

## ANIMAL HEALTH SERVICES DURING COVID-19 IN PADEBUOLO ANIMAL HEALTH CENTER (*PUSKESWAN*), GORONTALO CITY

Magfirah Aliyya Nur Imanna Tangahu<sup>1)</sup>,  
Firmansjah Hasan DVM<sup>2)</sup>,

Tri Ananda Erwin Nugroho DVM M.Sc<sup>3)</sup>

<sup>1)</sup>Veterinary Medicine, IPB University, [magfirahaliyya@apps.ipb.ac.id](mailto:magfirahaliyya@apps.ipb.ac.id)

<sup>2)</sup>Animal Health Center (*Puskesmas*) Padebuolo, [firmanshasan1024@gmail.com](mailto:firmanshasan1024@gmail.com)

<sup>3)</sup>Animal Health Center (*Puskesmas*) Padebuolo, [erwin.veteriner.msc@gmail.com](mailto:erwin.veteriner.msc@gmail.com)

### Introduction

Due to the COVID-19 pandemic, all activities requiring face-to-face are restricted including campus activities. Students are part of the campus that is most affected by COVID-19 in terms of lectures. Lectures are conducted online from their homes including practicum, including students such as from Veterinary Medicine at IPB University who are still in the early years and need hands on in practicum. To overcome this, an internship is needed by the students from veterinary field, so that why it was conducted internship at an Animal Health Center (*Puskesmas*), in this case the internship conducted in Padebuolo, Gorontalo City.

The internship is held during inter-semester holidays starting from January 21, 2021 – February 5, 2021. According to the Regulation of the Minister of Agriculture NO.64/Permentan/OT.140/9/2007 Article 3 Paragraph 1&2, *Puskesmas* is a work unit that is located under and responsible to the Head of District/City Office and *Puskesmas* led by a head who has an veterinary educational background and has a veterinary diploma. This means that *Puskesmas* can be beneficial as a means of practical learning by veterinary students beside the university. Things done in *Puskesmas* are included studying the initial examination in patients, how to determine the diagnose, community service, and laboratory examination.

### Discussion

#### 1. Supporting Matters of Animal Health Center

The day before the internship, students should make a visit to *Puskesmas* to gether the information relating to the Animal Health Center (*Puskesmas*) condition. In Padebuolo Animal Health Center (*Puskesmas*), there are five employees, namely a Head of *Puskesmas*, two Veterinarians, one staff of the Administrative Department, and one who helps veterinarians. There are several things that student concerns in Padebuolo Animal Health Center (*Puskesmas*) in terms of functional and structural units. First, *Puskesmas* Padebuolo has not long just been re-empowered, therefore the Head of *Puskesmas* is not a veterinarian as written in the Regulation of the Minister of Agriculture NO.64/Permentan/OT.140/9/2007 Article 3 Paragraph 2 which states that *Puskesmas* should be led by a head who has a veterinary educational background and has a veterinary diploma as well. One factor that make the Head of *Puskesmas* Padebuolo not a veterinarian is that the veterinarians in charge cannot be made the head of *Puskesmas* because one of them does not belong to *Aparatur Sipil Negara* (government employees) of the Agriculture Department, but belongs to the other government department. The status of the veterinarian in charge is helping *Puskesmas*. Meanwhile, another has not been accepted yet to be *Aparatur Sipil Negara* (government employee).

The second thing that student concerns is the absence of veterinary paramedics. According to Tambunan (2019), Veterinary Paramedics are government employee who are given the responsibility, authority and full rights by authorized officials to carry out the activities of control of pest and animal disease, and to guarantee animal products under veterinary medical monitoring. Moreover, the Regulation of the Minister of Agriculture No.64/Permentan/OT.140/9/2007 Article 7 Paragraph 5 states that the Functional Position Group consists of functional positions of Veterinary Medicine, Veterinary Paramedics and other functional positions in accordance with the laws and regulations. This means that it is important to have veterinary paramedics in a *Puskesmas*. Lack of Veterinary Paramedics in Gorontalo area is reasonable because of the minimum information dealing with veterinary paramedic education, and the absence of public and private universities that open the such educational field of study in this province. This condition provides an impact on the lack or even absence of Veterinary Paramedics in Gorontalo.

In terms of the completeness of infrastructure facilities to support the Animal Center for Health (*Puskesmas*) Padebuolo, it is good enough in terms of examination rooms and inpatient rooms. However, the available medicines provided by the veterinarian have not been facilitated by *Puskesmas* in accordance with the Regulation of the Minister of Agriculture No. 64/Permentan/OT.140/9/2007 Appendix III Part A No. 5 which states the medicines and vaccines that must be provided by the *Puskesmas* are antibiotics, antipyretics, analgesics, adrenaline,

antihistamines, atropine sulfates, corticosteroids, sedatives, anesthetics, antidotes and antitoxins, infuse fluids for alkalosis and acidosis, alcohol, antiseptics, vaccines, hormones (for the purposes of the implementation of artificial insemination), pesticides, insecticides, vitamins and minerals adjusted to the types of services and disease situations in the region of the *Puskesmas*.

