

## **The Owner's Level of Knowledge about First Aid on Cat with Viral Diseases Symptoms at Satwagia RE Martadinata Clinic Bogor**

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There is a huge interest in cats in Indonesia, but this is not followed by the owner's knowledge regarding their care, which causes their pet cats to be easily infected with viral diseases. Owners often take cats with symptoms of viral disease to the veterinary clinic in serious conditions such as high fever, diarrhea for more than two days, not wanting to eat for more than two days, and severe dehydration. This research was conducted from 1 August to 31 October 2023 at the Satwagia RE Martadinata Veterinary Clinic. Primary data was obtained using a questionnaire method in the form of questionnaires to 100 respondents who came to the clinic and kept cats that had been infected with viral diseases. The data is presented descriptively to obtain an overview of the owner's knowledge regarding the first treatment of cats with symptoms of viral disease. The results of the research show that the level of knowledge of owners at the Satwagia RE Martadinata Bogor Animal Clinic regarding the first treatment of cats with symptoms of viral disease is good.

**Keywords: Cat, first aid, knowledge level, symptoms, viral disease.**

### **INTRODUCTION**

People who keep cats is increasing from year to year. The physical appearance of cats that are considered cute and have adorable behaviour are the reasons why the majority of people makes cats for their favorite pets. Cats are beloved animals that are now an inseparable part of society. Cats can be infected with diseases with various causes such as viruses, bacteria, fungi, protozoa, helminths, metabolic, and degenerative. A survey did by Rakuten Insight in 2018 showed that Indonesia was in first place with the largest cat population in Asia. The percentage of cat owners in Indonesia reaches 47%, this number is high compared to cat owners from the Philippines (42%), Thailand (42%), Vietnam (34%), and Malaysia (34) (Maris, 2018). Based on data compiled by the Offices International des Epizooties (OIE) in 2018, it is estimated that there are 121,577 cats spread across 18 provinces in Indonesia. The cat ownership rate in Indonesia is 37%, exceeding dog ownership which is only 16%. The growth of cats is very rapid, according to the president director of PT Uni-Charm Indonesia, namely that the pet cat population in Indonesia increased from 2017 to 2021 by 129% (Rahayu, Faiqunisa & Nugraha, 2023).

Disease in cats is classified into two based on their transmission, namely diseases that can be transmitted from animal to animal and diseases that can be transmitted from animals to humans (Bahri & Syafriati, 2011). The vulnerability of cats to various diseases is a challenge for owners. Owners can make several efforts to reduce the incidence of disease in cats. Diseases in cats are often caused by viruses that infect cats without the owner's knowledge (Purnomo, Irawan & Brianorman, 2017). Research did by Widyawati and Imron (2018) stated that 65% of cats were indicated to have a serious condition when they were brought to the clinic. According to Sartika et al. (2022), there are four

health efforts which include promotive (health improvement), preventive (disease prevention), curative (treatment), and rehabilitative (health restoration).

The first treatment action is a form of curative effort. Curative action is a health effort carried out to prevent disease from becoming worse by carrying out treatment to cure or reducing pain. Curative efforts in the form of appropriate and immediate treatment can be carried out by the owner before the cat is taken to a veterinary clinic. This effort aims to carry out the most appropriate and fastest treatment to achieve complete and immediate healing (Hendrawan, 2020). The interest in cats in Indonesia is very large, but this is not followed by the owner's knowledge regarding their care (Nurdiawan & Pangestu, 2018). This is in line with the opinion of Arisandy et al. (2021) who said that the problem faced by cat owners in caring for their pet cats is a lack of knowledge and awareness of cat care which causes their pet cats to be easily infected with viral diseases.

Cats with symptoms of viral disease that are brought to the Satwagia RE Martadinata Veterinary Clinic are often in quite serious conditions such as high fever, diarrhea for more than two days, not wanting to eat for more than two days, and high dehydration. A cat's condition that is severe enough can cause a high death rate in sick cats. Research data regarding the level of knowledge of owners regarding how to first treat cats with symptoms of viral diseases is still minimal, even though the existence of this data will help veterinarians to find out the extent of cat owners' knowledge in providing first aid to cats with symptoms of viral diseases. This data will help veterinarians in the field to determine the next curative action so that the level of recovery or animal safety increases.

