinarians' AAI training are reported in Table 12. No statistically significant, association was found between groups based on previous experience with cats in AAI (Yes/No) and opinions on veterinarians training (χ^2 (df = 2, N = 95) = 4.74, p = 0.094; Fisher's exact test, p = 0.089) although those having experience tended to more often consider it insufficient.

Table 12
Opinions on the vet's AAI training. Screening question (Yes/No): "Have you ever received requests to assess cats' suitability for AAI in Italy?". Percentages in the Total column were calculated based on the total sample (N = 95), whereas percentages within each rating category (Good, Sufficient, and Insufficient) were calculated using the number of respondents within that category as the denominator. Abbreviations: Animal-Assisted Interventions (AAI).

In your opinion, the training for veterinarian expert in AAI is:			
Rating	**Yes (N = 39) n (%)**	**No (N = 56) n (%)**	**Total N = 95 (%)**
Good	5 (12.8%)	11 (19.6%)	16 (16.8%)
Sufficient	12 (30.8%)	26 (46.4%)	38 (40.0%)
Insufficient	22 (56.4%)	19 (33.9%)	41 (43.2%)
Total	39	56	95

Additional results details could be found in the Supplementary Materials.

Discussion

To the best of our knowledge, this is the first study reporting the opinions of veterinarians expert in AAI related to the involvement of cats in such services. Unsurprisingly, respondents were predominantly female, as it occurs in most surveys. However, this does not represent a selection bias, as it is consistent with the gender distribution of the veterinary worldwide population [24] and of the Italian veterinarians expert in AAI.

Our sample was totally composed by veterinarians expert in AAI and mainly with more than 5 years of experience in this field. However, even among experienced veterinarians, the number of evaluations they had carried out was relatively limited. These results suggest that the frequency of requests for cat assessment for AAI is generally low, with approximately one or fewer requests per year. In fact, respondents claimed that the main reason for not having assessed cats yet was they had not the opportunity. There is therefore a mis-alignment with the increasing attention of cats in AAI reported in the literature [6, 7].

As for the cats assessed as suitable by respondents, the most represented breeds were the European Shorthair (mixed-breed), followed by the Ragdoll and Maine Coon, consistent with previous literature [25]. The high representation of European Shorthair was expected given their large distribution, while the presence of Ragdoll and Maine Coon is consistent with previous literature, that describes these two breeds as low aggressive and emotionally non-reactive by vets [26, 27].

In our study, cats were more frequently involved in Animal-Assisted Activities (AAA) compared to education and therapies. These activities generally consisted of observational and playful activities, and care-related activities (e.g., brushing, feeding). Interestingly, the users most frequently involved were children/adolescents (minors) in school settings and older adults in residential facilities, respectively. These two settings may differ substantially in terms of environmental characteristics and demands for the cat. School environments may involve larger numbers of people, higher levels of activity and noises, whereas activities involving older adults may generally take place in quieter and more predictable environments. Considering the behavioural characteristics of cats, exposure to highly active or noisy environments may represent an additional challenge for individuals involved [28]. This interpretation is also consistent with our findings, as veterinarians identified the noise and the presence of numerous people among the factors that may be stressful for cats during AAI projects. In line with this, veterinarians in our study considered cat welfare to be better protected in settings such as the cat's home, places for residential projects, and facilities for older adults. The first two settings shared this characteristic because cats could remain in their familiar home environment and had access to a safe haven where they could retreat from interactions [10]. Indeed, veterinarians in our study identified unfamiliar environments as a potential source of stress for cats, as already suggested in previous studies [16, 28, 29].

Moreover, transport may play a crucial role in AAI with cats. In a previous study specifically focused on air transportation by flight, the authors identified several potentially stressful factors, including displacement from the cat's territory, loud and unpredictable noises, confinement, and changes in routine

[29]. Some of these factors may also be relevant to car transportation. At present, many cats involved in AAI sessions are transported by car to the location where the intervention takes place, making the assessment of their response to transport an important part of the evaluation process. In residential projects, cats remain in their own home, meaning that they do not need to be transported and are not exposed to unfamiliar environments. However, based on our results, residential projects appear to be relatively uncommon. Cats might be particularly well suited to residential projects as stated in [10], and a previous study has investigated the effects of the permanent presence of cats on the health and social networks of nursing home residents with health conditions [30]. However, based on our findings, only a few of these cats appear to be supervised by a veterinarian expert in AAI, which should be considered a basic requirement.