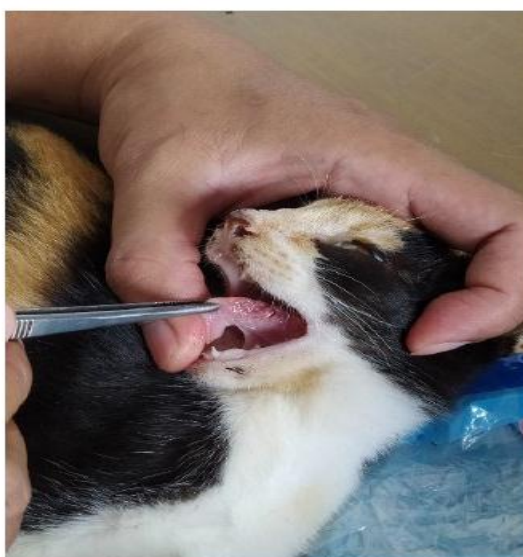
## 2. Initial Examination of Patients at *Puskesmas*

For approximately two weeks, students conducted internships in *Puskesmas*. The number of patients were handled in this animal health center various every day. Sometimes, a lot of patients were treated by both doctors, they received patients simultaneously. Nevertheless occasionally the other day no patients was coming for a whole day. For inpatients (Figure 1), it was always full even *Puskesmas* was ever running out of cages for inpatients. The Inpatients were mostly exposed to panleukopenia and feline calicivirus in cats while in dogs most are exposed to parvovirus.



**Figure 1** Inpatients which get abses

Feline Panleukopenia is a viral disease with its main agent the family Parvoviridae virus which is highly contagious and attacks mainly against young felidae which is clinically characterized by leukopenia, vomiting, depression, dehydration and diarrhea (Tilley, P; Smith, 2011) while in dogs it is known as Parvovirus. While Feline Calicivirus is a disease caused by the virus of the family Caliciviridae, the symptoms include swelling of the face and foot pads, fever, shortness of breath, severe tongue ulcers, epistaxis, and yellowness in mucosal membranes (Lappin, 2001). Patients which were suspected of most diseases have not been vaccinated mandatory yet so it is very vulnerable to be attacked by these viruses. Untreatable viruses can only be countered by good immune system and prevented before exposure to the virus through vaccination.



**Figure 2** Cat with Feline Calicivirus symptoms

In addition to be taught observing the symptoms to be diagnosed, students were also taught to do an initial examination before diagnosis. First, the patient must be weighed and measured his body temperature. Body temperature measurement is more accurate using rectal thermometer because it comes into direct contact with mucosal layer compared to infrared thermometer. The normal temperature of the cat ranges from 38.6 °C, the frequency of heart rate is 140-210 times per minute, the breathing frequency is 20-24 times per minute (Morgan, 2008), while for weight weighing is useful at the time of determining the dose of the drug to be given to the patient.

Heart rate measurement in small animals can be done with a special sfigmomanometer for small animals, but it can also be done directly through the arteries in the patient's hind legs. The frequency of breathing can be measured by using a stethoscope, besides hearing and considering the sound of a normal and abnormal heartbeat. The sound of heartbeat which heard through the stethoscope is the sound of the heart valve that opens and closes, in case of abnormalities will appear different sounds or called pathological murmurs. According to (Wijaya, NH; Soesanti, I; Firmansyah, 2017) Murmur was caused by the imperfect valve opening or stenosis (which forces blood flows through a narrow hole) with an imperfect flow resulting in a blood backflow.

After conducting the initial examination, it can directly focus on the symptoms described by the client or owner of the patient. For example, pets do not want to eat, meaning there is a problem in the digesti system of the animal. The first thing that can be checked is in the oral cavity. In dogs, to open the oral cavity by being held by the upper jaw with one hand and fold the lips up inwards between the teeth, while the lower jaw is opened with another hand (Choliqu, C; Sajuthi, 2011).

While for cats only need one hand because it has a smaller head size. How to open the oral cavity of a tame cat can be done by holding the right hand of the upper jaw through its hind-head, while its head lifted upwards with the thumb of the left hand by pressing its dentes incisivum down (Choliqu, C; Sajuthi, 2011). Things to note when observing the oral cavity are salivation, tongue, teeth, tonsils, and pharynx. If there is no abnormality in the oral cavity, it means that it has to check on the inside of the digesti system. To check the inside of the body, it is necessary to use tools such as X-rays or Ultrasonography. *Puskesmas* Padebuolo does not have X-Ray or Ultrasonography equipment so it is necessary to work with the Hospital (for humans) to perform X-Ray. Before conducting X-Ray, the patient should be injected with a general anesthetisia so that the patient will not move during taking the scanning picture. After the cause is found, a decision can be made to take action.