## **METHODS**

The data collection method used a questionnaire method in the form of a questionnaire using Google Forms to 100 customers of the Satwagia RE Martadinata Veterinary Clinic. The determination of the sample in this study was based on the purposive sampling technique. This technique is a sampling technique using certain criteria (Sugiyono, 2017). The criteria for respondents from this study were keeping cats, customers who came directly to the Satwagia RE Martadinata Veterinary Clinic, and their cats who had been infected with a viral disease. The number of respondents obtained according to the criteria in this study was 65 respondents. The questionnaire used in this research is closed, namely a questionnaire where the answers are provided.

The questionnaire in this research consists of five main parts. The first section was designed to obtain information regarding the characteristics of the respondents, consisting of five questions in the form of age, gender, highest level of education, occupation, and number of cats kept. The second part is designed to determine the owner's knowledge regarding viral diseases in cats, consisting of five questions with answers of Yes or No type. The third section is designed to determine the owner's knowledge regarding the actions taken on cats with symptoms of viral disease. This section consists of ten questions with answer options related to the owner's opinion. The fourth section is designed to determine the owner's level of knowledge about providing nutrition to cats and the fifth section is designed to determine the actions taken by the owner after finding out their cat has contracted a viral disease. The data obtained will be processed using Microsoft Excel with data analysis using qualitative descriptive methods. Descriptive data analysis is carried out by interpreting tables or existing data, and then interpreting by comparing indicators to determine conclusions.

## **RESULTS AND DISCUSSION**

### **RESPONDENT CHARACTERISTICS**

The results of this research showed that the majority of respondents were in the 17 - 25 year age category (60%), while the remainder were in the 26 - 35 year age category (28%), 36 - 45 years (10%), and 1% for the aged 46 – 55 years and above 55 years. The age category 17 – 25 years is the early adult phase. According to (Sudirjo & Alif 2018), the early adulthood phase is a phase of seeking emotional stability, a period of commitment and dependency, changes in creative values, and

adjustment to oneself and the environment. Caring for cats is very helpful in all processes in the early adult phase. Respondents were dominated by women (94%) compared to men (6%). The majority of respondents' educational background was in the graduate's degree (S1/S2/S3) category (55%), followed by the highschool (SMA/SMK/MA) category at 34% and the vocational degree (D1/D2/D3) category at 11%. Most of the respondents in this study were students (35%), while the rest were private employees (22%) and others (15%). The majority of respondents in this study had 1 – 2 to 3 – 4 cats (30%). Then, 25% of respondents kept more than 6 cats. The complete characteristics of respondents are presented in Table 1.

Table 1. Respondent characteristic (cat's owner)

<b>Respondent Characteristics</b>	<b>Total Respondent (n=65)</b>	<b>Percentage (%)</b>
<b>Age (Year)</b>		
17 – 25	39	60
26 – 35	18	28
36 – 45	6	10
46 – 55	1	1
> 55	1	1
<b>Sex</b>		
Male	4	6
Female	61	94
<b>Education</b>		
Highschool	22	34
Vocational degree (D1/D2/D3)	7	11
Graduate degree (S1/S2/S3)	36	55
<b>Occupation</b>		
PNS/TNI/POLRI	4	6
Self-employed	4	6
Private sector	14	22
Teacher/Lecturer	4	6
Housewife	6	10
Students	23	35
Others	10	15
<b>Number of cats kept (head)</b>		
1 – 2	19	30
3 – 4	19	30
5 – 6	10	15
> 6	16	25

## DESCRIPTION OF OWNER'S KNOWLEDGE LEVEL

The level of knowledge of owners regarding the symptoms of viral diseases in cats shown in Figure 1 shows that as many as 85% of respondents have good knowledge regarding the symptoms that appear when cats are infected with viral diseases, while as many as 15% of respondents have poor knowledge. Based on this data, more cat owners know the symptoms of viral diseases in cats than those who don't. Increasingly rapid science and technology will make it easier for individuals to

obtain information (Sriyanto, 2021). It is now easier for cat owners to get information because they can freely access several sources of information such as the internet and others.