We also asked veterinarians how they assess cat welfare during AAI projects, a topic that remains unexplored in the scientific literature [14]. The two most frequently reported approaches were the use of forms completed by the cat handler after each session and personal assessment of the cat during the AAI session. A few veterinarians also reported using video recordings. This could represent a valuable alternative or supplementary method for assessing cat welfare [14], as it does not require the veterinarian to be physically present and potentially interfering with the session, allowing them to observe how a real AAI session is conducted. However, obtaining video recordings of AAI sessions may be challenging when vulnerable individuals (e.g., elderly people, minors, people with disabilities, or prisoners) are involved, due to privacy reasons, thus a good form for handlers and/or the presence (even occasional) of the veterinarian are tools to be highly considered.

We also investigated, based on veterinarians' responses, how the assessment of a cat's suitability for participation in AAI is performed, in Italy. The majority of veterinarians reported personally assessing both behavioural and health requirements. In particular, veterinarians who personally assessed health requirements also tended to personally assess behavioural ones, whereas the opposite was not always the case. This might be related to the branch of veterinary medicine the respondents were more involved in, apart from AAI.

The majority of respondents reported having encountered in their career at least one cat that they considered unsuitable for AAI, highlighting the potential importance of an appropriate assessment before a cat is involved in such activities. The main reasons reported for cat unsuitability were related to behavioural characteristics. In particular, veterinarians identified sociability, adaptability, resilience, curiosity, calmness, and tolerance of novel environments, stimuli, transportation, and physical contact as desirable characteristics for cats involved in AAI. These findings reflect the behavioural requirements indicated in the Italian National Guidelines, which identify prosociality, cooperation with the handler, and motivation to participate in AAI as requirements for animals involved in AAI [3]. More specifically, cats involved in AAI are expected to have a mild temperament, tolerate noise and handling, and show a "natural" propensity for social interaction, as stated in a report by the Italian National Institute of Health on this topic [10]. In fact, in a previous study [31], authors reported that cats involved in Animal-assisted services (AAS) scored higher on sociability, attention seeking, sociability with cats, and predatory

behaviour, and they scored lower on resistance to restraint, as compared to non-AAS cats, based on cats' caregiver responses to Feline Behavioural Assessment and Research Questionnaire (Fe-BARQ) in Flanders. Moreover, individuals participating in AAI should have certain innate characteristics (e.g., sociability); subsequently, they should participate in an educational program with their handlers, as indicated in the Italian Ministry of Health report for dogs and horses involved in AAI [10]. Training may also have a positive effect on the human-animal relationship [32]. Although the nature of cat-human attachment are less consistently supported in the literature[33] than in dogs [34, 35], the quality of the handler-cat relationship may nevertheless play a central role in the cat welfare. This is particularly relevant in our study, as almost all respondents reported that the handlers were also the guardians (legal owners) of the cats involved in AAI. Indeed, in these cases, the person responsible for handling the cat during an AAI session was also the person with whom the cat had an established relationship in its daily life.

It is not easy to define which method should be used to assess the behavioural and aptitudinal suitability of cats for AAI. This was also reflected when respondents indicated the factors that make suitability assessment difficult. They reported several challenges, including the inability to expose cats to all possible AAI stimuli and the fact that stress associated with transportation and unfamiliar environments may prevent an appropriate assessment. Although the reported challenges, the literature provides limited evidence on standardized protocols or validated methods for assessing the suitability of cats for involvement in AAI. Regarding the Italian situation, currently the National Federation of Italian Veterinary Orders (FNOVI) has created a working group aiming at developing guidelines for italian veterinarians for assessing cats' suitability for AAI (both behavioural and health-related requirements). As currently under validation for dogs with the "Suitability Test (SuiTe)" [36], a multiparametric protocol including both behavioural and physiological parameters, as well as a behavioural assessment through surveys [37], may provide a comprehensive assessment for cat suitability. Regarding the feline species, a review by[38] listed several aspects relevant to the assessment of domestic cat temperament, defined as interindividual differences in behaviour that remain relatively stable over time and across different contexts. This list includes, among others, responses to humans, novel objects, food, and confinement[38]. The selection of physiological parameters to use may depend on the specific aim and temporal dimension of the indicator considered (e.g., heart rate and blood pressure may be suitable for assessing acute responses, whereas faecal cortisol[39] may provide information on physiological responses to potential stressors occurring during the day following an AAI session; finally, cortisol measured in hair or nails[40] may be more informative of cumulative physiological responses over a longer period) [14]. Moreover, incorporating the opinion of the cat handler and veterinarian into the assessment may provide a more comprehensive evaluation of the individual, using questionnaires [25, 41].