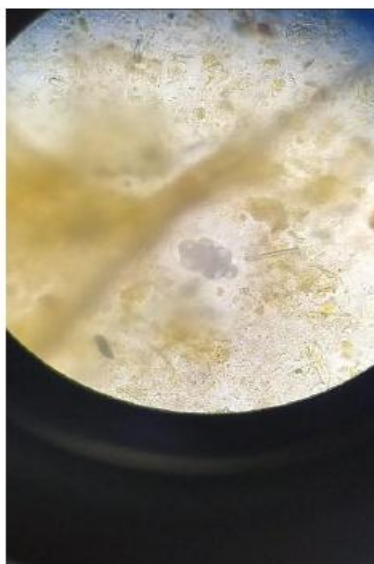
**Figure 3** Cat given anesthesia before X-Ray action

### **3. Community Service from Puskesmas**

In accordance with the Regulation of the Minister of Agriculture No. 64/Permentan/OT.140/9/2007 Article 4 Paragraph 1 which describes the animal health center conducting health services in its working area, counseling in the field of animal health, as well as providing a Veterinary Health Certificate. The health services are including conducting examinations on patients which come to be vaccinated either coming to the *Puskesmas* or which are visited to the place of animals to be vaccinated. Most vaccines performed in cats are Panleukopenia, Rhinotraechitis, Calicivirus and Chlamidia vaccines, while dogs is mostly Rabies vaccine. Furthermore, the Veterinary Health Certificate given by *Puskesmas* Padebuolo is a *Surat Keterangan Kesehatan Hewan* (Certificate of Animal Health) which is generally given to livestock such as chickens, goats, and cows. In issuing Certificate of Animal Health, animals must be checked in advance, one of checking is a body temperature check.

#### 4. Laboratory Examination

In the *Puskesmas*, there is a laboratory room used for parasite examination such as ectoparasites and endoparasites. Endoparasite examination is performed natively on the bloodied feces of a dog as well as on the feces of a goat with diarrhea. The dog is suspected of having parvovirus, so this examination determines whether the dog is properly parvovirus or has a disorder of endoparasite. The results showed the absence of eggs of worms or other protozoa. Meanwhile, in the feces of goats with symptoms of weakness cannot stand found there are eggs worm *Haemonchus contortus*. According to Yuswandi; Yuniar (2015), *Haemonchus contortus* can cause both normositic anemia and hypochromic anemia resulting in hypoalbuminemia causing fluid accumulation in the abdominal cavity and peripheral edema in the jaw (often referred to as bottle jaw)



**Figure 4** *Haemonchus contortus* eggs in goat feces (patient)

Meanwhile to dogs and goats, natif examinations are also carried out on the feces of male cats with bulging stomachs. On observations found, the presence of eggs from *Ancylostoma tubaeformis* which is a parasite mineworm in cats. Although hook worm infections are found in cats at all age levels, clinical symptoms are found more often in kittens, such as anemia, weakness, melena, anorexia, as well as weight loss or unwell growth (Reinemeyer, 2016).



**Figure 5** *Ancylostoma tubaeformis* eggs in cat feces (patient)

#### Conclusion

Padebuolo Animal Health Center (*Puskesmas*) is one of the proper learning facilities for students of veteraniry field who are carrying out practicum online learning in Gorontalo. The benefit which can be adopted from this direct learning is students be able to hold the animal directly. Students can also make observations on the causes of animal diseases such as endoparasites. Nevertheless, for the first year of college students, it is not really appropriate to do apprentice and novateurpublication.com



community service in Puskesmas because the students of veterinary field from the first year still need to recognise the kind of diseases that have been studied during the lecture and also students have not received clinical diagnosis courses, meanwhile in Puskesmas students are not be able to meet all diseases. However, the activities in Puskesmas is very helpful to the possibility to get more experience for the world of work later and learning how to do community services

### References

1. Choliq, C; Sajuthi, D. (2011). Sistem Digesti. In Widodo S (Ed.) (Ed.), *Diagnostik Klinik Hewan Kecil*. IPB Press.
2. Lappin, M. (2001). *Feline Internal Medicine Secret*. Hanley & Belfus Inc.
3. Morgan, R. (2008). Appendix I: Normal Physiologic Values. 5th edition. In *Handbook of Small Animal Practice*. Elsevier.
4. Reinemeyer, C. (2016). *Formulations and Clinical Uses of Pyrimidine Compounds in Domestic Animals: in Pyrantel Parasiticide Therapy in Humans and Domestic Animals*. Elsevier Inc.
5. Tilley, P; Smith, J. (2011). *Blackwell's Five-Minute Veterinary Consult: Canine and Feline 5th ed*. John Wiley & Sons, Inc.
6. Toman Sony Tambunan. (2019). *Glosarium Istilah Pemerintahan*. Prenada Media.
7. Wijaya, NH; Soesanti, I; Firmansyah, E. (2017). Klasifikasi suara jantung menggunakan neural network backpropagation berbasis ciri statistis. In *Prosiding SNATIFI Ke-4*. (pp. 89-96.).
8. Yuswandi; Yuniar, R. (2015). A biological study of larvae and adult Hemonchus contortus in goat. *Jurnal Sain Veteriner*, 33((1):), 42-52.