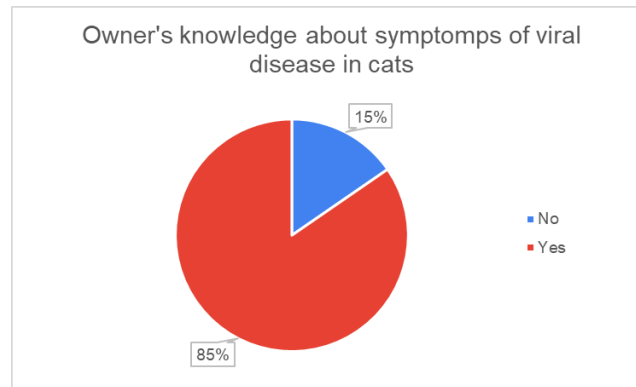


Figure 1. Diagram of owner's knowledge level about symptoms of viral disease in cats diagram

Based on the research results that can be shown in Figure 2 regarding the owner's level of knowledge regarding the first treatment when the cat looks lethargic and has no appetite, 42% of respondents chose the answer of continuing to feed the cat to eat and drink when the cat look lethargic and has no appetite. Then, as many as 29% of respondents chose to immediately take their cats to the veterinary clinic, 17% of the respondents chose to give them immune supplements, and 12% of respondents chose to change the type of food for their cats. A cat that is suddenly lethargic and has no appetite can be an early symptom of a cat infected with a viral disease. According to Subronto (2010), cats suffering from the Feline Panleukopenia Virus (FPV) will show symptoms of not wanting to eat, lethargy, and fever. The condition of lethargy in cats infected with FPV is a condition where the cat appears lethargic and experiences decreased consciousness (Mawarti, 2020). Likewise, cats suffering from Feline Calicivirus (FCV) disease will show symptoms of loss of appetite due to pain when chewing food due to ulceration in the mouth (Berger et al. 2015). Rhinotracheitis also shows the same symptoms, the infected cats will experience a fever of 41oC and loss of appetite (Tilley & Larry, 2015).

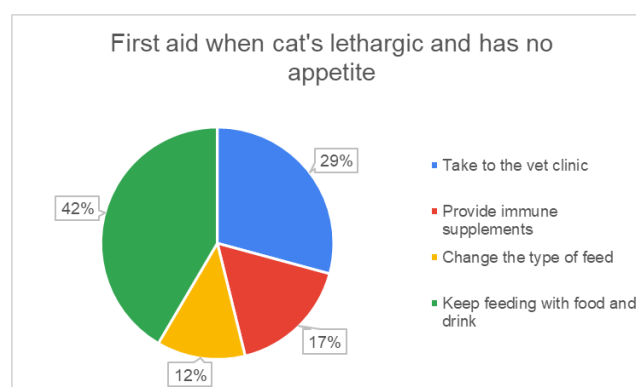


Figure 2. Diagram of owner's knowledge level about first aid when cat is lethargic and has no appetite

The research results in Figure 3 do not show a good level of owner knowledge regarding the first treatment when a cat experiences diarrhea and vomiting. As many as 60% of respondents chose to immediately take their cats to the veterinary clinic when they experienced diarrhea and vomiting. Based on this, it can be concluded that the owner does not understand the first steps that can be taken to prevent the symptoms of the disease from getting worse before the cat is taken to the veterinary clinic. Meanwhile, 20% of respondents chose the answer to clean the cat's body which was dirty due to diarrhea and vomiting, 18% of respondents chose to give anti-diarrhea and anti-vomiting medication, and the remaining 2% chose to give food after diarrhea and vomiting. Cats experiencing diarrhea and vomiting can be specific clinical signs in cats infected with the Feline Panleukopenia

Virus (FPV). According to the *American Veterinary Medical Association* (2019), the first clinical symptoms seen in cats infected with FPV are vomiting, diarrhea, loss of appetite, high fever, lethargy, and depression. The first treatment that the owner can do before the cat is taken to the veterinary clinic for further treatment is providing nutritious food when the animal has stopped vomiting and fluid therapy (Norsworthy et al. 2011). Apart from that, owners can also monitor the cat's body temperature. Symptoms of diarrhea shown by cats infected with FPV will result in the cat losing a lot of fluids so the cat will experience hypothermia.