Another important part of the suitability assessment refers to the evaluation of the cat's health status. We asked the veterinarians to identify the minimum health requirements they consider necessary for a cat to be suitable for participation in AAI. The most frequently mentioned requirements included faecal testing, vaccination and parasite control, medical history, mycological testing, screening for zoonotic

diseases, and blood tests, consistent with what is reported in the IAHAIO guidelines [42]. Additionally, these findings are in line with those reported by [43], who described the health requirements that, according to handlers, their vets required to approve the health screening form for cats involved in AAI. Indeed, the literature describes several potential pathogens that have a zoonotic risk to AAI participants [43, 44]. This risk may represent a concern when implementing AAI, particularly when working with immunocompromised individuals. However, according to literature, this risk can be reduced through simple preventive measures, such as vaccination and parasites control, basic sanitation and hand hygiene practices and with regular testing [43–46]. There are some examples of guidelines for the prevention of zoonotic disease transmission in healthcare facilities [46, 47]. For example, immunocompromised users should avoid high-risk activities (e.g., changing cat litter boxes) [48]. However, reverse zoonoses or anthropozoonoses (i.e., infections that can be transmitted from humans to animals) are also possible and patients suffering from such diseases should not have animal contact [42].

Finally, we also collected respondents' opinions on the other species that are reported in the Italian guidelines for AAI. The dog was the species most frequently indicated as the most suitable, and was selected by more than 60% of respondents, substantially more than any of the other species, followed by the horse and donkey. This is in line with the literature, which shows a strong involvement of dogs in AAI and extensive research on their participation in this field [4, 12, 13, 49–51]. Interestingly, none of the respondents selected as the most suitable species the cat or the rabbit; notably the latter is indicated as an unconventional species for AAI in a previous study [4]. The fact that the cat was not selected by any of the respondents could be related to the variety of concerns regarding cat welfare expressed in the survey, as reported above. Additionally, we specifically asked about the main challenges encountered during AAI involving cats, and the most frequently selected response was ensuring cat welfare (more than 60%), followed by more specific issues mainly related to cat welfare such as inappropriate settings, matching the cat to the type of users, and cat suitability. Despite the challenges associated with cat welfare, the potential benefits that cats could provide –based on our findings– compared to other species, making it worthwhile to develop suitable protocols for involving the feline species in AAI. Guaranteeing that cats involved are suitable and their welfare is protected whether working in AAI seem to have paramount importance for the veterinarians expert in AAI; and this is strictly connected with the challenges reported for suitability and welfare assessment in the feline species.

Lastly, veterinarians rated their level of training for AAI mainly as insufficient or sufficient, while only a few considered it good. Although the difference was not statistically significant, a descriptive difference emerged between veterinarians with and without experience in AAI involving cats. While nearly half of the veterinarians without previous experience considered their training sufficient for working with cats in AAI, the majority of experienced veterinarians in contrast considered their level of education insufficient. This may reflect greater awareness among experienced veterinarians of the skills required for AAI with cats and the limitations of their education.

This study has some limitations. First, it was not possible to contact all Italian veterinarians expert in AAI, as not all contact details (emails) were available. Second, veterinarians with experience with cats in AAI may have been more likely to participate in the questionnaire, potentially leading to an overestimation of the proportion of respondents working with cats in AAI. Finally, as this was an initial data collection, some topics were explored only in general terms, and some details may have been missed.

Conclusions

The present study provides an overview of cat involvement in AAI from the perspective of Italian veterinarians expert in the field. Based on the findings, the involvement of cats in AAI may represent a relatively limited reality in Italy, and this is likely to reflect other Countries. Veterinarians expressed concerns regarding the welfare of cats involved in AAI, as well as the challenges associated with assessing their suitability for such activities. At present, standardized and validated methods to support veterinarians in the assessment of cat suitability for AAI are still lacking, especially for the behavioural component. Considering all the behavioural and sanitary aspects when animals are involved in AAS, veterinarians may play a key role in protecting the welfare of both human and non-human animals, supporting the implementation of AAI involving cats within a one health perspective.

Declarations

Ethics Approval

Ethical approval for the study was obtained from the Bioethics Committee of the University of Pisa, Italy (n. 16/2025 on April 23, 2025).

The study was conducted in accordance with the Declaration of Helsinki.

Consent to Participate

Informed consent was obtained from all individual participants included in the study.

Consent to Publish

Not applicable.

Conflicts of Interest

The authors declare no conflicts of interest.

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Author Contribution

Conceptualization, C.M.; methodology, C.M.; investigation, G.R.; data curation, G.R.; writing—original draft preparation, G.R. and C.B.; writing—review and editing, C.M., B.B., G.G., C.S., I.A., and A.U.; supervision, C.M.; project administration, C.M.; funding acquisition, C.M. All authors have read and agreed to the published version of the manuscript.

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Data Availability

The dataset supporting the findings of this study is not publicly available due to privacy restrictions concerning the personal information provided by the participants. The data may be made available to the journal editors upon request from the corresponding author.

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