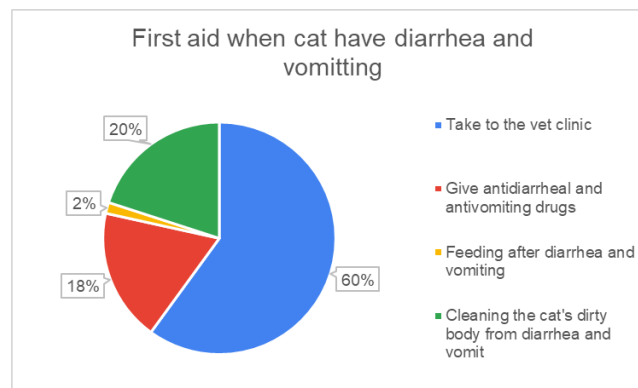


Figure 3. Diagram of owner's knowledge level about first aid when cat have diarrhea and vomiting

The research results in Figure 4 do not show a good level of owner knowledge regarding the first treatment when a cat experiences sneezing, coughing, and difficulty breathing. As many as 60% of respondents chose to immediately take their cats to the veterinary clinic when they experienced sneezing, coughing, and difficulty breathing. Based on this, it can be concluded that the owner does not understand the first steps that can be taken to prevent the symptoms of the disease from getting worse before the cat is taken to the veterinary clinic. Meanwhile, 18% of respondents chose the answer to clean the cat's body which is dirty due to sneezing and coughing, 11% of respondents chose to provide a warm base for the cat to sleep in, and the remaining 11% chose to use the nebulizer themselves. Cats sneezing, coughing, and appearing to have difficulty breathing can be specific clinical signs in cats infected with Feline Calicivirus (FCV). This is in line with Hermawan and Leo (2022) who stated that infection from the FCV virus will cause acute respiratory disease and canker sores in the mouth area. The first treatment that can be done by the owner when his cat experiences this clinical condition includes cleaning the area of the cat's body that is dirty due to sneezing and coughing. Saliva, nasal discharge, and eye discharge are media for transmitting the virus through direct contact. Apart from that, owners can feed soft food to reduce pain in cats that show symptoms of FCV virus infection in the form of mouth ulcers in the mouth area. This is done to prevent cats from becoming dehydrated. Eye drops or eye ointment can also be given to reduce eye symptoms.

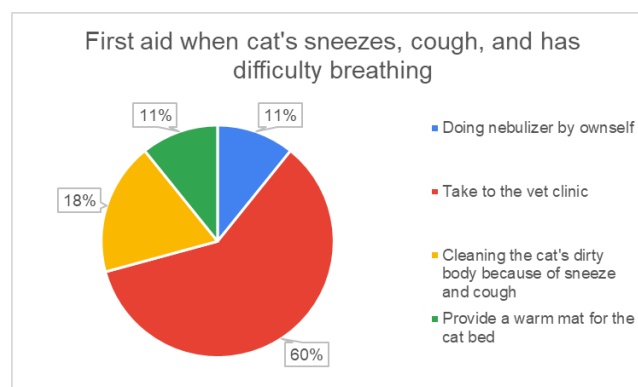


Figure 4. Diagram of owner's knowledge level about first aid when cat sneezes, coughs, and has difficulty breathing

Based on Figure 5, the owner's level of knowledge regarding feeding after a cat experiences diarrhea and vomiting is good. As many as 63% of respondents understood that after experiencing diarrhea and vomiting, cats need nutritious food. Meanwhile, 37% of respondents thought that after a cat experiences diarrhea and vomiting, it is enough to give it the type of food it consumes daily. This action can be taken by the owner to prevent the cat from losing more fluids due to diarrhea and vomiting. Safitri (2021) believes that providing nutritious food if the animal is no longer experiencing vomiting is an important action. This act of providing nutritious food is carried out to improve the cat's body condition. Providing nutritious food after the cat has stopped diarrhea and vomiting can be done by providing special gastrointestinal food. This food is given as supportive therapy for cats experiencing digestive problems in the form of acute or chronic diarrhea. Gastrointestinal feed contains protein, fat, crude fiber, sodium, potassium, fatty acids, and energy that can be metabolized. The crude fiber and prebiotic content in gastrointestinal feed functions to restore the digestive tract. Metabolizable energy in feed is defined as the amount of energy available to the body from food after taking into account mandatory energy losses excreted through feces and urine. This metabolizable energy content can help replace energy and nutrients in cats experiencing diarrhea and vomiting.

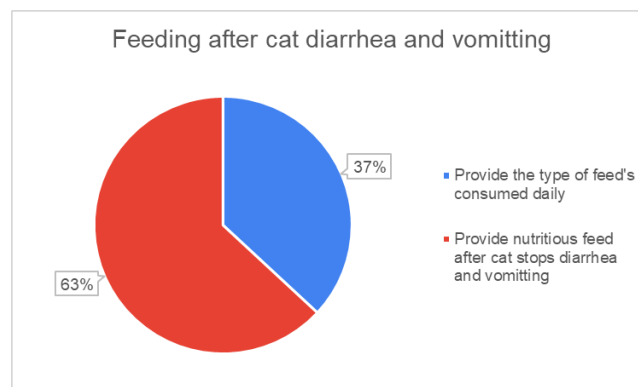


Figure 5. Diagram of owner's knowledge level about feeding after cat having diarrhea and vomiting

The diagram in Figure 6 shows that 49% of respondents consider immune supplements for cats important and 45% of respondents consider them very important. Then, 6% did not think that giving immune supplements to cats was important. Based on this diagram, it can be shown that the majority of cat owners already have a high level of awareness and understanding of providing immune supplements to cats. Immune supplements are given as a supportive measure when a cat has been infected with a viral disease. Rice (2017) said that the vitamin B complex given to cats infected with feline panleukopenia virus (FPV) functions to prevent thiamin deficiency. Thiamin or vitamin B1 has an important role in the cat's body, namely as a cofactor in carbohydrate metabolism and the production of nucleotides and NADH (Kritikos, 2017). Tilley and Larry (2011) also stated that cats infected with feline calicivirus (FCV) and feline viral rhinotracheitis (FVR) can be given L-Lysin supplements to inhibit virus replication and increase appetite. L-lysine supplements are needed for tissue repair in sick cats because this supplement contains amino acids to form cytokines and antibodies.

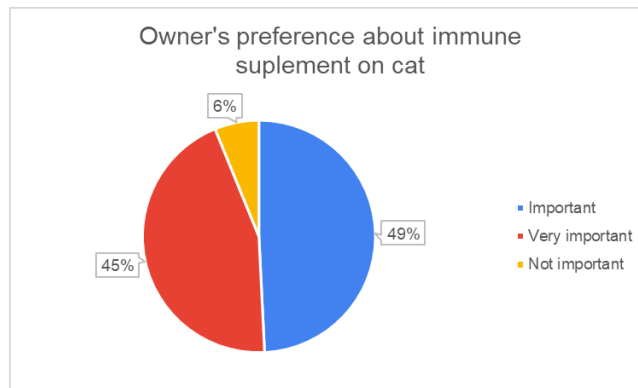


Figure 6. Diagram of owner's preferences about imune supplement on cat

Based on the diagram in Figure 7, 97% of respondents understand what to do when a cat shows symptoms of being infected with a viral disease. The majority of owners already understand that if they have more than one cat, they must separate the sick cat from the healthy cat. Meanwhile, 3% of respondents chose the answer that cats with virus symptoms do not need to be separated. The results of this study show that more owners know about isolation measures for sick cats compared to those who don't. Tilley and Larry (2011) said that cats infected with feline rhinotracheitis virus should be separated from other cats. This is in line with research conducted by Baroroh et al. (2023), the risk of feline panleukopenia virus occurring in owners who have more than one cat occurs due to direct transmission by sick cats to healthy cats. This transmission originates from the feces and urine of FPV-infected cats which contaminate the environment (Scherk et al. 2013).

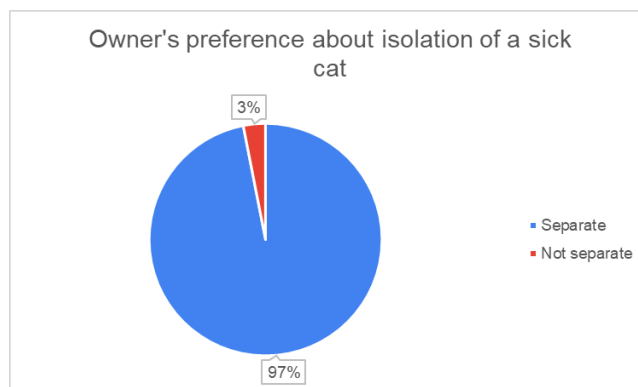


Figure 7. Diagram of owner's preferences about isolation of a sick cat

The level of knowledge of owners regarding the sanitation of areas for cats with symptoms of viral disease in Figure 8 shows that as many as 98% of respondents have good knowledge by answering that sanitation must be done by mopping using a floor cleaner, while as many as 2% of respondents have poor knowledge. Based on this data, more cat owners understand that sanitizing areas where cats have virus symptoms must be done with floor cleaners containing disinfectants. Disinfectants used for sanitation must be able to kill viruses and not be toxic to cats. Some disinfectants contain Benzalkonium chloride which can kill up to 99% of germs. Hasdianah (2012), states that Benzalkonium chloride is a chemical that can kill existing organisms in a short time without damaging the material being disinfected. Based on the opinion of Rahma (2015), the advantages of Benzalkonium chloride are that it is friendly to synthetic goods, stable, does not damage the skin, and is non-toxic so it is safe to use for sanitation. Then, carbolic acid is a biocide that has disinfectant, cleaning, microbiocidal, virucidal and insecticidal properties. According to Levinson (2010), carbolic acid is a group of phenols that damage microorganism cells by reducing surface tension, denaturing proteins, and inactivating important enzymes that play a role in the survival of microorganism cells.

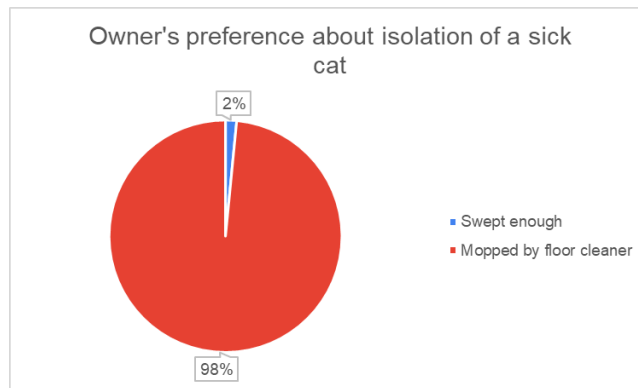


Figure 8. Diagram of owner's preferences about isolation of sick cat

## CONCLUSION

Based on the research results, it can be concluded that the owner's level of knowledge regarding how to first treat cats with symptoms of viral disease at the Satwagia RE Martadinata Veterinary Clinic is good. The majority of owners already know the symptoms of viral diseases in cats, actions when a cat has no appetite, actions when a cat experiences diarrhea and vomiting, actions when a cat sneezes, coughs, and has difficulty breathing, feeding after a cat has diarrhea and vomiting, actions to isolate a sick cat, and actions Sanitize the area for cats showing symptoms of viral disease.

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